ENVIRONMENTAL PROTECTION AGENCY

40 CFR 170

[EPA–HQ–OPP–2011–0184; FRL–9931–81]

RIN 2070–AJ22

Pesticides; Agricultural Worker Protection Standard Revisions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing updates and revisions to the existing worker protection regulation for pesticides. This final rule will enhance the protections provided to agricultural workers, pesticide handlers, and other persons under the Worker Protection Standard (WPS) by strengthening elements of the existing regulation, such as training, notification, pesticide safety and hazard communication information, use of personal protective equipment, and the providing of supplies for routine washing and emergency decontamination. EPA expects this final rule to prevent unreasonable adverse effects from exposure to pesticides among agricultural workers and pesticide handlers, vulnerable groups (such as minority and low-income populations, child farmworkers, and farmworker families) and other persons who may be on or near agricultural establishments, and to mitigate exposures that do occur. In order to reduce compliance burdens for family-owned farms, in the final rule EPA has expanded the existing definition of ''immediate family'' and continued the existing exemption from many provisions of the WPS for owners and members of their immediate families.

DATES: This final rule is effective January 1, 2016. Agricultural employers and handler employers will be required to comply with most of the new requirements on January 2, 2017, as provided in 40 CFR 170.2. Agricultural employers and handler employers will be required to comply with certain new requirements on January 1, 2018 or later, as provided in 40 CFR 170.311(a)(3), 170.401(c)(3), 170.501(c)(3) and 170.505(b).

ADDRESSES: The docket for this action, identified by docket identification (ID) number EPA–HQ–OPP–2011–0184, is available at *http://www.regulations.gov* or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW., Washington, DC 20460–0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the OPP Docket is (703) 305–5805. Please review the visitor instructions and additional information about the docket available at *http://www.epa.gov/dockets*.

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SUPPLEMENTARY INFORMATION:

I. Executive Summary

A. What is the Agency's authority for taking this action?

This action is issued under the authority of sections 2 through 35 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. 136–136y, and particularly section 25(a), 7 U.S.C. 136w(a).

B. What is the purpose of the regulatory action?

EPA is revising the existing Worker Protection Standard (WPS), 40 CFR part 170, to reduce occupational pesticide exposure and incidents of related illness among agricultural workers (workers) and pesticide handlers (handlers) covered by the rule, and to protect bystanders and others from exposure to agricultural pesticide use. This regulation, in combination with other components of EPA's pesticide regulatory program, is intended to prevent unreasonable adverse effects of pesticides among workers, handlers and other persons who may be on or near agricultural establishments, including vulnerable groups, such as minority and low-income populations.

C. What are the major changes from the proposal to the final rule?

This final rule revises the existing WPS. Some significant changes are described in this Unit. Units V. through XIX. discuss in more detail the proposed rule, public comments submitted, EPA's responses to the public comments, and final regulatory requirements.

In regard to training, the final rule retains the proposed content expansions (including how to protect family members and reduce take-home exposure) and the requirement for employers to ensure that workers and handlers receive pesticide safety training every year. Employers are required to retain records of the training provided to workers and handlers for two years from the date of training. The final rule eliminates the training ''grace period,'' which allowed employers to delay providing full pesticide safety training to workers (for up to 5 days under the existing rule and for up to two days under the proposal) from the time worker activities began, if the workers received an abbreviated training prior to entering any treated area.

In regard to notification, the final rule retains the proposed requirements for employers to post warning signs around treated areas in outdoor production when the product used has a restricted-entry interval (REI) greater than 48 hours and to provide to workers performing early-entry tasks, *i.e.,* entering a treated area when an REI is in effect, information about the pesticide used in the area where they will work, the specific task(s) to be performed, the personal protective equipment (PPE) required by the labeling and the amount of time the worker may remain in the treated area. The final rule does not include the proposed requirement for employers to keep a record of the information provided to workers performing early-entry tasks. The final rule retains the existing requirements concerning the sign that must be used when posted notification of treated areas is required.

In regard to hazard communication, the final rule requires employers to post pesticide application information and a safety data sheet (SDS) for each pesticide used on the establishment (known together as pesticide application and hazard information) at a central location on the establishment (the ''central display''), a departure from the proposal to eliminate the existing requirement for a central display of pesticide application-specific information. The final rule also requires the employer to maintain and make available to workers and handlers, their designated representatives, and treating medical personnel upon request, the pesticide application-specific information and the SDSs for pesticides used on the establishment for two years. The final rule does not include the proposed requirement for the employer to maintain copies of the labeling for each product used on the establishment for two years.

In regard to protections during pesticide applications, the final rule designates the area immediately surrounding the application equipment as the area from which workers and other persons must be excluded. This ''application exclusion zone'' differs

from the proposed ''entry-restricted areas,'' which would have extended a specified distance around the entire treated area during application based on the application equipment used. The final rule requires handlers to suspend application, rather than cease application, if they are aware of any person in the application exclusion zone other than a properly trained and equipped handler involved in the application.

In regard to establishing a minimum age for handlers and workers performing early-entry tasks, the final rule requires that handlers and workers performing early-entry tasks be at least 18 years old, rather than the proposed minimum age of 16 years old. This minimum age does not apply to an adolescent working on an establishment owned by an immediate family member. The final rule does not require the employer to record workers' or handlers' birthdates as part of the training record, but does require the employer to verify they meet the minimum age requirements.

In regard to PPE, the final rule cross-references certain Occupational Safety and Health Administration's (OSHA) requirements for respirator use that employers will be required to comply with, *i.e.,* fit test, medical evaluation, and training for handlers using pesticides that require respirator use. The final rule expands the respirators subject to fit testing beyond the proposal to include filtering facepiece respirators. The final rule maintains the existing exception from the handler PPE requirements when using a closed system to transfer or load pesticides, and adopts a general performance standard for closed systems, which differs from the specific design standards based on California's existing standard for closed systems discussed in the proposal.

D. What are the incremental impacts of the final rule?

EPA has prepared an economic analysis (EA) of the potential impacts associated with this rulemaking (Ref. 1). This analysis, which is available in the docket, is summarized in greater detail in Unit II.C., and the following chart provides a brief outline of the costs and impacts.

Category	Description	Source
Monetized Benefits Avoided (Acute Pesticide Incidents).	$0.6–2.6 million/year after adjustment for underreporting of pesticide incidents	EA Chapter 4.5.
Qualitative Benefits	Willingness to pay to avoid acute effects of pesticide exposure beyond cost of treatment and loss of productivity.	EA Chapter 4.
	Reduced latent effects of avoided acute pesticide exposure	
	Reduced chronic effects from lower chronic pesticide exposure to workers, handlers, and farmworker families, including a range of illnesses such as Non-Hodgkins lymphoma, prostate cancer, Parkinson's disease, lung cancer, chronic bronchitis, and asthma.	
Monetized Costs	$60.2–66.9 million/year	EA Chapter 3.3.
Small Business Impacts	No significant impact on a substantial number of small entities	EA Chapter 3.5.
	The rule will affect over 295,000 small farms, nurseries, and greenhouses, and commercial entities that are contracted to apply pesticides.	
	Impact less than 0.1% of the annual value of sales or revenues for the average small entity.	
Impact on Jobs	The rule will have a negligible effect on jobs and employment	EA Chapter 3.4.
	The marginal cost of a typical farmworker is expected to increase $5/year	
	The marginal cost for a more skilled pesticide handler is expected to increase by $50 per year, but this is less than 0.2% of the cost of a part-time employee.	

II. General Information

A. Does this action apply to me?

You may be potentially affected by this action if you work in or employ persons working in crop production agriculture where pesticides are applied. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Potentially affected entities may include:

• Agricultural Establishments (NAICS code 111000), *e.g.,* establishments or persons, such as farms, orchards, groves, greenhouses, and nurseries, primarily engaged in growing crops, plants, vines, or trees and their seeds.

• Nursery and Tree Production (NAICS code 111421), *e.g.,* establishments or persons primarily engaged in (1) growing nursery products, nursery stock, shrubbery, bulbs, fruit stock, sod, and so forth, under cover or in open fields and/or (2) growing short rotation woody trees with a growth and harvest cycle of 10 years or less for pulp or tree stock.

• Timber Tract Operations (NAICS code 113110), *e.g.,* establishments or persons primarily engaged in the operation of timber tracts for the purpose of selling standing timber.

• Forest Nurseries and Gathering of Forest Products (NAICS code 113210), *e.g.,* establishments or persons primarily engaged in (1) growing trees for reforestation and/or (2) gathering forest products, such as gums, barks, balsam needles, rhizomes, fibers, Spanish moss, ginseng, and truffles.

• Farm Workers (NAICS codes 11511, 115112, and 115114), *e.g.,* establishments or persons primarily engaged in providing support activities for growing crops; establishments or persons primarily engaged in performing a soil preparation activity or crop production service, such as plowing, fertilizing, seed bed preparation, planting, cultivating, and crop protecting services; and establishments or persons primarily engaged in performing services on crops, subsequent to their harvest, with the intent of preparing them for market or further processing.

• Pesticide Handling on Farms (NAICS code 115112), *e.g.,* establishments or persons primarily engaged in performing a soil preparation activity or crop production service, such as seed bed preparation, planting, cultivating, and crop protecting services.

• Farm Labor Contractors and Crew Leaders (NAICS code 115115), *e.g.,* establishments or persons primarily engaged in supplying labor for agricultural production or harvesting.

• Pesticide Handling in Forestry (NAICS code 115310), *e.g.,* establishments or persons primarily providing support activities for forestry, such as forest pest control.

• Pesticide Manufacturers (NAICS code 325320), *e.g.,* establishments primarily engaged in the formulation and preparation of agricultural and household pest control chemicals (except fertilizers).

• Farm Worker Support Organizations (NAICS codes 813311, 813312, and 813319), *e.g.,* establishments or persons primarily engaged in promoting causes associated with human rights either for a broad or specific constituency; establishments or persons primarily engaged in promoting the preservation and protection of the environment and wildlife; and establishments primarily engaged in social advocacy.

• Farm Worker Labor Organizations (NAICS code 813930), *e.g.,* establishments or persons primarily engaged in promoting the interests of organized labor and union employees.

• Crop Advisors (NAICS codes 115112, 541690, 541712) *e.g.,* establishments or persons who primarily provide advice and assistance to businesses and other organizations on scientific and technical issues related to pesticide use and pest pressure.

B. What action is the Agency taking?

EPA is finalizing changes to the WPS. The WPS is a regulation primarily intended to reduce the risks of injury or illness resulting from agricultural workers' and handlers' use and contact with pesticides on farms, forests, nurseries and greenhouses. The rule primarily seeks to protect workers (those who perform hand-labor tasks in pesticide-treated crops, such as harvesting, thinning, pruning) and handlers (those who mix, load and apply pesticides). The rule does not cover persons working with livestock. The existing regulation has provisions requiring employers to provide workers and handlers with pesticide safety training, posting and notification of treated areas, and information on entry restrictions, as well as PPE for workers who enter treated areas after pesticide application to perform crop-related tasks and handlers who mix, load, and apply pesticides.

The final rule takes into consideration comments received from the public in response to the proposed rule (Ref. 2), as well as additional information such as reported incidents of pesticide-related illness or injury.

EPA believes that the changes to the WPS offer targeted improvements that will reduce risk through protective requirements and improve operational efficiencies. Among other things, EPA expects the changes to:

• Improve effectiveness of worker and handler training.

• Improve protections to workers during REIs.

• Improve protections for workers during and after pesticide applications.

• Expand the information provided to workers, thus improving hazard communication protections.

• Expand the content of pesticide safety information displayed to improve the display's effectiveness.

• Improve the protections for crop advisor employees.

• Increase the amounts of decontamination water available, thus improving the effectiveness of the decontamination process.

• Improve the emergency response when workers or handlers experience pesticide exposures.

• Improve the organization of the WPS, thus making it easier for employers to understand and comply with the rule.

• Clarify that workers and handlers are covered by the rule only if they are employed, directly or indirectly, by the establishment (*i.e.,* receiving a salary or wage).

• Protect adolescents by establishing a minimum age for handlers and for workers who enter a treated area during an REI, but adding an exemption to the minimum age requirement for adolescents who work on an establishment owned by an immediate family member.

• Improve flexibility for small farmers and members of their immediate family by expanding the definition of immediate family members to be more inclusive and retaining the exemptions from almost all WPS requirements for owners and their immediate family members.

C. What are the costs and benefits of the rule?

EPA estimates the incremental cost of the revisions to the WPS to be between $60.2 and $66.9 million per year, given a three percent discount rate. Using a seven percent discount rate, the rule is estimated to cost between $56.2 and $66.9 million per year. The majority of the costs, $53.0 to $62.2 million per year, are borne by farms, nurseries, and greenhouses that hire labor and use pesticides, which account for about 20 percent of all farms producing crops in the United States. The approximately 2,000 commercial pesticide handling establishments, which are contracted to apply pesticides on farms, may collectively see an incremental cost of about $1.9 million per year. Family-owned farms that use pesticides and do not hire labor may collectively bear costs of about $1.4 million per year. Total costs amount to an average expenditure of about $30 per year per farm worker. Benefits, in terms of reduced illness from exposure to pesticides, are likely to exceed $64 million per year in terms of avoided costs associated with occupational pesticide incidents and with reductions in chronic diseases associated with occupational pesticide exposure, although the amount EPA can quantify is much less. The estimated quantified benefits from reducing acute worker and handler exposure to pesticides total between $0.6 million and $2.6 million annually.

The changes to the current WPS requirements are expected to lead to an overall reduction in incidents of unsafe pesticide exposure and to improve the occupational health of the nation's agricultural workers and pesticide handlers. This section provides an overview of the qualitative benefits of the proposal and the estimated benefits that would accrue from avoiding acute pesticide exposure in the population protected by the WPS. It also provides an estimate of the number of chronic illnesses with a plausible association with pesticide exposure that would have to be prevented by the rule changes in order for the total estimated benefits to meet the estimated cost of the proposal.

A sizeable portion of the agricultural workforce may be exposed occupationally to pesticides and pesticide residues. These exposures can pose significant long- and short-term health risks. It is difficult to quantify a specific level of risk and project the risk reduction that would result from this rule, because workers and handlers are potentially exposed to a wide range of pesticides with varying toxicities and risks. However, there is strong evidence that workers and handlers may be exposed to pesticides at levels that can cause adverse effects and that both the exposures and the risks can be substantially reduced. EPA believes the provisions in the final rule will reduce pesticide exposures and the associated risks.

The estimated quantified benefits from reducing acute worker and handler exposure to pesticides total between $0.6 million and $2.6 million annually (Ref. 1). This conservative estimate includes only the avoided costs in medical care and lost productivity to workers and handlers and assumes that just 10% of acute pesticide incidents are reported. It does not include quantification of the reduction in chronic effects of pesticide exposure to workers and handlers, reduced effects of exposure, including developmental impacts, to children and pregnant

workers and handlers or willingness to pay to avoid symptoms of pesticide exposure. Because the chronic effects of pesticide exposures are seldom attributable to a specific cause, and thus are unlikely to be recorded in pesticide poisoning databases, EPA is not able to quantify the benefits expected to accrue from the final WPS changes that are expected to reduce chronic exposure to pesticides. However, associations between pesticide exposure and certain cancer and non-cancer chronic health effects are well documented in the peer-reviewed literature, and reducing these chronic health effects is an important FIFRA goal.

Even if the lack of quantitative data impairs the reliability of estimates of the total number of chronic illnesses avoided, it is reasonable to expect that the proposed changes to the WPS will reduce pesticide exposure, and thereby reduce the incidence of chronic disease associated with pesticide exposure. Therefore, EPA conducted a ''break even'' analysis to consider the plausibility of the changes to the WPS reducing the incidence of chronic disease enough to cause the net benefits of the proposed rule to exceed its anticipated costs. Under this analysis, EPA looked at the costs associated with non-Hodgkin's lymphoma, prostate cancer, Parkinson's disease, lung cancer, bronchitis, and asthma and their frequency among agricultural workers, and found that reducing the incidence of lung cancer by 0.078% and the incidence of the other chronic diseases by 0.78% per year (about 44 total cases per year among the population of workers and handlers protected under the WPS) would produce quantified benefits sufficient to bridge the gap between the quantified benefits from reducing acute incidents and the final rule's estimated high-end cost of $66.9 million. Overall, the weight of evidence suggests that the requirements will result in long-term health benefits to agricultural workers and pesticide handlers in excess of the less than 1% reduction in just six diseases that corresponds with the break-even point for the final rule, not only by reducing their daily risk of pesticide exposures, but also by improving quality of life throughout their lives, resulting in a lower cost of health care and a healthier society.

The changes to the current WPS requirements, specifically improved training on reducing pesticide residues brought from the treated area to the home on workers' and handlers' clothing and bodies and establishing a minimum age for handlers and early entry workers, other than those covered by the immediate family exemption, mitigate the potential for children to be exposed to pesticides directly and indirectly. The unquantified benefit to adolescent workers and handlers, as well as children of workers and handlers is great; reducing exposure to pesticides could translate into fewer sick days, fewer days missed of school, improved capacity to learn, and better long-term health. Parents and caregivers reap benefits by having healthier families, fewer missed workdays, and better quality of life.

By finalizing several interrelated exposure-reduction measures, the rule is expected to avoid or mitigate approximately 44 to 73% of annual reported acute WPS-related pesticide incidents. EPA believes the final rule will substantially reduce for these workers and handlers the potential for adverse health effects (acute and chronic) from occupational exposures to such pesticides and their residues. These measures include requirements intended to reduce exposure by:

- Ensuring that workers and handlers are informed about the hazards of pesticides—the final rule changes the content and frequency of required pesticide safety training, as well as making changes to ensure that the pesticide safety training is more effective.
- Reducing exposure to pesticides—among other things, the final rule changes and clarifies the requirements for personal protective equipment. It also makes changes to the timing of applications when people are nearby. These and other provisions should directly reduce exposure in the agricultural workforce.
- Mitigating the effects from exposures that occur—some accidental exposures are inevitable. EPA expects the final rule will mitigate the severity of health impacts by updating and clarifying what is required to respond to exposures.

Further detail on the benefits of this proposal is provided in the document titled ''Economic Analysis of the Agricultural Worker Protection Standard Revisions'' which is available in the docket for this rulemaking (Ref. 1).

III. Introduction and Procedural History

The existing WPS was published in 1992 and implemented fully in 1995. Since implementation, EPA has sought to ensure that the rule provides the intended protections effectively and to identify necessary improvements. To accomplish this, EPA engaged diverse stakeholders, individually and collectively through organized outreach efforts, to discuss the rule and get feedback from affected and interested parties. Groups with which EPA engaged included, but were not limited to, farmworker organizations, health care providers, state regulators, educators and trainers, pesticide manufacturers, farmers, organizations representing agricultural commodity producers and crop advisors. EPA engaged these groups formally through the National Assessment of the Pesticide Worker Safety Program (*http://www.epa.gov/pesticides/safety/workshops.htm*), public meetings (*e.g.,* National Dialogue on the Worker Protection Standard), federal advisory committee meetings (*e.g.,* Pesticide Program Dialogue Committee, *http://www.epa.gov/pesticides/ppdc/*) and a Small Business Advocacy Review Panel (Ref. 3). EPA also engaged stakeholders informally, as individual organizations and in small groups.

Using feedback from stakeholders, along with other information, EPA developed proposed changes to the WPS and published them for public comment (Ref. 2). EPA received substantial feedback on the proposal, including about 2,400 written comments with over 393,000 signatures. Commenters included farmworker advocacy organizations, state pesticide regulatory agencies (states) and organizations, public health organizations, public health agencies, growers and grower organizations, agricultural producer organizations, applicators and applicator organizations, pesticide manufacturers and organizations, PPE manufacturers, farm bureaus, crop consultants and organizations, and others. The comments received covered a wide range of issues and took diverse positions. Overall, the comments were thoughtful and demonstrated a high level of interest in ensuring the protection of workers and handlers, while minimizing burden on employers and regulatory agencies. This document discusses some of the significant comments received and EPA's responses. A full summary of comments received and EPA's responses are available in the docket for this rulemaking (Ref. 4).

While considering stakeholder feedback and suggestions in developing the final rule, EPA also gathered additional information, such as updated demographic information for farmworkers, new data from the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service, information on other federal rules (*e.g.,* respirator standards, anti-retaliatory provisions), and more recent data on

incidents related to occupational pesticide exposure in agriculture. EPA reviewed the methodology used to estimate the number of acute pesticide-related incidents in agriculture and used the updated information to revise the estimated number of incidents that could be prevented under the final rule. EPA also revised the Economic Analysis for the final rule to include more recent information from the National Agricultural Statistics Service and with input from public comments.

IV. Context and Goals of This Rulemaking

A. Context for This Rulemaking

1. Statutory authority. Enacted in 1947, FIFRA established a framework for the pre-market registration and regulation of pesticide products; since 1972, FIFRA has prohibited the registration of pesticide products that cause unreasonable adverse effects. FIFRA makes it unlawful to use a pesticide in a manner inconsistent with the labeling and gives EPA's Administrator authority to develop regulations to carry out the Act. FIFRA's legislative history indicates that Congress specifically intended for FIFRA to protect workers and other persons from occupational exposure directly to pesticides or to their residues (Ref. 5).

Under FIFRA's authority, EPA has implemented measures to protect workers, handlers, other persons, and the environment from pesticide exposure in two primary ways. First, EPA includes specific use instructions and restrictions on individual pesticide product labeling. These instructions and restrictions are the result of EPA's stringent registration and reevaluation processes and are based on the risks of the particular product. Since users must comply with directions for use and restrictions on a product's labeling, EPA uses the labeling to convey mandatory requirements for how the pesticide must be used to protect people and the environment from unreasonable adverse effects of pesticide exposure. Second, EPA enacted the WPS to expand protections against the risks of agricultural pesticides without making individual product labeling longer and much more complex. The WPS is a uniform set of requirements for workers, handlers and their employers that are generally applicable to all agricultural pesticides and are incorporated onto agricultural pesticide labels by reference. Its requirements complement the product-specific labeling restrictions and are intended to minimize occupational exposures generally.

2. EPA's regulation of pesticides. EPA uses a science-based approach to register and re-evaluate pesticides, in order to protect human health and the environment from unreasonable adverse effects that might be caused by pesticides. The registration process begins when a manufacturer submits an application to register a pesticide. The application must contain required test data, including information on the pesticide's chemistry, environmental fate, toxicity to humans and wildlife, and potential for human exposure. EPA also requires a copy of the proposed labeling, including directions for use and appropriate warnings.

Once an application for a new pesticide product is received, EPA conducts an evaluation, which includes a detailed review of scientific data to determine the potential impact on human health and the environment. EPA considers the risk assessments and results of any peer review, and evaluates potential risk management measures that could mitigate risks that exceed EPA's level of concern. In the registration process, EPA evaluates the proposed use(s) of the pesticide to determine whether it would cause adverse effects on human health, non-target species, and the environment. In evaluating the impact of a pesticide on occupational health and safety, EPA considers the risks associated with use of the pesticide (occupational, environmental) and the benefits associated with use of the pesticide (economic, public health, environmental). However, FIFRA does not require EPA to balance the risks and benefits for each audience. For example, a product may pose risks to workers, but risk may nevertheless be reasonable in comparison to the economic benefit of continued use of the product to society at large.

If the application for registration does not contain evidence sufficient for EPA to determine that the pesticide meets the FIFRA registration criteria, EPA communicates to the applicant the need for more or better refined data, labeling modifications, or additional use restrictions. Once the applicant has demonstrated that a proposed product meets the FIFRA registration criteria and any applicable requirements under the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 321 *et seq.,* EPA approves the registration subject to any risk mitigation measures necessary to meet the FIFRA registration criteria. EPA devotes significant resources to the regulation of pesticides to ensure that each pesticide product meets the FIFRA requirement that pesticides not cause unreasonable adverse effects to the public and the environment.

When EPA approves a pesticide, the labeling generally reflects all risk mitigation measures required by EPA. The risk mitigation measures may include requiring certain engineering controls, such as the use of closed systems for mixing pesticides and loading them into application equipment to reduce potential exposure to those who handle pesticides; establishing conditions on the use of the pesticide by specifying certain use sites, maximum application rate or maximum number of applications; or establishing REIs during which entry into an area treated with the pesticide is generally prohibited until residue levels have declined to levels unlikely to cause unreasonable adverse effects. Because users must comply with the directions for use and use restrictions on a product's labeling, EPA uses the labeling to establish and convey mandatory requirements for how the pesticide must be used to protect the applicator, the public, and the environment from pesticide exposure.

Under FIFRA, EPA is required to review periodically the registration of pesticides currently registered in the United States. The 1988 FIFRA amendments required EPA to establish a pesticide reregistration program. Reregistration was a one-time comprehensive review of the human health and environmental effects of pesticides first registered before November 1, 1984 to make decisions about these pesticides' future use. The 1996 amendments to FIFRA require that EPA establish, through rule making, an ongoing ''registration review'' process of all pesticides at least every 15 years. The final rule establishing the registration review program was signed in August 2006 (Ref. 16). The purpose of both re-evaluation programs is to review all pesticides registered in the United States to ensure that they continue to meet current safety standards based on up-to-date scientific approaches and relevant data.

Pesticides reviewed under the reregistration program that met current scientific and safety standards were declared ''eligible'' for reregistration. The results of EPA's reviews are summarized in Reregistration Eligibility Decision (RED) documents. The last RED was completed in 2008. Often before a pesticide could be determined ''eligible,'' additional risk reduction measures had to be put in place. For a number of pesticides, measures intended to reduce exposure to handlers and workers were needed and are reflected on pesticide labeling. To

address occupational risk concerns, REDs include mitigation measures such as: Voluntary cancellation of the product or specific use(s); limiting the amount, frequency or timing of applications; imposing other application restrictions; classifying a product or specific use(s) for restricted use only by certified applicators; requiring the use of specific PPE; establishing specific REIs; and improving use directions. During this process, EPA also encouraged registrants to find replacements for the inert ingredients of greatest concern. As a result of EPA's reregistration efforts, current U.S. farm workers are not exposed to many of the previously used inert ingredients that were of the greatest toxicological concern.

EPA's registration review program is a recurring assessment of products against current standards. EPA will review each registered pesticide at least every 15 years to determine whether it continues to meet the FIFRA standard for registration. Pesticides registered before 1984 were reevaluated initially under the reregistration program. These and pesticides initially registered in 1984 or later are all subject to registration review.

In summary, EPA's pesticide reregistration and registration reviews assess the specific risks associated with particular chemicals and ensure that the public and environment do not suffer unreasonable adverse effects from those risks. EPA implements the risk reduction and mitigation measures identified in the pesticide reregistration and registration review programs through amendments to individual pesticide product labeling.

3. WPS. The WPS regulation is incorporated by reference on certain pesticide product labeling through a statement in the agricultural use box. The WPS provides a comprehensive collection of pesticide management practices generally applicable to all agricultural pesticide use scenarios in crop production, complementing the product-specific requirements that appear on individual pesticide product labels.

The risk reduction measures of the WPS may be characterized as being one of three types: Information, protection and mitigation. To ensure that employees will be informed about exposure to pesticides, the WPS requires that workers and handlers receive training on general pesticide safety, and that employers provide access to information about the pesticides with which workers and handlers may have contact. To protect workers and handlers from pesticide exposure, the WPS prohibits the application of pesticides in a manner that exposes workers or other persons, generally prohibits workers and other persons from being in areas being treated with pesticides, and generally prohibits workers from entering a treated area while an REI is in effect (with limited exceptions that require additional protections). In addition, the rule protects workers by requiring employers to notify them about areas on the establishment treated with pesticides, through posted and/or oral warnings. The rule protects handlers by ensuring that they understand proper use of and have access to required PPE. Finally, the WPS has provisions to mitigate exposures if they do occur by requiring the employer to provide to workers and handlers with an ample supply of water, soap and towels for routine washing and emergency decontamination. The employer must also make transportation available to a medical care facility if a worker or handler may have been poisoned or injured by a pesticide and provide information about the pesticide(s) to which the person may have been exposed.

EPA manages the risks and benefits of each pesticide product primarily through the labeling requirements specific to each pesticide product. If pesticide products are used according to the labeling, EPA does not expect use to cause unreasonable adverse effects. However, data on incidents of adverse effects to human health and the environment from the use of agricultural pesticides show that users do not always comply with labeling requirements. Rigorous ongoing training, compliance assistance and enforcement are needed to ensure that risk mitigation measures are appropriately implemented in the field. The framework provided by the WPS is critical for ensuring that the improvements brought about by reregistration and registration review are realized in the field. For example, the requirement for handlers to receive instruction on how to use the pesticide and the application equipment for each application is one way to educate handlers about updated requirements on product labeling to ensure they use pesticides in a manner that will not harm themselves, workers, the public or the environment. In addition, the REIs are established through individual product labeling, but action needs to be taken at the use site to ensure that workers are aware of areas on the establishment where REIs are in effect and given directions to be kept out of the treated area while the REI is in effect. The changes to the WPS are designed to enhance the effectiveness of the existing structure of protections and to better realize labeling-based risk mitigation measures at the field level.

B. Goals of This Rulemaking

Discussions with stakeholders over many years, together with EPA's review of incident data, led EPA to identify several shortcomings in the current regulation that will be addressed by this final rule. As discussed in Unit IV.A., EPA uses both product-specific labeling and the WPS to effectuate occupational protections for workers and handlers. EPA engages in ongoing reviews and reassessments of pesticide products to ensure they continue to meet the standard of not causing unreasonable adverse effects to human health and the environment. The WPS must be updated to ensure that the rule continues to complement the labeling-based protections and to address issues identified through experience with the WPS, and review of incident data and stakeholder engagement.

1. Purpose of the WPS. The WPS is intended to reduce the risks associated with occupational pesticide exposure to workers, handlers and their families, and to protect others and the environment from risks of pesticide use in agricultural production. The rule makes employers of workers and handlers responsible for providing protections to workers and handlers on their establishments. By imposing this obligation, EPA seeks to ensure those who make pesticide use decisions (employers) internalize the effects of their decisionmaking rather than passing on the costs associated with these decisions (risks of pesticide exposure) to others (workers and handlers).

As noted in Unit IV.A., the components of the WPS generally can be grouped into three categories: Information, protection, and mitigation. Employers must provide workers and handlers with information needed to protect themselves, others, and the environment from pesticides and pesticide residues through pesticide safety training, pesticide application and hazard information, and access to labeling. Employers must provide protections to workers and handlers during and after applications in order to minimize potential for exposure. Finally, employers must be prepared to mitigate exposures that do occur by providing supplies for washing and emergency decontamination, and emergency transportation to a medical facility if necessary. These elements are

necessary to implement product-specific labeling requirements effectively. For example, pesticide safety training informs workers that areas treated with pesticides are off limits for entry for a certain period after the application, *i.e.,* a product-specific REI, and that their employers will inform them of where and when REIs are in effect and entry into the treated areas is prohibited. In some instances, employers must provide further protection by posting warning signs at treated areas while REIs are in effect to remind workers to keep out of the treated areas. For handlers, training informs them about basic pesticide safety and handling precautions and reducing the potential to expose themselves or others. In addition, the employer must provide information for each application, informing the handler about the product-specific labeling restrictions and requirements.

In summary, the WPS works in conjunction with product labeling to protect workers and handlers from occupational pesticide exposure. The rule imposes on the employer the responsibility for providing protections to workers and handlers and to ensure they have access to information necessary to protect themselves and others during and after pesticide application.

2. Surveillance data. When EPA promulgated the existing rule, it used existing data on occupational pesticide-related incidents to estimate that that approximately 10,000 to 20,000 incidents of physician-diagnosed (not hospitalized) pesticide poisonings occurred in the WPS-covered workforce annually. For this rulemaking, EPA estimates that about 1,810 to 2,950 acute pesticide exposure incidents occur annually on agricultural establishments that potentially could be prevented by the WPS. This substantial drop in the estimated number of incidents shows that the existing rule and efforts by employers, workers and handlers have made great accomplishments in reducing pesticide exposure for workers and handlers. Pesticide use in agriculture is safer than it was 20 years ago.

Current occupational health incident surveillance data show, however, that avoidable incidents continue to occur. For example, some of the occupational pesticide illnesses reported to state health agencies have occurred when workers entered a treated area before the REI expired. Although employers are obligated to warn workers to keep out of treated areas and to ensure that workers receive training on and information about treated areas, incidents continue to occur. Another example of potentially avoidable exposure is spray drift. Labeling instructs handlers to apply pesticides in a manner that does not contact other persons, but pesticide drift continues to cause exposure incidents. In addition to surveillance data, studies also show that pesticide residues are brought home by workers and handlers on their bodies and clothing (known as ''take-home exposure''), creating an exposure pathway for family members.

This rulemaking is intended to reduce avoidable incidents by improving information, protections, and mitigations for workers and handlers without imposing unreasonable burdens on employers. Although EPA cannot quantify the specific reduction in incidents from any single change to the regulation, taken together, EPA estimates that the final rule will result in an annual reduction of between 540 and 1,620 acute, health-related incidents. In addition, EPA expects that the final rule will help reduce chronic health problems among workers and handlers by reducing daily pesticide exposures, and thereby improving quality of life throughout their lives, resulting in a lower cost of health care and a healthier society. (See Unit II.C.) Units V. through XIX. describe the final regulatory requirements and their potential to reduce avoidable incidents. The Economic Analysis for this rulemaking provides an estimate of the costs of the requirements and a quantitative and qualitative discussion of the potential benefits, including avoiding acute pesticide-related illnesses in workers and handlers (Ref. 1).

3. Demographics of workers and handlers. In addition to the complexity of the science issues involving pesticide use, variability of pesticide use patterns and incomplete information about occupational pesticide-related illnesses and injuries, the diversity of the labor population at risk and the tasks they perform makes it challenging to ensure that workers and handlers are adequately protected.

According to the most recent public data set available from the Department of Labor's (DOL) National Agricultural Worker Survey (NAWS) for 2011–2012, 64% of agricultural workers in the United States were born in Mexico and 6% in Central and South America (Ref. 6). A majority (69%) of all survey respondents speak Spanish as their primary language (Ref. 6). Approximately 65% of this population speaks a little or no English; 38% cannot read English at all and another 30% can only read English ''a little'' (Ref. 6). Many have received only some formal education; on average, the highest grade completed by foreign-born workers was seventh grade (Ref. 6).

Approximately 17% of the survey respondents were classified as migrant, having traveled at least 75 miles in the previous year to find a job in agriculture (Ref. 6). Only 17% of respondents lived in housing provided by their employer and 55% rented housing from someone other than their employer (Ref. 6). In general, agricultural workers surveyed by NAWS do not have access to employer-provided health insurance—in 2011–2012, only 21% of farmworkers reported having the option for employer-provided health insurance (Ref. 6). USDA research, based on NAWS data, also reports that workers have difficulty entering the health care system to receive treatment (Ref. 7). Cost was a significant barrier for two-thirds of farmworkers, while about a third listed language barriers as an impediment to receiving care. Most workers fear that seeking treatment will result in losing their job because someone will replace them while they are getting treatment or the employer will label them as troublemakers and dismiss them. The problem is more severe among undocumented workers because they fear seeking treatment will lead to deportation or other adverse legal action (Ref. 7). A USDA report indicates that the factors mentioned previously contribute to the disadvantaged status of hired workers in agriculture (Ref. 7).

The NAWS found that 19% of workers and handlers surveyed earned less than $10,000 annually from agricultural work, and another 39% earn between $10,000 and $20,000 annually. Over 55% of respondents reported a total family income below $22,500 (Ref. 6).

Both the existing WPS and the changes included in the final rule seek to eliminate some of the potential barriers to achieving effective protection of these persons by requiring training in a manner that workers and handlers can understand, requiring the employer to ensure that handlers understand relevant portions of the labeling before handling a pesticide, and expanding training to provide information on seeking medical care in the event of a pesticide exposure and highlighting the anti-retaliation provisions of the WPS.

4. Summary of the final rule. The final rule amends the WPS by:

- Requiring pesticide safety training at one-year intervals and amending the existing pesticide safety training content.
- Requiring recordkeeping for pesticide safety training.

• Eliminating the ''grace period'' that allowed workers to enter a treated area to perform WPS tasks before receiving full pesticide safety training.
• Establishing a minimum age of 18 for handlers and for workers who enter an area under an REI.
• Establishing requirements for specific training and notification for workers who enter an area under an REI.
• Restricting persons' entry into certain areas surrounding application equipment during an application.
• Clarifying requirements for supplies for routine washing and emergency decontamination.
• Requiring employers to post warning signs around treated areas when the product applied has an REI greater than 48 hours and allowing the employer to choose to post the treated area or give oral notification when the product applied has an REI of 48 hours or less (unless the labeling requires both types of notification).
• Requiring employers to maintain and make available copies of the SDSs for products used on the establishment.
• Requiring employers to provide application information and SDSs to designated representatives making the request on behalf of workers or handlers.
• Adding elements to the requirement to maintain application-specific information.
• Adopting by cross reference certain OSHA requirements for employers to provide training, fit testing and medical evaluations to handlers using products that require use of respirators.
• Requiring employers to provide supplies for emergency eye flush at all pesticide mixing and loading sites when handlers use products that require eye protection.
• Maintaining the immediate family exemption and ensuring it includes an exemption from the new minimum age requirements for handlers and early-entry workers.
• Expanding the definition of ''immediate family'' to allow more family-owned operations to qualify for the exemptions to the WPS requirements.
• Revising definitions to improve clarity and to refine terms.
• Restructuring the regulation to make it easier to read and understand.

Units V. through XVIII. discuss the final rule requirements and elements considered in the proposal but not included in the final rule. Unit XIX. discusses implementation of the final regulatory requirements. Each of these Units generally describes the existing rule, proposal and final regulatory requirements (where appropriate), and summarizes the major comments received and EPA's responses. A separate document summarizing the comments received that were relevant to the proposal and EPA's responses has also been prepared and is available in the docket for this rulemaking (Ref. 4).

EPA has grouped the discussion of the final rule and elements considered in the proposal but not included in the final rule as follows:

• Unit V: Pesticide Safety Training for Workers and Handlers.
• Unit VI: Notification.
• Unit VII: Hazard Communication.
• Unit VIII: Information Exchange Between Handler and Agricultural Employers.
• Unit IX: Drift-Related Requirements.
• Unit X: Establish Minimum Age for Handling Pesticides and Working in a Treated Area while an REI is in Effect.
• Unit XI: Restrictions on Worker Entry into Treated Areas.
• Unit XII: Display of Pesticide Safety Information.
• Unit XIII: Decontamination.
• Unit XIV: Emergency Assistance.
• Unit XV: Personal Protective Equipment.
• Unit XVI: Decision not to Require Monitoring of Handler Exposure to Cholinesterase-Inhibiting Pesticides.
• Unit XVII: Exemptions and Exceptions.
• Unit XVIII: General Revisions.
• Unit XIX: Implementation.

V. Pesticide Safety Training for Workers and Handlers

A. Shorten Retraining Interval for Workers and Handlers

1. Current rule and proposal. The existing WPS requires employers to ensure that workers and handlers are trained once every five years. EPA proposed to establish an annual retraining interval for workers and handlers in order to improve the ability of workers and handlers to protect themselves and their families from pesticide exposure.

2. Final rule. In the final rule, EPA has adopted the proposed requirement for workers and handlers to receive full pesticide safety training annually. The final regulatory text for these requirements is available at 40 CFR 170.401(a) and 170.501(a).

3. *Comments and responses.*

Comments. Several farmworker advocacy groups and public health organizations supported full, annual training, stating that the more frequent training would improve workers' and handlers' ability to protect themselves and their families, and that annual training would be simple to track administratively. Agricultural producer organizations, pesticide producers, and the Small Business Administration's Office of Advocacy recommended an initial in-depth training for new workers followed annually by a shortened ''refresher'' training. A similar suggestion was to require initial in-depth training for workers and handlers, followed by four years of refresher training, with an in-depth training every fifth year. Some states suggested training every two or three years, or allowing each state to set its own training interval, to parallel the state's pesticide applicator recertification interval. A few states recommended a system where the training timeframe is based on the calendar year, to allow flexibility for employers. For example, under this proposal, an employee trained in March 2014 could be retrained as late as December 2015. This suggestion would extend the permitted interval between worker and handler trainings to as long as two years. Comments from pesticide industry organizations suggested that the frequency of worker safety training be commensurate with an individual workers' tasks, previous training, and experience.

EPA Response. EPA considered the alternatives described for training frequency, and agrees with the comments that annual training, in some form, is the appropriate interval to ensure that workers and handlers receive more frequent reinforcement of the safety principles. EPA rejected the suggestion for a limited refresher training based on the difficulty both employers and regulators would face in tracking multiple levels of training among a mobile workforce, the burdens of maintaining multiple forms of training materials and providing different trainings where employees are on differing cycles for full and refresher training, and the fact that very little of the substantive content of the required training appears to be material that would not need to be brought to employees' attention annually.

The suggestions for biennial or triennial training and allowing the states to base the frequency of training for workers and handlers on their pesticide applicator recertification requirements would present similar administrative problems with tracking trainings and introduce the possibility that workers or handlers would miss information needed to protect themselves. Finally, the alternative to establish the frequency of training based on the calendar year presents similar issues with tracking training and needed frequency of repetition.

The recommendation for training to be tailored to the individual workers' tasks, experience, and prior training was rejected based on the difficulty in tracking the specific training needs with a mobile workforce, the need for multiple forms of training materials, and the potential burden on employers to determine specific needs for each employee. In addition, the training gives practical information that is useful to everyone who works with or around agricultural pesticides.

B. Establish Recordkeeping Requirements To Verify Training for Workers and Handlers

1. Current rule and proposal. The existing WPS does not specify how an employer must verify that a worker or handler has received pesticide safety training. EPA proposed to eliminate the existing voluntary training verification card system and to require employers to maintain records of WPS worker and handler training for two years. EPA proposed that the training record include, among other things, the employee's birthdate to verify minimum age for early-entry worker or handler activities. EPA proposed to require the employer to provide a copy of the record to each worker or handler upon completion of the training.

2. Final rule. EPA has finalized the proposed requirement for employers to maintain records of worker and handler training for two years. Required information for the record of worker and handler training includes the trained worker's or handler's name and signature, the date of training, the trainer's name, evidence of the trainer's qualification to train, the employer's name, and which EPA-approved training materials were used. EPA has not included in the final rule the proposed requirement for the employer to record or retain birthdate of the employee. The final rule does not require employers to automatically provide a copy of the training record to each worker and handler; instead, the final rule only requires the employer to provide a copy of the training record to the trained employee upon the employee's request. The final regulatory text for the worker and handler training recordkeeping requirements appears at 40 CFR 170.401(d) and 170.501(d), respectively.

3. *Comments and responses.*

Comments—compliance monitoring. Comments in support of a requirement for recordkeeping stated that it would ensure employees received the training and that it would improve enforcement and compliance.

EPA Response. EPA agrees with these commenters that recordkeeping is necessary for the purpose of compliance monitoring.

Comments—burden. Commenters stated that the proposed requirement to distribute the record to every trained worker or handler would be burdensome and that most workers or handlers would not take or keep the records.

EPA Response. EPA agrees with these commenters and has modified the requirement. The final rule requires employers to provide training records to the trained employee only on the employee's request. This will reduce the burden on employers while ensuring that interested employees will be able to demonstrate to future employers that they were appropriately trained.

Comments—birthdate. There were a number of comments, particularly from states, related to the proposed requirement that employers include the trained employee's birthdate among the information to be recorded to document training. EPA proposed including the trained employee's birthdate in the recordkeeping in order to facilitate its use to verify that workers or handlers met the proposed minimum age requirement for handling pesticides or entering treated areas while under an REI as allowed under the early entry exceptions. States noted that a person's birthdate can be considered confidential and personal information, the distribution of which can lead to identity theft.

EPA Response. EPA has decided the advantages of requiring the employer to record the birthdate of the trained worker or handler are outweighed in this instance by the concerns for protecting confidential and personal information. Under the final rule, the employer is responsible for determining that each employee has met the minimum age requirement. The final rule does not include the proposed requirement for the employer to collect or retain specific documentation of the employee's birthdate or age.

C. Establish Trainer Qualifications for Workers and Handlers

1. Current rule and proposal. The existing WPS allows workers and handlers to be trained by a variety of persons, including pesticide applicators certified to use restricted use pesticides (RUPs) under 40 CFR part 171, persons identified by the agency with jurisdiction for pesticide enforcement as a trainer of certified applicators, or persons having completed an approved pesticide safety train-the-trainer course. In addition, persons trained as handlers under the WPS are also eligible to train workers.

EPA proposed to limit eligible trainers of workers to those who complete an EPA-approved train-the-trainer program or are designated by EPA or an appropriate state or tribal agency as trainers of certified applicators; being a certified applicator or trained as a handler under the WPS would not automatically qualify a person to train workers under the proposal. EPA did not propose to change the qualifications for trainers of handlers.

2. Final rule. In the final rule, EPA has expanded the class of persons qualified to train workers relative to the proposed rule. Under the final rule, qualified trainers of workers include persons who: Have completed a pesticide safety train-the-trainer program approved by EPA, are designated as a trainer of certified applicators, handlers or workers by EPA or a state or tribal agency responsible for pesticide enforcement, or are certified pesticide applicators under 40 CFR part 171. Unlike the proposal, certified applicators are considered qualified to train workers under the final rule. However, consistent with the proposal, the persons trained as handlers under the WPS are not considered qualified to train workers under the final rule.

The final rule does not make any changes from the existing rule and proposal related to who is qualified to provide training to handlers.

The final regulatory text for worker and handler trainer qualifications is available at 40 CFR 170.401(c)(4) and 170.501(c)(4), respectively.

3. *Comments and responses.*

Comments. Many of the comments advised EPA to retain certified applicators as trainers of workers in the final rule. Several commenters stated that without certified applicators providing worker training, resources such as cooperative extension trainers would be severely strained and there might not be adequate resources to provide annual training for workers. Several states and others noted that certified applicators possess the necessary competence to provide training to workers; in some states, they must receive training specifically for the purpose of training workers in order to meet their certification requirements. Commenters also questioned how a certified applicator could be considered qualified to train handlers, but not workers, as many handlers have the same demographic profile as workers.

There were few comments in support of retaining handlers as trainers for workers. One comment suggested that handlers could be required to take an

approved train-the-trainer course to ensure they can adequately train workers.

EPA Response. EPA is persuaded by the comments that it is reasonable to expect that certified applicators can competently train workers, as well as handlers. Commenters note that certified applicators possess knowledge of pesticide safety from their certification training and pesticide handling experience. The commenters stated that the additional burden from the proposed requirement for annual training in combination with the elimination of certified applicators as trainers would severely strain trainer resources and potentially result in fewer workers receiving annual training. This concern persuaded EPA to include certified applicators as qualified to train workers in the final rule.

EPA agrees with the comment that handlers who have gone through a train-the-trainer course should be eligible to train workers. Under the final regulation, any person, including a handler, is qualified to train workers after successfully completing an approved train-the-trainer course.

D. Expand the Content of Worker and Handler Pesticide Safety Training

1. Current and proposed rule. The existing WPS requires employers to provide pesticide safety training covering specific content to workers and handlers. Under the existing rule, worker safety training content must include the following 11 points:

- Where and in what form pesticides may be encountered during work activities.
- Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of common types of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- How to obtain emergency medical care.
- Routine and emergency decontamination procedures, including emergency eye flushing techniques.
- Hazards from chemigation and drift.
- Hazards from pesticide residues on clothing.
- Warnings about taking pesticides or pesticide containers home.
- Requirements of the WPS designed to reduce the risks of illness or injury resulting from workers' occupational exposure to pesticides, including application and entry restrictions, the design of the warning sign, posting of warning signs, oral warnings, the availability of specific information about applications, and the protection against retaliatory acts.

Under the existing rule, pesticide handler safety training must include the following 13 basic safety training points:

- Format and meaning of information contained on pesticide labels and in labeling, including safety information such as precautionary statements about human health hazards.
- Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- How to get emergency medical care.
- Routine and emergency decontamination procedures.
- Need for and appropriate use of PPE.
- Prevention, recognition, and first aid treatment of heat-related illness.
- Safety requirements for handling, transporting, storing, and disposing of pesticides.
- Environmental concerns.
- Warnings about taking pesticides or pesticide containers home.
- Training on the requirements of the regulation related to handling.

EPA proposed additional content in worker pesticide safety training including, among other things, information on the requirements for early-entry notification and emergency assistance, how to reduce pesticide take-home exposure, the availability of hazard communication materials for workers, the minimum age requirements for handling and early entry, and the obligations of agricultural employers to provide protections to workers.

EPA proposed additional content in handler pesticide safety training, including the requirement for handlers to cease application if they observe a person, other than another trained and properly equipped handler, in the area being treated or the entry-restricted area, and information about the requirement for OSHA-equivalent training on respirator use, fit-testing of respirators, and medical evaluation in the event a handler must wear a respirator.

2. Final rule. EPA has finalized the proposed additions to and expansions of the worker and handler pesticide safety training. The final regulatory text for the content of worker and handler pesticide training is available at 40 CFR 170.401(c)(2)–(3) and 170.501(c)(2)–(3).

The final rule requires employers to ensure that workers are trained on the following topics after EPA has announced the availability of training materials (see Unit XIX. for information on the timing of implementation):

- The responsibility of agricultural employers to provide workers and handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes ensuring workers and handlers have been trained on pesticide safety, providing pesticide safety and application information, decontamination supplies and emergency medical assistance, and notifying workers of restrictions during applications and on entering pesticide treated areas. A worker or handler may designate in writing a representative to request access to pesticide application and hazard information.
- How to recognize and understand the meaning of the warning sign used for notifying workers of restrictions on entering pesticide-treated areas on the establishment.
- How to follow directions and/or signs about keeping out of pesticide-treated areas subject to an REI and application exclusion zones.
- Where and in what form pesticides may be encountered during work activities and potential sources of pesticide exposure on the agricultural establishment. This includes exposure to pesticide residues that may be on or in plants, soil, tractors, application and chemigation equipment, or used PPE, and that may drift through the air from nearby applications or be in irrigation water.
- Potential hazards from toxicity and exposure that pesticides present to workers and their families, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of common types of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- Routine and emergency decontamination procedures, including emergency eye flushing techniques, and if pesticides are spilled or sprayed on the body, to use decontamination supplies to wash immediately or rinse off in the nearest clean water, including springs, streams, lakes, or other sources, if more readily available than decontamination supplies, and as soon as possible, wash or shower with soap and water, shampoo hair, and change into clean clothes.
- How and when to obtain emergency medical care.
- When working in pesticide-treated areas, wear work clothing that protects

the body from pesticide residues and wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.

• Wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible after working in pesticide-treated areas.

• Potential hazards from pesticide residues on clothing.

• Wash work clothes before wearing them again and wash them separately from other clothes.

• Do not take pesticides or pesticide containers used at work to your home.

• Safety data sheets provide hazard, emergency medical treatment and other information about the pesticides used on the establishment they may come in contact with.

The responsibility of agricultural employers to do all of the following: Display safety data sheets for all pesticides used on the establishment, provide workers and handlers information about the location of the safety data sheets on the establishment, and provide workers and handlers unimpeded access to safety data sheets during normal work hours.

• The rule prohibits agricultural employers from allowing or directing any worker to mix, load or apply pesticides or assist in the application of pesticides unless the worker has been trained as a handler.

• The responsibility of agricultural employers to provide specific information to workers before directing them to perform early-entry activities. Workers must be 18 years old to perform early-entry activities.

• Potential hazards to children and pregnant women from pesticide exposure.

• Keep children and nonworking family members away from pesticide-treated areas.

• After working in pesticide-treated areas, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.

• How to report suspected pesticide use violations to the state or tribal agency responsible for pesticide enforcement.

• The rule prohibits agricultural employers from intimidating, threatening, coercing, or discriminating against any worker or handler for complying with or attempting to comply with the requirements of this rule, or because the worker or handler has provided, caused to be provided, or is about to provide information to the employer or to the EPA or its agents regarding conduct that the employee reasonably believes violates this part, and/or has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing concerning compliance with this rule.

The final rule requires employers to ensure that handlers are trained on the following topics after EPA has announced the availability of training materials (see Unit XIX. for information on the timing of implementation):

• All content for worker training.

• Information on proper application and use of pesticides.

• Handlers must follow the portions of the labeling applicable to the safe use of the pesticide.

• Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide.

• Need for and appropriate use and removal of all PPE.

• How to recognize, prevent, and provide first aid treatment for heat-related illness.

• Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

• Environmental concerns, such as drift, runoff, and wildlife hazards.

• Handlers must not apply pesticides in a manner that results in contact with workers or other persons.

• The responsibility of handler employers to provide handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes providing, cleaning, maintaining, storing, and ensuring proper use of all required personal protective equipment; providing decontamination supplies; and providing specific information about pesticide use and labeling information.

• Handlers must suspend a pesticide application if workers or other persons are in the application exclusion zone.

• Handlers must be at least 18 years old.

• The responsibility of handler employers to ensure handlers have received respirator fit-testing, training and medical evaluation if they are required to wear a respirator by the product labeling.

• The responsibility of agricultural employers to post treated areas as required by this rule.

EPA intends to develop the training materials that meet the final training requirements and to publish in the **Federal Register** a notice of their availability. To allow time for the completion and distribution of revised training materials and to allow time for trainers to become familiar with them and begin training workers and handlers, the rule extends the implementation period for training on the new requirements for two years, or until six months after EPA has made the revised training materials available, whichever is longer.

The final requirements for the content of worker and handler pesticide safety training are available at 40 CFR 170.401(c)(2)–(3) and 170.501(c)(2)–(3), respectively.

3. Comments and responses.

Comments. Farmworker advocacy organizations, many states, and public health organizations provided support for the expanded training topics, in particular information about preventing take home exposure and medical evaluation, fit testing and training on respirator use for handlers who need to wear respirators. Some farmworker advocacy organizations commented on the importance of information about worker rights.

Agricultural producer organizations expressed concern for the additional burden of the lengthier training. Some states asserted that several of the handler training points are beyond the scope of the WPS and should be addressed in applicator certification only. Specifically, they requested that EPA eliminate training on environmental concerns from pesticide use; proper application and use of pesticides; and requirements for handlers to understand the format and meaning of all information contained on pesticide labels and labeling, and to follow all pesticide label directions. These commenters stated that these training points are appropriate for persons who work under the supervision of certified applicators, but they do not relate directly to worker or handler safety. Two states recommended a revision to language in the handler training topics requiring that ''all'' information on the pesticide label would be required to be covered, stating that all labeling information may not be relevant to a given application.

EPA Response. EPA does not agree with comments from states that the handler training topics related to environmental concerns from pesticide use, proper application and use, requirements for handlers to understand the format and meaning of information on labels and to follow label directions are beyond the scope of the WPS and may expand the liability of handlers. First, the ''Worker Protection Standard'' title is descriptive, and not jurisdictional. The WPS is, in essence, a codification of material that EPA would otherwise have to require to

appear on the labels of agricultural pesticides. Thus its potential scope is as broad as EPA's labeling authority. While there may be some point at which a prospective provision might be so tangentially related to the rest of the WPS that its inclusion in the WPS would cause excessive confusion that is not the case with the provisions included in this final rule.

In addition, this is not the first time that requirements included in the WPS have served purposes beyond the protection of agricultural workers and handlers. Section 170.210(a) of the existing rule requires that ''The handler employer and the handler shall assure that no pesticide is applied so as to contact, either directly or through drift, any worker *or other person,* other than an appropriately trained and equipped handler'' (emphasis added). Section 170.234(c) of the existing rule requires that, among other things, when application equipment is sent to non-handlers for repair, the handler employer must assure that pesticide residues have been removed, or else warn the person who would perform the repair. The handler training point on environmental concerns from pesticide use already appears in the existing rule at 40 CFR 170.230(c)(4)(xi). In response to a similar comment on the proposal that resulted in the existing regulation, EPA stated:

One comment questioned the relevancy of environmental information in worker protection training. The Agency believes such training is relevant to worker protection. Many environmental concerns are applicable not only to the organisms in the environment, but also to workers and other persons who may be in that environment. Ground and surface water warnings, for example, are designed not to protect only aquatic organisms, but to protect workers and other persons who may be using the water for drinking, cooking, bathing, etc. The Agency notes that FIFRA defines ''environment'' as including ''water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among these (Ref. 8).''

The final rule retains the requirement for handler training on environmental concerns related to pesticide use from the current WPS.

EPA does not agree that the training topic requiring handlers to receive instruction on proper application and use of pesticides is only appropriate for noncertified applicators making application under the direct supervision of a certified applicator. First, handlers routinely apply pesticides, and misapplication of pesticides can result in injury to persons covered by the WPS, including workers and handlers. Training on proper use can help prevent such misapplication and consequent exposure to people. Second, relying solely on the training of noncertified applicators under direct supervision would cover only applicators using Restricted Use Products (RUPs), and many agricultural use products covered by the WPS are not RUPs. To ensure that handlers under the WPS have the training to apply pesticides properly, it is necessary for them to be trained on proper use. The final rule includes the handler training topic requiring information on proper application and use of pesticides.

EPA does not agree with the commenters that requirements for handlers to understand the format and meaning of information on labels and to follow labeling directions are only appropriate for noncertified applicators applying under the supervision of certified applicators. To properly handle agricultural pesticides covered by the WPS rule, handlers need to understand the information on the labeling related to safe use of the pesticide and follow the use instructions. Use of a product in a manner inconsistent with the labeling may cause injury or illness to the handler and to others. For a more detailed discussion of the comments and EPA's responses on issues related to labeling, see Unit XVIII.A.

E. Exception to Full Pesticide Safety Training for Workers Prior to Entry Into Treated Areas (Grace Period)

1. Current rule and proposal. Except in regard to workers entering treated areas during an REI, the existing WPS permits the agricultural employer to delay providing full pesticide safety training until the end of the fifth day after the worker's entry into a treated area, often called the ''grace period,'' provided that the worker receives training in a basic set of two safety points before entering the treated area (*i.e.,* an area that has been treated or where an REI has been in effect within the last 30 days). Under this exception, the worker must receive the full safety training on the content outlined in the rule prior to the sixth day of entry into a treated area. EPA proposed to shorten the ''grace period'' to two days, require that full training take place before the third day of entry into a treated area, and expand the basic set of safety information to be provided prior to the worker's first entry into a treated area under the ''grace period.''

2. Final rule. EPA has eliminated the ''grace period'' entirely. The final rule requires employers to ensure that workers receive full pesticide safety training before entering a treated area (*i.e.,* an area that has been treated or where an REI has been in effect within the last 30 days).

3. Comments and responses.

Comments. Few commenters supported the proposed two day grace period coupled with the expanded basic safety points prior to first entry. Many agricultural producer organizations and the Small Business Administration's Office of Advocacy requested that EPA retain the five day grace period in the existing rule, stating it is needed for flexibility in scheduling training sessions as workers arrive at various times on the establishment. Several farmworker advocacy organizations and two states recommended elimination of the grace period entirely. One state recommended, as an alternative, adoption of the two day grace period with reduced material relative to the proposal required prior to first entry. Farmworker advocacy organizations that supported the elimination of the grace period cited the importance of workers having full safety information prior to entering an area with pesticide residues. One state that supported the elimination of the grace period expressed concern that this change would heighten concerns about the number of qualified trainers in the event that EPA would follow through on its proposal to make certified applicators ineligible to train workers.

EPA Response. While EPA recognizes the flexibility that the grace period offers agricultural employers in scheduling training sessions for workers, and the economic importance of that flexibility, EPA remains convinced that the elimination of the grace period is reasonable. The full pesticide safety training provides information that workers need to have before their exposure to pesticide treated areas so they can protect themselves. Under OSHA, training must take place at the time of the employee's initial assignment. EPA has decided that the cost of eliminating the grace period is reasonable when compared to the benefit from workers receiving the complete pesticide safety training before their first exposure to pesticides.

EPA acknowledges concerns raised by agricultural producer organizations and states that eliminating the ''grace period'' combined with the proposal to limit who is qualified to conduct worker training could result in an inadequate number of people available to provide worker training. The final rule continues to allow certified applicators to be trainers of workers (see Unit V.D.).

As a result, EPA expects that there will be an adequate number of trainers to provide full pesticide safety training for workers prior to their entry into treated areas.

F. Training Program Administration Requirements

1. Current rule and proposal. Under the existing WPS, pesticide safety training must be presented either orally from written materials or in audiovisual format. The information must be presented in a manner that the worker or handler can understand, and the trainer must respond to questions, but the existing rule does not require the trainer to be present for the entire training period. EPA proposed to retain the requirement to provide training in an oral and audiovisual format, to require that the trainer remain present throughout the training session, and to require that the training be presented in a place that is conducive to learning and reasonably free of distractions.

2. Final rule. EPA has finalized the proposed requirements for the presentation of training. Trainers of workers and handlers must remain present during training sessions to respond to questions. The training environment must be conducive to training and be reasonably free of distractions, to help ensure training quality. The final rule retains the existing requirement for pesticide safety training to be delivered either orally from written materials or by audiovisual means.

The final regulatory text for these requirements is available at 40 CFR 170.401(c)(1) and 170.501(c)(1).

3. Comments and responses.

Comments on use of videos. Some farmworker advocacy organizations endorsed the use of videos, stating that when used they enhance understanding of the material, especially when combined with hands-on activities or other kinds of learning approaches. Other farmworker advocacy organizations stated that there is a lack of interaction between the trainer and the employees trained using a video, resulting in reduced information transfer. Agricultural producer organizations and states also supported the use of the video, citing ease of use, and effectiveness. Many commenters from each category urged EPA to update the videos; a few suggested EPA evaluate different media presentations.

EPA Response. EPA agrees with the commenters who consider videos to be effective and useful training material. EPA recognizes that a video is a passive form of training, and has added the requirement for the trainer to be present to answer questions during the entire session to mitigate this problem. EPA also expects the requirement for the training to be in a location reasonably free of distractions to improve the ability of workers and handlers to absorb and retain information.

Comments on the requirement for trainers to remain present during entire training session. Farmworker advocate organizations and another commenter supported the proposal for trainers to remain present during the entire training, citing the need for them to be interactive with workers to enhance the training and facilitate discussion. One commenter, experienced in providing pesticide safety training, noted that the interaction with trainees, through hands-on training and sharing of experiences, was effective. Agricultural producer organizations opposed the requirement, stating that it would be distracting for the video to be interrupted for questions, and there would be lost time for the trainer. One commenter suggested it would lead to larger training conferences that would discourage post-video interaction. Some states opposed the requirement for the trainer to be present throughout the training; one state recommended that the trainer only needs to be available before and after the training if a video is used.

EPA Response. EPA agrees that having trainers present during the entire training program could facilitate discussion and promote interaction. EPA disagrees that the questions for the trainer would be disruptive to the training. A 2006 study (Burke) cited interactive training activities as a best practice for supporting training transfer. EPA is convinced that the trainer's presence during the video enhances the training by enabling questions and discussion during the presentation (Ref. 9).

Comments on the requirement for the training environment to relatively free of distractions and conducive to learning. The commenters were mostly in agreement that the learning environment needs to have minimal distractions and be conducive to learning. Farmworker advocacy organizations and public health organizations supported the proposed requirement as a way to improve the learning environment. Two farm bureaus suggested allowing the trainer to be absent during the video, and to have a supervisor present to ensure the quality of the training environment. One state supported the proposed requirement for the training to be conducted in an environment free of distractions. Finally, one agricultural organization described the environment where their workers receive training as taking place either on or outside their transportation bus or in the field, and noted that the low number of incidents is evidence that the training is effective.

EPA Response. EPA agrees that the requirement for the training environment to be reasonably free from distractions and conducive to training would make it easier for workers and handlers to learn. As discussed in the previous response, EPA disagrees with comments requesting that EPA eliminate the requirement for the trainer to be present throughout the training. The proposal and final rule establish requirements for the training location; the ultimate responsibility for ensuring the requirements are met rests with the employer. EPA recognizes that there are challenges in locating environments in agriculture that are quiet and present few distractions; classrooms are rarely convenient. However, EPA is requiring employers to provide a training environment that is reasonably free from distractions and conducive to training. EPA notes that the final rule does not prohibit providing training in any specific location, such as outdoors or on a bus, as long as the environment is reasonably free from distraction and conducive to training.

G. Require Employers To Provide Establishment-Specific Information to Workers and Handlers

1. Current rule and proposal. The existing WPS does not clearly require employers to provide to workers and handlers establishment-specific information on the location of decontamination supplies or hazard information as part of their pesticide safety training. EPA proposed that in addition to required pesticide safety training, employers must provide workers and handlers with establishment-specific information about the location of decontamination supplies and pesticide safety and hazard information, as well as how to obtain medical assistance. EPA proposed that agricultural and handler employers would be required to provide this establishment-specific information to all workers and handlers, including those previously trained on other establishments.

2. Final rule. EPA has finalized the proposed requirement for employers to provide establishment-specific information to workers and handlers. The final rule requires employers to provide establishment-specific information for workers and handlers when they enter the establishment and before beginning WPS tasks in areas

where within the last 30 days a product requiring compliance with the WPS has been applied or an REI has been in effect. Content for the establishment-specific information includes the location of the pesticide safety information, the location of pesticide application and hazard information, and the location of decontamination supplies. Employers are required to provide this information in a manner that the worker or handler can understand, such as through a translator, and prior to the worker or handler performing activities covered by the WPS. Lastly, this information is required even if the employer can verify that the worker or handler has already received the general pesticide safety training on another establishment, because the information required is specific to each establishment. The final regulatory text for these requirements is available at 40 CFR 170.403 and 170.503(b).

3. Comments and responses.

Comments. Commenters largely supported the addition of the establishment-specific training, with some noting that it is currently being provided voluntarily.

EPA Response. EPA agrees with the commenters that the establishment-specific training is necessary for workers and handlers to know where to find information on the establishment to protect themselves from pesticides and their potential effects. EPA notes that some of this information is required under the existing rule. However, EPA is convinced that consolidating the requirements for establishment-specific training will make them easier for employers to find and comply with, resulting in a higher likelihood that workers and handlers will receive the necessary information.

H. Costs and Benefits of Revisions to Pesticide Safety Training

1. Costs. EPA estimates the cost of changes to pesticide safety training for workers and handlers, including increased frequency, expanded content, recordkeeping, eliminating the ''grace period,'' changing who is qualified to conduct training, and amending training program administration requirements would be $29.9 million annually and range from approximately $62 to $80 per agricultural establishment per year. For a complete discussion of the costs see the ''Economic Analysis of Final Revisions to the Worker Protection Standard'' (Ref. 1).

2. Benefits. While EPA can estimate the costs of the changes to pesticide safety training for workers and handlers, quantifying the benefits is more difficult. Nonetheless, as explained in the NPRM, it is reasonable to expect that more frequent training would lead to better retention of information by workers and handlers, ultimately resulting in fewer incidents of pesticide exposure and illness in workers and handlers, improved decontamination procedures, reduced take-home exposure, and better protection of children. Similarly, providing workers with training before they enter a treated area will give them tools they need to protect themselves before they encounter pesticides as part of their occupation. Improving the quality of worker training by limiting trainers to persons who have completed a train-the-trainer course, are certified applicators under Part 171, or have been designated by the regulatory agency responsible for pesticide enforcement as a trainer of workers, handlers or certified applicators is expected to advance worker comprehension of the safety principles and result in better self-protection. Finally, enhancing the quality of the training environment and ensuring that there is a knowledgeable person available throughout the training session to respond to questions will improve the ability of the trainee to retain the information.

The expansion of information provided in the training will enable workers and handlers to better protect themselves and their families, by increasing their knowledge of how to reduce take-home residues from treated areas. The training gives practical information that is useful to everyone who works with or around agricultural pesticides.

The requirement for recordkeeping is an important element of the training requirement. Although in itself not a protective factor, it will support the determination of compliance when partnered with worker and employer interviews and therefore promote adherence to the requirements. In the final rule the employer must provide the record to the worker or handler upon request. The burden of providing copies of training records will be offset by the reduction in the number of trainings that would otherwise have to be provided to workers and handlers who have already been trained at another establishment.

VI. Notification

A. Posted Notification Timing and Oral Notification

1. Current rule and proposal. The current WPS requires agricultural employers to notify workers about pesticide applications and areas on the agricultural establishment subject to an REI. Notification is required when workers are on the establishment during application or the REI and will pass within one-quarter mile of the treated area. On farms, and in forests and non-enclosed nurseries (referred to as ''outdoor production'' in the proposal) the agricultural employer may choose either to post warning signs at the usual points of entry around the treated area or to notify workers orally about applications that will take place on the establishment. In greenhouses and some other enclosed spaces (referred to as ''enclosed space production'' in the proposal), the agricultural employer must post warning signs for all applications, regardless of the product's REI. In cases where the product labeling requires both written and oral notification of workers, the WPS also requires this ''double notification.''

For outdoor production, EPA proposed requiring agricultural employers to post warning signs where the pesticide to be applied has an REI greater than 48 hours, and to allow the option of oral warning or posted notification for products with an REI of 48 hours or less. For enclosed space production, EPA proposed requiring posting of warning signs only when the product applied has an REI greater than four hours, and to allow the option of oral warning or posted notification for products with an REI of four hours or less.

2. Final rule. EPA has finalized the proposed requirements to post warning signs for all ''outdoor production'' when a product with an REI longer than 48 hours is used, and to allow either oral or posted warnings for ''enclosed space production'' when a product with an REI of 4 hours or less is used. The final regulatory text for these requirements is available at 40 CFR 170.409(a)(1)(ii)–(v). The final rule modifies the existing requirement for employers to take down posted warning signs within three days of the expiration of the REI by prohibiting worker entry into the area until the posted warning signs have been removed (except for early entry pursuant to 40 CFR 170.603). The final regulatory text for this prohibition is available at 40 CFR 170.409(b).

3. *Comments and Responses.*

Comments. Many states and some farmworker advocacy organizations and public health organizations supported the ''field posting'' and notification requirements as proposed. They noted the potential benefit to workers and employees of crop advisors of mandatory posting for the most toxic pesticides. They agreed with EPA's assessment that additional posting

would provide added protection for workers while placing a minimal burden on employers.

Several grower associations and farm bureaus supported the proposed change in notification requirements for indoor production but opposed the proposal for additional posting for outdoor production. They noted that signs can be destroyed, removed, or relocated and that agricultural producers may not return to some fields more than once per week. One grower association specifically requested that EPA clarify how enforcement would address these challenges without inappropriately penalizing agricultural employers. This group stated that workers are fully capable of understanding oral notification and suggest focusing instead on reinforcing the existing oral notification. Several grower organizations also did not agree that EPA justified the cost of the proposal with the benefits.

Farmworker advocacy organizations suggested a number of alternatives, including requiring both posting signs and providing oral warnings for all pesticide applications, or at a minimum for those pesticides with an REI of 12 hours or more. Some farmworker advocacy organizations suggested mandatory posting of any treated area subject to an REI greater than 24 hours, and others requested that EPA require mandatory posting of any treated area subject to an REI. They reiterated EPA's rationale that oral notification of pesticide application information is difficult to recall over multiple days, that oral notification may not be clearly communicated due to multiple language barriers and that it is difficult to verify whether oral notification was in fact given.

EPA Response. EPA considered the comments submitted and agrees that increasing workers' awareness of treated areas will lead to an overall reduction in occupational pesticide-related illnesses at reasonable cost.

EPA disagrees with comments that suggest oral notification alone would provide sufficient notification to workers and agrees with comments that support increased posting requirements. As noted in the proposal for this rule, research has shown that oral instruction alone may not be an effective method of safety instruction. EPA is aware that compliance with the posting requirement for outdoor production could require some establishments to change their business practices or monitor posted fields more often.

EPA considered additional posting requirements presented by farmworker advocacy organizations and was not convinced that the increased cost to employers to post all treated areas, or to post areas treated with products with REIs of 12 hours or greater, or 24 hours or greater would result in significantly more increased protections than the requirement to post areas treated with products with an REI longer than 48 hours. EPA concluded that it is reasonable to expect workers to remember oral warnings regarding REIs for two work days, or about 48 hours total, and reasonable to require visual reminders for longer periods.

4. Costs and benefits. EPA estimates the annual cost of posting treated areas under an REI of more than 48 hours and allowing oral notification for indoor production applications of products with an REI of 4 hours or less to be $10.4 million annually, with the per establishment cost of $33, and finds this cost to be reasonable in comparison to the benefit to workers to avoid pesticide illness by remaining out of treated areas under an REI.

B. Revise Content of Warning Sign

1. Current rule and proposal. The existing WPS requires agricultural employers to post warning signs with the words ''DANGER,'' ''PELIGRO,'' ''PESTICIDES'' and ''PESTICIDAS,'' at the top of the sign, and the words ''KEEP OUT'' and ''NO ENTRE'' at the bottom of the sign. A circle containing an upraised hand on the left and a stern face on the right must be near the center of the sign. EPA proposed replacing ''KEEP OUT'' and ''NO ENTRE'' with ''Entry Restricted'' and ''Entrada Restringida,'' and changing the shape containing the face and hand to an octagon (similar to a stop sign).

2. Final rule. EPA has decided not to change the text or graphic of the existing warning sign. The final regulatory text for the warning sign content is available at 40 CFR 170.409(b)(2).

3. *Comments and responses.*

Comments. Two states and several grower organizations supported the proposed changes on the grounds that ''Entry Restricted'' would be less confusing to workers than ''KEEP OUT,'' since entry is allowed under certain circumstances. Many more state, farmworker advocacy organizations, and public health organizations opposed changing the existing warning sign. Those commenters asserted that ''KEEP OUT'' sends a much clearer message than ''Entry Restricted,'' particularly to people with lower levels of literacy. They noted that the term ''Entrada Restringida'' is not common in Spanish, which is the first language of the majority of farmworkers in the U.S., whereas ''KEEP OUT'' is simple and well understood even by people who do not speak or read English. Commenters pointed to standard readability test results confirming that ''KEEP OUT'' is easily understood by most six-year-olds, while ''Entry Restricted'' is placed at the grade 12–13 reading level and would be beyond the reading and comprehension level of the majority of farmworkers in the U.S.

A number of states commented that the existing sign is sufficient. They noted that although ''Entry Restricted'' is more accurate, it would be a costly change for growers that may lead to confusion and not be more protective than the language on the existing warning sign. States also commented that 20 years of training and experience with the current sign is what makes it effective for keeping workers out of fields under an REI. The states and farmworker advocacy organizations agreed that for the predominantly low-literacy population of farmworkers, a simpler message, along with training on the message, is more protective than the proposed wording for the warning sign.

EPA Response. EPA was persuaded that the proposed changes to the warning sign would be costly for employers and not increase protections for workers as much as expected. A significant factor in EPA's decision was the additional information presented in public comments regarding the potential lack of understanding of the term ''Entrada Restringida.'' EPA was convinced that eliminating the existing language, ''KEEP OUT,'' in favor of a technically more accurate sign would be less protective for the majority of workers. The goal of the warning sign is to keep workers out of areas that are treated with certain pesticides. Entry into these areas is prohibited while the REI is in effect with a few narrow exceptions. Workers that are directed to enter treated areas under an REI and/or areas where the warning sign is posted must have received pesticide safety training, be provided additional protections, and be informed that their entry is subject to the limitations established for early entry exceptions in the regulation. Because EPA expects that the majority of workers would never enter treated areas during an REI, because 20 years of training and experience have familiarized workers with the message and intent of the sign, and because EPA has added additional training and protection for workers entering treated areas while an REI is in effect, EPA agrees with commenters that the easily understood message of ''KEEP OUT'' is most appropriate.

4. Costs and benefits. Since the final rule does not change the requirement in

the existing rule, there are no costs associated with this decision.

C. Warning Sign Location Revisions

1. Current rule and proposal. Under the existing rule, when signs are required for applications in outdoor production, they ''shall be visible from all usual points of worker entry to the treated area, including at least each access road, each border with any labor camp adjacent to the treated area, and each footpath and other walking route that enters the treated area.'' EPA proposed maintaining the existing posting requirement for outdoor production and clarifying the language to require posting be visible from ''each border with any worker housing area within 100 feet of the treated area,'' rather than ''labor camps adjacent to the treated area.''

2. Final rule. EPA has finalized the proposed changes to the warning sign location requirements for outdoor production. The final regulatory text for this requirement is available at 40 CFR 170.409(b)(3)(ii).

3. *Comments and responses.*

Comments. Several states, grower organizations, and farmworker advocacy organizations supported the proposal and agreed that it would support EPA's goal of increasing clarity of the rule and enhance the ability of employers to understand their responsibilities under the regulation. Commenters in support of the change noted that ''adjacent'' is a vague term that may be interpreted differently by different people and that ''labor camp'' is too limited and does not technically include worker housing. They noted that clearer posting requirements could lead to better compliance and thus be a better system for keeping people living in close proximity to treated fields safe.

Some pesticide manufacturers opposed the proposal on the grounds that it is an overly prescriptive, costly, and unnecessary provision which would not provide additional protection above that already provided by the label and existing WPS.

A public health organization proposed adding pesticide application information and REIs to the posting requirement near worker housing areas. One state suggested revising the language by stating ''Each border with any worker housing area provided by this establishment/employer within 100 feet of the treated area.''

EPA Response. EPA was not persuaded by the comments that the requirement would be a significant additional burden on employers. The requirement only clarifies where employers need to post warning signs but does not increase posting requirements beyond what was intended in the existing regulation. EPA agrees with commenters who noted that increased clarity on posting requirements will lead to better compliance and increase awareness of treated fields by workers who live near treated areas.

4. Costs and benefits. Because this change only clarifies an existing requirement, the cost, if any, would be negligible.

VII. Hazard Communication

A. Hazard Information—Location and Accessibility

1. Current rule and proposal. The existing WPS requires employers to display certain information about pesticide applications at a central location on the establishment when workers or handlers are present and an application of a pesticide requiring compliance with the WPS has been made or an REI has been in effect within the past 30 days (referred to as the ''central display'' requirement).

EPA proposed to replace the existing requirement for the application information to be located at the central display with a requirement for employers to make the application information and additional hazard information accessible upon request by workers, handlers or their authorized representatives.

2. Final rule. EPA has decided not to finalize the proposal. The final rule generally retains the existing requirement related to the location of, and accessibility for workers and handlers to, the pesticide application information, makes some changes to the content of the required information, requires display of hazard information, and includes the accessibility requirements proposed for workers, handlers, and their designated representatives (''authorized representatives'' in the proposal). The employer must display the information at a place on the establishment where workers or handlers are likely to pass by (the ''central display''). The information must be displayed when workers or handlers are on the establishment and an application of a WPS-covered pesticide has been made or an REI has been in effect within the past 30 days. After this time, the information must be kept on the establishment for two years and made available to workers, handlers, or their designated representatives or any treating medical personnel. The final rule contains more specificity than the proposal, particularly in reference to the designated representative, where details are drawn from OSHA's rule at 29 CFR 1910 (Ref. 17).

The designated representative must provide written evidence of such designation, including the name of the worker or handler being represented, a description of the specific information being requested, including dates of employment of the employee, the dates for which the records are requested, the type of work conducted by the worker or handler during that period, a statement indicating that the representative is designated by the worker or handler, the specific application and/or hazard information requested, a statement designating the representative to request the information on the worker's or handler's behalf, the date of the designation, and the printed name and contact information for the designated representative. If the information is to be sent to the requester, direction for where that information must be sent is to be included. When the employer is presented a request that contains all of the necessary information specified in the regulations, the employer must provide a copy of, or access to, all of the requested information that is applicable within 15 working days from the receipt of the request. Failure to respond to the request would be a violation of the rule. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(9).

Workers and handlers who worked on the establishment may request, orally or in writing, the pesticide-specific information retained by the employer. The information must have been displayed while the worker or handler worked on the establishment. The employer must provide access to, or a copy of, the information within 15 days of the request. The regulatory text for this requirement is available at 40 CFR 170.311(b)(7).

Under the requirements to provide records to workers, handlers, and designated representatives, EPA also added language similar to that found in OSHA regulations (see 29 CFR 1910.1020(e)(1)(v)) to ensure that whenever a record has been previously provided without cost to a worker, handler, or their designated representative, the agricultural employer may charge reasonable, non-discriminatory administrative costs (*i.e.,* search and copying expenses but not including overhead expenses) for a request by the worker or handler for additional copies of the same record.

Medical personnel or persons acting under their supervision may also request the pesticide-specific

information required to be retained in 170.311(b)(6) to inform diagnosis or treatment of workers or handlers who were employed on the establishment during the time the information was required to be displayed. The request may be provided orally or in writing to the agricultural employer, and the employer must respond promptly to the request. The regulatory text for this requirement is available at 40 CFR 170.311(b)(8).

Lastly, the final rule makes some changes to the content of the required pesticide application information and when it must be posted, as explained in Units VII.C. and VII.D. The final regulatory text for this requirement is available at 40 CFR 170.311(b).

3. Comments and responses.

Comments. The overwhelming majority of commenters requested EPA to keep the existing central display requirement. Many comments from farmworker advocacy organizations, public health organizations, states, and some members of Congress noted that they thought it was unreasonable and unrealistic to think a vulnerable population such as workers and handlers would request hazard information from their employers. These commenters cited many reasons for this position, including barriers (*e.g.,* language differences, concern about compromising their immigration status, and fear of retribution, retaliation or job loss) and the power and social dynamics between employer and employee. These commenters were adamant that workers and handlers needed ready, anonymous, unhampered access to hazard information as currently provided through the central display requirement.

Most of these commenters supported the inclusion of a designated representative who could request the hazard information on behalf of a worker or handler, including farmworker advocacy organizations citing OSHA's requirements at 29 CFR 1910.1020(e)(1) that establish access to exposure records for workers in other industries. Comments in support of including access to hazard information by workers' or handlers' designated representatives note that workers and handlers may be reluctant to request the information for themselves due to their inability to communicate effectively with, or fear of, their employer, or because they may not be able to understand the information without help. One comment described a situation where a farmworker advocacy organization requested such information from an employer on behalf of two ill workers, but their request was denied because the workers themselves did not make the request.

In contrast, there was significant opposition from the agricultural industry to the proposal for the authorized representative, including growers, pesticide manufacturers, and their organizations, some states, and the Small Business Administration's Office of Advocacy. Comments from these groups centered on the additional burden on employers to provide the records. Commenters also expressed concerns that allowing access to pesticide application information by designated representatives could be abused by anti-pesticide organizations, who could send people onto the establishment requesting information purportedly on behalf of a worker or handler. In addition, some farm bureau comments stated that the requirement for providing the information to a representative is a violation of farmer's legal and privacy rights, stating that the representative could demand all information related to pesticides on that establishment.

Some commenters provided recommendations to improve the proposed requirement for a designated representative. Suggested improvements included limiting the designated representative requirement to current workers and handlers or to employees who worked on the establishment within two years of the request, limiting access to medical personnel only, or limiting the request to a specific incident. Many commenters recommended that the request be in written form, and include designation of the representative by the worker or handler. One state recommended defining a time frame for provision of the information to the requester. Another state suggested that the request clearly identify the information required to be provided to the authorized representative, and the purpose of the request or intended use of the information.

Many of the commenters in favor of keeping the existing central display requirement explained that a central display requirement that provides information about general pesticide safety, including symptoms of pesticide illness, and the specific pesticides used on the establishment, is necessary to protect the health of workers and handlers. First, having information available in non-emergency situations could help workers and handlers be aware of symptoms before they occur, help them avoid exposure, and possibly enhance the reporting of illnesses. Secondly, they stated that emergency medical personnel would not have to lose critical time tracking down information instead of treating the ill or injured person if they could rely on accessing the information quickly from the central display.

EPA also received comments from one pesticide manufacturer organization, a couple of states and some farm bureaus in favor of the proposal to eliminate the existing requirement for a central display of pesticide application information. These commenters agreed with EPA's observations in the preamble to the proposal that this requirement imposes a paperwork burden and that states often cite employers for technical violations of the display requirement. The commenters stated it is difficult to keep the displayed information current when application plans change, especially on large establishments. They also noted the difficulty keeping information legible when it is displayed at a central location subject to weather conditions. These commenters encouraged EPA to eliminate the existing central display requirement, not to finalize the proposed requirement to provide hazard communication information to workers, handlers, or their designated representative, and to require employers to only keep records of pesticide applications on their establishment.

EPA Response. EPA agrees with those commenters who argued that workers and handlers must have relatively unhindered access to pesticide-specific information, and has decided to retain the central display requirement. Although the extent and type of barriers and employer-employee dynamics are unique to each situation, EPA recognizes that a significant number of workers and handlers face disadvantages that can reasonably be expected to make them hesitant to ask their employers for information relating to their pesticide exposure. Consequently, EPA believes that it is not reasonable to make an employee's task of obtaining this information more difficult, particularly given the potential usefulness of the information if an employee may have been harmed by a pesticide. Therefore, EPA has decided to retain the requirement for the pesticide application information to be displayed at a place on the establishment where workers and handlers are likely to pass by or congregate and has added the requirement that the SDS must also be displayed at that location. In addition, in the final rule, workers and handlers and their designated representative may request either a copy of or access to the pesticide-specific information that was required to be displayed while the worker or handler was employed on the

establishment. The records of application and SDSs must be retained for two years after the application. Access to the SDSs after the display period will afford workers and handlers information about the pesticides they may have been exposed to, and the hazards they may present.

EPA recognizes, however, that there can be difficulties in complying with the central display requirement. In response to comments about the difficulty of keeping accurate information posted, EPA has attempted to simplify the central display requirement by changing the required time frame for posting the application-specific information (see Unit VII.D.). EPA expects this modification to the requirement for the timing to post the application information will reduce the burden on employers, while providing employees with ready access to accurate information. In response to the comments about the difficulty of maintaining a legible central display when it is subject to weather conditions, EPA notes that the central display requirement does not mandate that employers post the information outdoors. The information must be displayed ''where workers and handlers are likely to pass by and congregate and where it can be readily seen and read'' and workers and handlers must be able to access the information at all times during work hours. This does not preclude the central display from being maintained in a location sheltered from weather conditions, such as a bathroom, break area, or changing area, as long as the requirements of this section are met.

EPA has been convinced by comments in support to retain the option for a designated representative to access hazard information (application information and SDS) on behalf of a worker or handler. EPA agrees that including in the rule a requirement, based on OSHA's rule at 29 CFR 1910.1020, for employers to provide the information to a representative who has been designated to act on the behalf of the worker or handler would give workers and handlers more access to information related to pesticides used in their workplace. Also, EPA is aware that California and Texas regulations include requirements for employee representatives' to be given access to hazard information for farmworkers, and comments from the Texas Department of Agriculture encouraged EPA to require the designation in writing and to limit access to records to the retention timeframe of two years. EPA is unaware of issues related to worker representatives in those states.

In response to the many comments opposing the establishment of the authorized or designated representative based on concerns for the potential for anti-chemical activists fraudulently acquiring records, the final rule includes a requirement for the representative to provide to the employer documentation (written authorization) signed by the worker or handler that clearly designates that person to act as his or her designated representative. The information that can be obtained is limited to the application and hazard information that is required by § 170.311(b) of the final rule that was required to be displayed while the worker or handler was on the establishment, and for the dates applicable to the worker's or handler's dates of employment on the establishment. The employer must provide the information regardless of the worker's or handler's employment status on that establishment at the time of the request.

EPA was convinced by comments about the need for the pesticide specific information by medical personnel treating workers or handlers who may have been exposed to pesticides on the establishment, and has added a requirement that employers promptly provide the information to the requesting medical personnel or persons they supervise. The information would help ensure that the medical considerations would include the possibility that a pesticide exposure was involved in the worker's or handler's illness.

B. Pesticide-Specific Hazard Communication Materials—General

1. Current rule and proposal. The existing WPS requires employers to provide workers and handlers with specific pesticide application information, but not pesticide-specific hazard information on the pesticides they may be exposed to in the workplace.

EPA proposed to require employers to provide workers and handlers with access to the SDSs and pesticide labeling for products that have been applied on the establishment and to which workers and handlers may be exposed, in addition to the pesticide application information already required to be made available.

2. Final rule. EPA has finalized the requirement for agricultural employers to display at a central location pesticide application information and SDSs for pesticide products used on the establishment (referred to as ''pesticide application and hazard information'' in the final rule). EPA has not finalized the proposal to require employers to provide access to pesticide labeling. The final regulatory text for this requirement is available at 40 CFR 170.311(b).

3. Comments and responses.

Comments on providing safety data sheets and pesticide labeling. EPA received many comments in favor of the proposed requirement. Although many farmworker advocacy organizations expressed support for a requirement that employers maintain both labeling and SDS and make them available to workers and handlers, few discussed the merits or drawbacks. Many farmworker advocacy organizations, public health organizations and academics, a grower organization and others supported a requirement to maintain and provide SDSs. Some of these commenters indicated that the information on a SDS would be helpful for the correct diagnosis and treatment of pesticide-related illnesses. Farmworker advocacy organizations explained that workers want more information on what pesticides are used and what they are exposed to, along with possible side effects. On the other hand, a few grower organizations, a farm bureau, a pesticide manufacturer organization and a couple of states were against a requirement to provide SDSs. These commenters argued that EPA had not made a case strong enough to justify why workers need SDSs. They also opposed display of SDSs on the grounds that while the pesticide product label poses legally enforceable requirements on users, SDSs do not.

Some farmworker advocacy organizations, public health organizations, a grower organization, a farm bureau and others thought it would not be much of a burden on agricultural employers to acquire the SDSs of pesticide products because they are easily available online or can be requested from the pesticide manufacturer or distributor. One farmworker advocacy organization gave the Washington State Employer Hazard Communication rule (EHC rule) as an example of a requirement for employers to make SDSs available to employees that is feasible. *http://www.lni.wa.gov/IPUB/413-012-000.pdf.* The Washington State EHC rule applies to employers with one or more employees who either handle or are potentially exposed to hazardous chemicals, including pesticides, in their workplace. It requires employers to make SDSs for each chemical that employees may encounter readily accessible and easily obtained without delay during each work shift, and to ensure that employees traveling between workplaces during a work shift can immediately obtain the

SDS in an emergency. In contrast, a couple of grower associations stated that it is overly burdensome for agricultural employers to get SDSs. One state thought it would be difficult for employers to locate the correct SDS for pesticide products. They also noted that small businesses and private applicators will have the most difficulty since they are not already accustomed to keeping SDSs.

EPA received some comments both for and against providing pesticide product labeling. Many farmworker advocacy groups supported a requirement for the employer to provide the labeling. These commenters maintained that workers and handlers want more information on chemicals to which they may be exposed. On the other hand, farm bureaus, growers and grower organizations and states opposed a requirement to provide the labeling. These commenters expressed concern that EPA is expanding its mandate by requiring agricultural employers to provide the product ''labeling'' when it should be limited only to the WPS portions of the ''label.'' These commenters argued that an agricultural employer could easily violate this requirement by not having the most current or correct version of the labeling, such as a specimen or technical label.

EPA Response. After consideration of the comments, EPA remains convinced that access to SDSs offers significant health and safety benefits to workers and handlers. SDSs contain information that is not generally included in pesticide labeling regarding chronic, developmental, and reproductive toxicity that can be valuable to exposed and potentially exposed workers, and to medical personnel and others who provide treatment to an ill or injured person. Moreover, given the ubiquity of chemicals subject to the OSHA Hazard Communication Standard that mandates the development and distribution of SDSs, it is likely that many health care professionals are more familiar with SDSs than pesticide labeling. Requiring the SDS as part of the central display facilitates a quicker identification of the pesticide product used in case of an incident and may assist in diagnosis. The SDS contains information about symptoms expected in a person exposed to the chemical (immediate, delayed and chronic effects) as well as recommended treatment, whereas the label may not include detailed information on symptoms or treatment. EPA recognizes that state pesticide regulatory agencies do not review, approve, or take enforcement action based on the information in SDSs. However, comments from worker advocates indicate that workers and handlers want to have more information on health effects, which is available on SDSs and generally not available on the pesticide labeling. OSHA is requiring that all SDSs be in a standard format, making it easier to locate health information (Ref. 17). Accordingly, EPA concludes that a requirement to post SDSs is an effective way to communicate pesticide hazard information important to workers and handlers. EPA notes that under the final rule workers and handlers will learn during pesticide safety training about SDSs, the information they contain, and their availability at central display locations. This addition to the training will further reinforce workers' and handlers' awareness and potential use of SDSs.

EPA is persuaded that access to SDSs is not a significant obstacle to requiring agricultural employers to keep and display SDSs for pesticide products used on the establishment. Agricultural employers can obtain SDSs from the distributor of the pesticide, online, or upon request from the product manufacturer. For example, employers in industries other than agriculture—including retailers and wholesalers of agricultural chemicals—are required by the OSHA Hazard Communication Standard to make available SDSs to their employees.

Upon consideration of the comments, EPA has decided not to require agricultural employers include the pesticide product label or labeling as part of the central display requirement. EPA recognizes the burden on employers to provide both the SDS and label or labeling in addition to the pesticide application information. As noted previously, the SDS contains the health-related information requested in comments by worker advocates, and that would be most useful to persons providing treatment to those who may have been exposed to pesticides. EPA agrees that if necessary, the labeling for a product used for a specific application can be located using the application-specific information that employers are also required to post. See Unit XVIII.A. for a complete discussion of comments related to labels and labeling.

Comments on the extent of the requirement. EPA received comments both to narrow and to expand the scope of the proposal requiring employers to maintain SDSs and make them available to employees. Among the suggestions to narrow the scope of the proposal, one state suggested EPA keep a central repository of SDSs for agricultural employers to access and require employers to keep the SDS only while the associated pesticide product remains on the establishment. Farmworker advocacy organizations and public health organizations recommended expanding the proposed requirement to a full Hazard Communication Standard as required by the Washington State ECHC for all hazardous chemicals, which requires employers to develop a written Hazard Communication program, maintain availability and access to SDSs, provide information and training on hazards in the workplace, translate certain documents upon request, and keep and provide access to exposure records for at least 30 years.

Many farmworker advocacy organizations suggested that EPA require SDSs to be available in multiple languages and provided two examples of similar requirements. First, one farmworker advocacy organization cited the Migrant and Seasonal Agricultural Worker Protection Act (29 U.S.C. 1801, *et seq.*), administered by the DOL, which requires written information on the terms of employment to be provided in English, Spanish or other language common to workers. Second, one farmworker advocacy organization claimed that in Washington State, agricultural employers are required to provide translated documents if requested. Farmworker advocacy organizations asserted that it would be easy to translate SDSs because of the standard format required by OSHA's adoption of the Globally Harmonized System of Classification and Labeling of Chemicals. One pesticide manufacturer organization was opposed to translating the SDS because of the many indigenous languages present among workers.

EPA Response. After reviewing the comments, EPA has decided on an approach that will provide workers and handlers with more information about the potential health effects associated with the pesticides to which they may be exposed without overly burdening agricultural employers. Obtaining the SDSs for products used on the establishment should not be overly burdensome to employers; SDSs are available from pesticide dealers and the internet. An EPA-managed repository of the SDSs of all WPS pesticides would not significantly improve access and would be a significant burden for EPA because of the number of pesticides included. Stakeholders such as grower organizations are free to voluntarily develop SDS repositories with assistance from members. Voluntary programs of this sort would involve limited subsets of all WPS-scope pesticide products and could possibly

be accomplished within a short period in comparison to a national, full-scale repository program.

EPA has decided not to reduce the amount of time the SDS must be available. The cost of retaining the SDS, once obtained, is negligible. Employees and medical personnel could benefit from access to the health effects information in the SDS in case of symptoms that develop sometime after the application has been completed.

EPA disagrees with commenters' request to adopt a full hazard communication proposal as required by the Washington State ECHC for all hazardous chemicals. The full set of the WPS requirements in the final rule provide protections similar to those provided to workers in other industries under OSHA's Hazard Communication Standard program, while recognizing differences between agriculture and other industries. As discussed in the Agency's 1992 proposed rule on the Worker Protection Standard; Hazard Information (Ref. 18), in response to numerous concerns about potential overlap or conflict between EPA's July 1988 proposed WPS (Ref. 18) and OSHA's August 1988 proposed Hazard Communications Standard (Ref. 19), EPA committed to work with OSHA to minimize confusion and avoid duplication between the two agencies' requirements. Rather than require agricultural establishments that may not routinely use the same pesticides to develop and maintain a written Hazard Communication Standard plan listing all chemicals that will be used in the workplace, EPA's approach, in both the 1992 proposed rule on Hazard Information (Ref. 20) and this final rule, has been to identify specific requirements, tailored to fit the context of pesticide use in agricultural production that serve a purpose similar to the Hazard Communication Standard requirements in other industries. These requirements include pesticide safety training, display of basic pesticide safety information, notification or posting of treated areas, and access to information about pesticides used in the workplace at a central location. EPA notes that the WPS does not exempt employers with 10 or fewer employees, unlike OSHA's Hazard Communication Standard. EPA also notes that the cost of a developing and implementing a full hazard communication program specific to each establishment could be burdensome to small agricultural establishments.

Lastly, although EPA is not requiring that SDSs be translated at this time, EPA encourages and supports employers to display this information in such a way that workers and handlers can understand, including translation. EPA is open to conferring with stakeholders on the need for translation and identifying content to be translated, if necessary. EPA notes that some pesticide manufacturers already make pesticide product SDSs available in Spanish and EPA encourages employers to display Spanish SDSs where available and appropriate.

Comments on other forms of hazard communications materials. Many farmworker advocacy organizations suggested EPA develop and provide crop sheets, booklets, or other types of materials that describe the health effects of pesticides, either in lieu of or in addition to the SDS. These commenters identified a need for a pictorial booklet designed for low-literacy audiences on the health effects from exposure to pesticides, based on the information in SDSs. One state suggested that a small booklet with basic pesticide exposure symptoms by classes of chemicals or modes of action, described in layman's terms would be more helpful to workers than SDSs. One pesticide manufacturer organization opposed the development of crop sheets.

EPA Response. EPA agrees with the basic concept of providing workers and handlers with information on the health effects of pesticides for workers and handlers in a manner they can understand. Pesticide safety training and the pesticide information display provide workers and handlers with information on the symptoms that may be associated with exposure to different pesticides. If workers or handlers need information about the specific effects of a pesticide with which they have worked, they can consult the SDS. However, EPA does not agree with the commenters' request to require crop sheets or similar materials because, in EPA's judgment, the benefits of such a requirement would not justify the substantial costs associated with creating, updating, translating and distributing materials for every crop, growing region, and WPS-scope pesticide product. As noted in the proposal for this rule, crop sheets and other types of material have been developed in the past, with very limited success. For example, one state's crop sheet program proved to be expensive and labor intensive, and the crop sheets were left as litter in the fields, unused. SDSs already contain information about the potential health effects (acute, delayed, and chronic) associated with use of pesticide products and will be readily available in a uniform format, including provide hazard information in words and in pictograms.

Comments on inconsistencies in information between labels and SDSs. A pesticide manufacturer organization opposed any requirement by EPA to provide SDSs to worker and handlers upon request. This commenter expressed concern about the confusion that may be caused by inconsistencies between pesticide labels and SDSs. OSHA requires manufacturers to use GHS terms and chemical classification criteria on SDSs whereas EPA does not require their use on pesticide product labels. As a result, SDSs and pesticide product labels could have different hazard statements, pictograms and signal words.

EPA Response. EPA has not finalized the proposed requirement for the employer to make available pesticide product labeling upon request. Instead, the final rule requires the employer to display only pesticide application information and SDSs for pesticide products used on the establishment. The SDS provides succinct information about the known health hazards of the product that typically is not presented as part of the product label or labeling. Such information can be invaluable to medical professionals for the diagnosis and treatment of certain pesticide-related illnesses and injuries. Because EPA is not requiring the employer to display the labeling, EPA does not expect issues with a perception of conflict between labeling and SDSs. The persons who wear PPE and have access to the label are pesticide handlers who receive more thorough training than workers. If pesticide handlers encounter conflicting information on labeling and SDSs, such as the PPE identified, they should know they must follow the instructions on the pesticide labeling, as they are trained to do. For information on OSHA's adoption of the Globally Harmonized System of Classification and Labeling of Chemicals for SDSs and the pesticide product labeling, see EPA's Pesticide Registration (PR) Notice 2012–1, ''Material Safety Data Sheets as Pesticide Labeling'' (*http://www2.epa.gov/sites/production/files/2014-04/documents/pr2012-1.pdf*).

C. Pesticide Application Information—Content of Pesticide Application Information

1. Current rule and proposal. In the existing WPS, the agricultural employer must record and display the following information about each pesticide application: The location and description of the area to be treated, the product name, EPA registration number and active ingredient(s) of the pesticide product, time and date the pesticide is to be applied, and REI for the pesticide.

EPA proposed to require the agricultural employer to record and make available, in addition to the information required in the existing regulation: The specific crop or site treated, the start and end dates and times of the application, and the end date and duration of the REI.

2. Final rule. EPA has finalized the proposed requirements for the contents of pesticide application information, with one change. The final rule requires agricultural employers to record and display the following pesticide application information: Product name, EPA registration number, and active ingredient(s) of the pesticide product applied; the crop or site treated and the location and description of the treated area; the date(s) and times the application started and ended; and the duration of the REI. The final rule does not require the employer to record the end date of the REI. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(1)(ii)–(v).

The agricultural employer must record and display the information about the crop or site treated and the location of the treated area. EPA encourages employers to display the information in such a way that workers and handlers can understand and distinguish each treated area from all other areas on the establishment; in some cases, a map or diagram may be appropriate.

EPA encourages and supports the provision and display of the application information so it is most useful to workers and handlers on the establishment. One such option is to separate the information about treated areas, so those areas where an REI is in effect are distinct from those where the REI has expired, allowing the viewer to more quickly identify areas where entry is restricted. Similarly, maps highlighting areas where an REI is in effect and those where the REI has expired could also present the information in a user friendly, pictorial manner. EPA also sees an opportunity for employers to provide information of this nature through texting and other electronic means to their employees, and encourages such communication, in addition to the requirement for maintaining this information as part of the central display.

3. Comments and responses.

Comments. Many farmworker advocacy organizations, a few pesticide regulatory agencies, a grower organization and others supported the proposed expansion of the content requirement for pesticide application information records. According to these commenters, it would be a small burden to require additional application information, such as crops treated, that could help workers proactively avoid exposure to pesticides. One state asked EPA to parallel the information required by USDA to avoid confusion, while another suggested that more information be required in addition to the information proposed to assist state pesticide regulatory personnel in determining compliance.

Several farm bureaus, one grower organization and several states opposed any changes. These commenters asserted that the content required by the existing regulation is already too burdensome. Several farm bureaus opposed EPA's proposed expansion of the content of records stating that EPA had not justified it with quantifiable benefits. A few states, two farmworker advocacy organizations and other commenters suggested various combinations of records limited to three or fewer pieces of information. One grower organization argued that only a record of the active ingredient is needed for medical treatment, while another questioned how a record of the REI benefits the health and safety of workers. Lastly, these commenters maintained that recordkeeping of general use pesticide applications is not required by law, the proposed requirement is duplicative of state and federal requirements, and commercial applicators already keep records.

EPA Response. EPA agrees with the comments that adding more information to application records is a small burden compared to the benefits of determining compliance and giving workers and handlers information to verify the location of treated areas. The crop or site treated, start and end times and date(s) of the application, and duration of the REI are important for protecting worker and handlers and useful for determining compliance. Agricultural employers, compliance officers, workers, handlers and others will be able to calculate the end date and time of the REI by having the end date and time of the application and the duration of the REI included in the pesticide application information. The combined information will also help workers and handlers identify the areas where an REI is in effect. EPA did not propose requiring more information because the proposed content of application records fits the needs of stakeholders to determine compliance and to give workers and handlers the ability to discern which area had been treated. An arbitrary limit of only three or fewer pieces of information may not achieve the same benefits.

The WPS requires agricultural employers to maintain records because those records provide information that is important for the protection of their employees. While a significant number of agricultural employers may also be certified as private pesticide applicators, their status as private applicators does not exempt them from the WPS recordkeeping required of agricultural employers. The WPS does not require private applicators to maintain records on account of their status as private applicators.

The risks of concern under the WPS include both RUPs and non-RUPs, while certification requirements at the federal level, including recordkeeping, only apply to those using RUPs. Neither the USDA application record requirements for private applicators of RUPs, nor state application record requirements for commercial applicators fully cover the information needed under the WPS for the protection of workers and handlers. The USDA required information does not include the active ingredients, duration of the REI or the start and end dates and times of applications, nor does it apply to applications of non-RUP pesticides. Commercial applicators would have to record the information required by the state pesticide regulatory agency, which must at a minimum include the kinds, amounts, uses, dates and places of RUP applications. 40 CFR 171.7(b)(1)(iii)(E). Also, state pesticide regulatory agencies may or may not require records of non-RUP applications. Therefore, it is unlikely that all states' commercial applicator RUP application records will match exactly the record requirements of the WPS. Because the records required to be maintained by USDA and the states do not include all of the information needed for protection of workers and handlers, it is appropriate to require such recordkeeping through the WPS.

D. Pesticide Application and Hazard Information—When Information Must Be Made Available

1. Current rule and proposal. In the existing rule, the agricultural employer must record and display the pesticide application information before the application takes place, if workers or handlers are present on the establishment before the application begins. Otherwise, the information must be recorded and displayed at the beginning of any worker's or handler's first work period. If the employer posts warning signs for a treated area, the pesticide application information must be displayed at the same time as, or earlier than, the warning signs. The

information must remain on display when workers are on the establishment and from the time of the application until 30 days after the REI expires or until 30 days after the application end date if the REI is 0 hours (or in the rare instance where a label might not have an REI).

EPA proposed to require the agricultural employer to provide the pesticide application information, the SDS and labeling upon request during normal work hours, no later than the end of the day.

2. Final rule. The final rule requires the agricultural employer to display the pesticide application information and the SDS (pesticide application and hazard information) at the central display no later than 24 hours after the application is complete. Also, the employer must display the pesticide application and hazard information for each treated area before any worker is permitted to enter the treated area, even if the applicable REI has expired. If workers will be in the area, they must be notified of the application before it starts, by posted signs or orally, and warned not to enter the area. The application information and SDS must remain posted for 30 days from the expiration date of the REI or from the application end date if the REI is 0 hours (or in the rare instance where a label might not have an REI). EPA did not finalize the proposed requirement for the agricultural employer to make available the pesticide application information and the SDS no later than the end of the day of the application. The final rule eliminates the existing requirement to display the application information before or at the same time a warning sign is posted at a treated area. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(5) and 40 CFR 170.309(l).

3. Comments and responses.

Comments. Several farmworker advocacy organizations and one public health organization requested that EPA keep the existing requirement to make information available before the application so workers and handlers would be able to connect symptoms to an application if the exposure occurred during the application. While many farmworker advocacy groups supported the display of information before an application, some expressed concern about the accuracy of the pesticide application information displayed when information about the application changed from what was planned and the displayed information was not updated. One farm bureau and one pesticide manufacturer organization requested that EPA require employers to make the information available after the application.

EPA Response. EPA agrees with the commenters that it is important to provide workers and handlers with accurate information about pesticide applications. Displaying the information after the application is complete benefits workers and handlers because they can be confident the information is correct, and the employer no longer has to change the information when application plans change. Under the final rule, EPA expects all displays of pesticide application information will contain accurate information. The final rule retains the requirement for workers to receive oral notification, or to see posted warning signs, or both before an application begins, informing them to stay out of an area before an application begins.

E. Pesticide Application and Hazard Information—Retention of Records

1. Current rule and proposal. The existing WPS requires employers to maintain pesticide application information at the central display from the time of application until 30 days after the REI expires. There is no requirement for the employer to retain the pesticide application information in any form after that time.

EPA proposed to require employers to retain, for each application of a WPS-covered pesticide, the pesticide application information, labeling and SDS, for two years from the date of the end of the REI for each product applied.

2. Final rule. The final rule requires agricultural employers to retain the pesticide application information and the SDS for the product used (pesticide application and hazard information) for two years from the date of expiration of the REI applicable to the application conducted. EPA has not included the proposed requirement for the employer to retain the pesticide labeling in the final rule. The final regulatory text for this requirement is available at 40 CFR 170.311(b)(6).

3. Comments and responses.

Comments. EPA received comments supporting a two year recordkeeping requirement from several states and one grower organization. One state commented that it did not have a need for the information after one year, but that two years was not much more of a burden. Many farmworker advocacy and public health organizations requested EPA to require recordkeeping ranging from more than two years to as many as 30 years to help with the diagnosis of chronic health effects that could be related to pesticide exposure.

Commenters from some farm bureaus, grower associations, and Small Business Administration's Office of Advocacy opposed a two-year recordkeeping requirement, in part because they asserted that EPA could not show quantifiable benefits. These commenters argued it would be a paperwork exercise without health and safety benefits driven based on the needs of enforcement, and instead should be replaced with a minimal, non-intrusive requirement. One commenter suggested requiring employers to keep records only during the harvest season.

EPA Response. EPA has concluded that a two-year recordkeeping requirement would be helpful for health diagnoses and investigation purposes. EPA considered requiring the retention of records for five years and asked state pesticide regulatory agencies about their needs for access to pesticide application records. These enforcement agencies informed EPA that they rarely need to rely on records beyond the two-year timeframe.

EPA notes that this recordkeeping requirement does not necessarily impose a duplicative burden on agricultural employers to obtain pesticide application information and SDSs twice—once to satisfy the central display requirement and once to satisfy the recordkeeping requirement. Agricultural employers may satisfy this recordkeeping requirement by the removal of the pesticide application information and SDS from the central display 31 days from the expiration of the REI (or from the end of the pesticide application if there is no REI) and retaining those records for two years from the date of application. EPA recognizes that some employers may choose to maintain electronic copies of pesticide application records and the product SDS. The WPS does not specify that records must be kept on paper, so an employer can maintain records electronically as long as the employer satisfies all related requirements of the WPS, such as being able to quickly access and provide the required materials in the event of a pesticide emergency.

F. Costs and Benefits

1. Costs. EPA estimates the cost for these final hazard communication requirements, implemented together, to be $9.3 million annually, or $25 annually per establishment (Ref. 1). The cost of the hazard communication requirements differs from the proposed requirements because EPA is maintaining and revising the existing central display requirement, allowing the agricultural employer to display

information after the application negating the need to update information later, and requiring the agricultural employer to display and keep records of the pesticide application information and SDS but not the labeling.

2. Benefits. Although EPA cannot quantify benefits specific to any of these requirements, the qualitative benefits from workers' and handlers' ready access to accurate information about areas under an REI, pesticides in use, and potential health impacts from those pesticides convinced EPA to adopt these requirements Ref. 1). The final rule retains the central posting requirement, and allows the employer some flexibility in posting the information so accurate information is displayed.

VIII. Information Exchange Between Handler and Agricultural Employers

1. Current rule and proposal. The existing WPS requires handler and agricultural employers to exchange information about pesticide applications. When handlers are employed by an employer other than the agricultural employer, the existing WPS requires the agricultural employer to provide the handler employer with information about treated areas on the agricultural establishment the handler may be in (or may walk within one-quarter mile of), including specific location and description of any such areas and restrictions on entering those areas. The existing WPS requires handler employers to provide agricultural employers with the following information prior to making a pesticide application on the agricultural establishment:

- Location and description of the area to be treated.
- Time and date of application.
- Product name, active ingredient(s), and EPA registration number for the product.
- REI for pesticide(s) applied.
- Whether posted notification, oral notification, or both are required.
- Any other product-specific requirements on the product labeling concerning protection of workers or other persons during or after application.

The agricultural employer must display this information for workers and handlers employed by the establishment at the central location. The current WPS requires handler employers to inform agricultural employers before the application takes place when there will be changes to scheduled pesticide applications, such as changes to scheduled pesticide application times, locations, and subsequent REIs.

In addition to maintaining the current requirements, EPA proposed to require the agricultural employer to also provide to the handler employer information about the location of ''entry-restricted areas'' on the establishment. EPA also proposed to require the handler employer to communicate to the agricultural employer the start and end times of pesticide applications and the end date of the REI. EPA also proposed to relax existing WPS requirements by requiring handler employers to provide information about any changes to pesticide application plans to the agricultural employer within two hours of the end of the application rather than before the application. Changes to the estimated application end time of less than one hour would not require notification.

Finally, in the proposal, EPA unintentionally omitted the provision in the existing WPS that the agricultural employer need not provide information to the handler employer about treated areas if the handler will not be in or walk within one-quarter mile of those treated areas.

2. Final Rule. Information exchange from agricultural employer to handler employer. The final rule requires the agricultural employer to notify the handler employer of any treated areas where an REI is in effect and any restrictions on entering those areas. EPA has not included in the final rule a requirement for the agricultural employer to communicate to the handler employer information about the location of ''entry-restricted areas'' on the establishment because of the changes to the requirement concerning entry-restricted areas, as discussed in Unit IX.B. EPA has also revised the final rule to correct the unintentional omission of the existing rule's exception that the agricultural employer need not provide information to the commercial handler employer about treated areas if the handler will not be in, or walk within one-quarter mile of those areas. The final regulatory text for these requirements is available at 40 CFR 170.309(k).

Information exchange from handler employer to agricultural employer. EPA has finalized the proposal to expand and clarify the information the pesticide handler employer must provide to the agricultural employer with minor modifications. The final rule does not require the handler employer to convey the end date of the REI to the agricultural employer. The final regulatory text for these requirements is available at 40 CFR 170.313(i).

Timing of exchange of information from handler employer to agricultural employer. EPA has modified the final rule to specify those situations where the handler employer must notify the agricultural employer of changes to the application information before the application takes place. EPA has also modified the rule to specify the timing for notifying agricultural employers if the notification is not required before the application. The final regulatory text for these requirements is available at 40 CFR 170.313(j).

3. Comments and responses.

Comments. Many states and a few farmworker advocacy organizations expressed general support for the proposal to expand the information to be exchanged. These commenters agreed the additional information would help agricultural employers protect workers, reduce pesticide-related illnesses and exposure from drift during applications. Many farm bureaus, states, applicators and applicator associations and an agricultural organization generally disagreed with the proposed expansion. Some of these commenters argued that the proposed requirements are unrealistic and impractical given the dynamics and unpredictable factors involved in a farming operation, such as pest infestations and weather changes. In addition, they argued that the proposal would require multiple parties to exchange information, resulting in the potential for miscommunication. Some commenters also opposed the proposed expansion of information exchange because EPA did not provide documented justification. Crop consultants, an applicator association and a farm bureau indicated the proposal is unnecessary because close coordination of information already exists between applicators, handlers, crop consultants, and growers. Furthermore, they stated that not only are handlers already required to keep workers out of areas during applications, applications are often scheduled to take place when workers are absent. A few states, farm bureaus and a crop consultant opposed EPA's proposal to add to the information the agricultural employer is required to give the handler employer. One crop consultant indicated the information is already on purchase orders or sales agreements between growers and commercial handlers or their employers. One state requested that EPA omit the application start time because it is not used to calculate the REI.

EPA's proposal on the timing to provide notice of a change in application plans elicited many comments. EPA proposed that this

notice be provided within 2 hours of the end of the application, unless the only change was a difference of less than 1 hour between scheduled and actual application times. One state and several farmworker advocacy organizations endorsed the requirement because of the ease of providing the information in the timeframe by relying on existing electronic capabilities. One farmworker advocacy organization urged EPA to require that changes be communicated before the start of the application in order to enable employers to be able to keep workers out of the treated area.

To prevent confusion about scheduled and actual start and end times and to avoid miscommunication, one state suggested that EPA require the handler employer to inform the agricultural employer of changes at any time on the application day. Two aerial applicators explained that a two-hour window for notification of change sounds reasonable on paper, but not in practice. During long workdays of the busy season, applicators would have to make phone calls in the middle of the night and send text messages, usually from the airplane during or in between applications. Also, it can take more than one day to complete an application because of factors such as the weather, a change in wind direction, or verifying the presence of bystanders. These situations could require the handler to give several updates to multiple parties, resulting in a greater chance for errors and noncompliance.

One commenter requested that EPA require notification of a change within 24 hours from the end of the actual application, while another advised EPA to require notification if the actual application completion time is two or more hours later than the scheduled application time. Several farm bureaus, a pesticide applicator and a crop consultant organization advised EPA to require that changes in application plans be communicated: Before the scheduled date and times, if the application is going to be made earlier than expected, or before the end of the REI as scheduled, if the application is made later than expected. One aerial applicator stated that if an REI is greater than 24 hours, EPA should require an information update before the scheduled REI expires or within 24 hours of the scheduled application time. Another aerial applicator recommended the handler employer and handler give the agricultural employer a window of estimated start and completion date(s) and time(s). In this situation, the handler would not make the application outside of that window without the approval of the agricultural employer, who in turn must keep workers out of the area during that time, unless notified of a change in the application start and completion date(s) and time(s).

Many commenters noted the absence of the existing provision that the agricultural employer need not provide information to the commercial handler employer if the handler will not be in or walk within one-quarter mile of an area that may be treated with a pesticide or under an REI, and noted this could result in the need to provide excessive, unnecessary information.

EPA Response. The information exchange requirements ensure that agricultural employers and handler employers have the information they need to comply with the requirements for notifying workers and handlers of risks associated with pesticide applications and treated areas (*i.e.,* agricultural employers are required to notify workers of treated areas and display pesticide application and hazard information at the central location on the establishment for workers and handlers to see, and handler employers must inform their handler employees of treated areas on the agricultural establishment near where they work).

EPA has been convinced not to adopt the proposed change to expand the information required to be communicated by the agricultural employer to the handler employer to include information about the location of ''entry-restricted areas'' on the establishment. Requiring employers to exchange this information would not be practical given other changes in the rule related to the ''entry-restricted areas'' (replaced by ''application exclusion zones'' in the final rule) that make the tracking of such areas infeasible. EPA also agrees that it is not necessary for the handler employer to calculate the end time of the REI for each application and include it in the information conveyed to the agricultural employer. The requirement to provide this piece of information has been deleted from the final rule.

Most of the other information required to be exchanged by the final rule is already required to be exchanged by the existing rule, and therefore EPA does not agree that this requirement presents a substantially increased or unreasonable burden. Agricultural and handler employers are currently required to exchange information so agricultural employers may provide notification of application and treated areas under an REI to workers and handlers. Without this information transfer, accurate and timely notification would be difficult to achieve, exposing workers and handlers to potential exposure to pesticides. It is critical that the agricultural employer know the start times of applications in order to be able to notify workers and handlers (when they are on the establishment) so they may avoid treated areas. EPA recognizes that exchange of the expanded information may already occur on some establishments and expects those entities to experience less burden than in situations where such coordination has not already developed.

EPA recognizes that much of the information required may be available on sales agreements and purchase orders between commercial pesticide handlers and agricultural employers, which will reduce the burden for employers to gather it; however, without inclusion of the information exchange requirements in the WPS there is no assurance of timely exchange of all of the necessary information.

EPA considered the range of options suggested for the timing of the information exchange. Several of the recommendations for notification of application changes from the commercial pesticide handler employer to the agricultural employer can be accommodated under the final rule. For example, the applicator and agricultural employer can agree on a window of the estimated start and end times, with the understanding that the application would be made during that period, unless the two communicate and agree to a different timeframe. This would allow the agricultural employer to notify workers of the treatment, keep them from the area, and create and post the application information, satisfying the requirement.

EPA did not identify any suggestions from commenters, apart from those that would be covered by the final rule that would meet the needs for agricultural employers to provide employees notification of the application and inform them of treated areas under an REI, and to record and display the pesticide application information. Agricultural employers must have information about the start time of the application before it begins to ensure they have the ability to notify workers of the application before it commences. Agricultural employers must have the end time of the application to notify workers that although the application has ended, entry to the treated area remains prohibited because an REI is in effect. Without these details being provided prior to the application, agricultural employers are not able to fulfill their responsibilities to protect workers.

EPA notes that the method for notification of changes to application information should be agreed upon between the handler employer and the agricultural employer to ensure receipt, and can be accomplished through electronic media, telephone, or other means. The agricultural employer must receive the information in sufficient time to record and display the information for workers and handlers.

4. Costs and benefits. EPA has estimated the cost of the information exchange requirements to be negligible because the existing rule already requires handler employers and agricultural employers to collect and exchange information. The changes in the final rule are minor and offer flexibility for employers. The information the agricultural employer must give the handler employer has been clarified. EPA has made minor changes to the information the handler employer must give the agricultural employer. The timing to notify the agricultural employer of most changes to the information has remained the same as the existing regulation, *i.e.,* before the application begins. In the final rule, two changes provide the handler employer flexibility. If the product changes or the application is made later than originally scheduled, the handler employer must notify the agricultural employer within two hours of the end of the application. If the only change was a difference of less than one hour between the scheduled and actual application times, notification is not required.

EPA expects these changes will ensure that the agricultural employer provides workers and handlers with accurate application information, which was problematic under the existing rule, and maintains accurate application records. The information exchanged and the timing of notification of changes of actual applications from scheduled applications remains essentially unchanged. Although notification can be given after the fact if a different pesticide product is applied or the application is completed after it was scheduled, this change does not make the WPS any less protective of workers, handlers and others. The agricultural employer will still have the essential information needed to know when and where to keep workers, handlers and others out of areas to be treated during and after treatment, and the revised information will be available in time for proper medical treatment if needed. The cost of including additional details is reasonable compared to the improved ability of workers and handlers to identify areas where pesticides are being applied or have recently been applied.

IX. Drift-Related Requirements

The requirements discussed in this section are intended to decrease the number of incidents in which workers and other persons are exposed to pesticides through unintentional contact during application. Drift is the off-site movement through the air of pesticide droplets or particles originating from pesticides applied as liquids or dry materials. Workers errantly in the area being treated may be directly exposed to pesticides during application. In addition, bystanders (both workers and non-workers) located outside a treated area may be exposed when pesticide droplets or particles move outside the area being treated through the air during and/or immediately after the pesticide application. As used here, the term ''drift'' includes both of these modes of exposure, but does not include off-site movement of pesticide-imbedded soil-borne particles by wind or vapor drift through volatilization of applied pesticide, although these are often categorized as ''drift'' in other contexts. EPA has developed methodologies for assessing the risks to bystanders from exposure to pesticides from drift and also from volatilization, and addresses risks of concern and other issues via the registration review process. The purpose of the requirements discussed in this section is to prevent workers and other persons from being exposed to pesticides by unintentional contact during application. The term ''drift'' is used as shorthand in this section to refer to unintentional exposure from both direct exposures to workers in the area being treated and drift exposures to workers and bystanders.

A. Overarching Performance Standard

1. Current rule and proposal. The existing WPS includes two related requirements that prohibit a pesticide from being applied in a way that contacts workers or other persons. Agricultural products subject to the WPS must have this statement on the label: ''Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.'' 40 CFR 156.206(a). Also, the existing WPS requires the handler employer and the handler to assure that no pesticide is applied so as to contact, either directly or through drift, any worker or other person, other than an appropriately trained and equipped handler. These requirements prohibit application in a way that contacts workers or other persons both on and off the agricultural establishment where the pesticide is being applied.

EPA did not propose any changes to the label statement. EPA proposed several minor wording changes to the WPS requirement for the handler employer and the handler, but the impact of the proposed requirement would be the same as under the existing WPS.

2. Final rule. EPA has finalized the proposed changes to the requirement for the handler employer and handler with a minor change. The final rule changes the language from the proposed ''handler located on the establishment'' to ''handler involved in the application.'' As with the existing rule, the final rule prohibits contact to workers and other persons regardless of whether or not they are on the agricultural establishment. The final regulatory text for this requirement is available at 40 CFR 170.505(a). There are no changes to the label statement at 40 CFR 156.206(a).

3. Comments and responses.

Comments. Many commenters, including states and their organizations, grower associations, farm bureaus and pesticide manufacturer associations, stated that the existing two requirements adequately protect workers and bystanders from exposure during applications. These commenters opposed the other drift-related requirements that EPA proposed (entry-restricted areas for farms and forests and the requirement to suspend applications under certain conditions) as unnecessary, asserting the proposed requirements do not provide any additional protection.

Many respondents from states and their organizations, grower associations, farm bureaus and pesticide manufacturer associations commented that EPA's risk assessments and pesticide labels include conservative protections for applicators, handlers, workers and bystanders. Some of these commenters argued that the existing restrictions on the labels, including REIs and pesticide-specific buffers, provide sufficient protection to workers and bystanders.

Many respondents from all commenter types commented on incidents where workers or bystanders reported being contacted by pesticides that were being applied. Some of these incidents involve workers in the areas where pesticides were applied and other incidents involve workers or bystanders being exposed to pesticides that drifted off the target site. Many of the commenters cited three broad studies that looked at data from SENSOR-

Pesticides and California's Pesticide Illness Surveillance Program (Refs. 10, 11 and 12). Other commenters cited specific incidents of exposure from drift or workers in the area being treated being sprayed directly. Some applicator and pesticide manufacturer associations cited state data showing that there has been a decrease in drift complaints over time, dropping from an average of 333 complaints per year nationwide (from 1996 through 1998) to an average of 247 complaints per year (from 2002 through 2004).

EPA response. EPA disagrees with the assertion that the ''do not contact'' requirements, along with the other protections on pesticide labels, are by themselves sufficient to protect workers and bystanders from being directly contacted by pesticides that are applied. First, many commenters cited incidents where people were directly exposed to pesticide applications, even if there was disagreement about how regularly these types of incidents happen. Second, EPA's risk assessments and registration decisions are based on the premise that the WPS protections effectively prevent people (workers and bystanders) from being sprayed directly (Ref. 13). In other words, incidents where workers or bystanders are sprayed directly result in people being exposed to pesticides in a way that is not considered in EPA's risk assessments or registration decisions. These types of incidents are misuse violations but they continue to occur, as described in the following sections. Therefore, there is a need to supplement the existing WPS protections to reduce exposures to workers and other persons from being directly sprayed with pesticides.

There is no one solution that can prevent all drift incidents and it will take a comprehensive approach, including additional regulatory requirements, education, outreach, and some common-sense voluntary measures to further reduce the number of people who are directly exposed to pesticide spray/applications. The additional regulatory requirements include revised requirements for entry restrictions during pesticide applications and for handlers to suspend applications in certain circumstances. Common-sense voluntary measures include a grower talking to his/her neighbors to let them know when pesticides are being applied so the neighbors can keep workers and others away from the boundary of adjacent establishments during that time, and participating in voluntary communication programs such as Spray Safe (*http://www.spraysafe.org/*) and Drift Watch (*https://driftwatch.org/*). EPA intends to include information about good management practices as well as the regulatory requirements during outreach for implementation of the final rule. It is also worth noting that EPA is working to assess and mitigate any product-specific risks from exposure to pesticides from drift and from volatilization within the registration review process.

B. Entry Restrictions To Protect Workers and Other Persons During Application

1. Current rule and proposal. The existing WPS establishes entry-restricted areas adjacent to treated areas that apply *during* pesticide application for nurseries and greenhouses only. The existing rule requires that the agricultural employer must not allow or direct any person, other than an appropriately trained and equipped handler, to enter or remain in the entry-restricted area during a pesticide application in a nursery or greenhouse. The size of the entry-restricted area depends on the type of product applied and the application method. The entry restrictions for greenhouses also include ventilation requirements. The existing entry restriction requirement applies only within the boundaries of the agricultural establishment. The existing provisions at 40 CFR 170.110 regarding entering entry-restricted areas during application are different than the existing provisions at 40 CFR 170.112 regarding entry into treated areas *after* the application of a pesticide and before the REI specified on the pesticide labeling has expired.

EPA proposed to establish entry-restricted areas during pesticide applications on farms and in forests, while slightly modifying the requirement for entry-restricted areas for nurseries and greenhouses. EPA proposed two types of entry restrictions: One for enclosed space production, which would apply to greenhouses and other types of indoor production operations (*e.g.,* mushroom houses, hoop houses, polyhouses), and one for outdoor production, which would apply to farms, forests and nurseries. In addition, EPA proposed to define the entry-restricted area as the area from which workers or other persons must be excluded *during and after* the pesticide application.

2. Final rule. In regard to enclosed space production (*e.g.,* greenhouses, mushroom houses, hoop houses), EPA has finalized the requirements for entry restrictions during pesticide applications with several minor changes. For the most part, the final rule incorporates the existing entry restriction and ventilation requirements for greenhouses as the requirements for enclosed space production. The final rule deletes the term ''entry-restricted area'' and adjusts the descriptions of the application types to be consistent with the changes to the description of application exclusion zones for outdoor production. In addition, EPA changed the definition of ''enclosed space production'' to clarify that it applies only to areas with non-porous covering, so structures with a covering made of fencing or fabric to provide shade on plants (no walls) such as shade houses, are not considered enclosed spaces under the final rule. See the discussion of definitions in Unit XVIII.C. of this document for more information about the changes to this definition.

In regard to outdoor production (*e.g.,* farms, forests, nurseries, shade houses), the final rule differs substantially from EPA's proposed requirements. The final rule makes the following changes from the proposal:

- Replacing the phrase ''entry-restricted area'' with ''application exclusion zone'' to make it more distinct from the requirements regarding REIs. The final regulatory text for this requirement is available at 40 CFR 170.405(a).
- Revising the corresponding definition to clarify that the application exclusion zone exists only during (not after) a pesticide application. The final regulatory text for this definition is available at 40 CFR 170.305.
- Revising the corresponding definition and regulatory description of an application exclusion zone so it is a specified distance from the application equipment rather than from the edge of the treated area, and clarifying that the application exclusion zone moves with the application equipment. The final regulatory text for this requirement is available at 40 CFR 170.405(a)(1).
- Revising some of the application methods in the description of the application exclusion zone to reflect current application methods and to differentiate the distances based on the spray droplet size rather than pressure. The final regulatory text for this requirement is available at 40 CFR 170.405(a)(1).
- Adding a provision to the regulatory text to clarify that any labeling restrictions supersede the requirements of the WPS, including those related to application exclusion zones. This was discussed in the preamble of the proposed rule (Ref. 2 at 15490) but was inadvertently left out of the proposed regulatory text. The final regulatory text for this requirement is available at 40 CFR 170.303(c) and 170.317(a).

3. Comments and responses.

Comments—supporting the proposal or more stringent measures. Many commenters, including farmworker advocacy organizations, public health organizations, and a state, generally supported the proposed requirement for entry-restricted areas. The commenters stated that the proposed change should provide modest improvements in protecting workers from pesticide drift during application if there is enough training and education of applicators. One farmworker advocacy organization described an incident where workers were in a field topping tobacco at the same time a plant growth regulator with a 24-hour REI was being applied to the adjacent row. The workers were close enough to have to move out of the path of the tractor. However, because the treated area was defined to be only the rows being treated, this was permissible under the existing WPS. Many commenters provided other examples of incidents where workers were unintentionally exposed directly to the pesticide spray. A few farmworker advocacy organizations commented that many workers say that they have felt the spray of pesticides from fields close to where they work. A farmworker advocacy organization commented that in 2012, about 20% of farmworkers in New Mexico reported to the organization that pesticides were applied to the fields at the same time that they were working. Another farmworker advocacy organization stated that about half of the child tobacco workers interviewed by the organization in 2013 reported that they saw tractors spraying pesticides in the fields in or adjacent to the ones where they were working.

Many farmworker advocacy organizations and several public health organizations argued that EPA should revise the approach for entry restrictions to protect workers on neighboring property and to increase the length of the entry-restricted area. The recommended distances ranged from 60 to 200 feet for ground application and 300 feet to a mile or more for aerial application. EPA responded to some of these suggestions in its response to ''Pesticides in the Air—Kids at Risk: Petition to Protect Children from Pesticide Drift (2009)'' (Ref. 13).

Comments—opposing the proposal. Many states and their organizations, grower organizations, farm bureaus, applicator organizations, agricultural producer organizations, pesticide manufacturer organizations, and the Small Business Administration's Office of Advocacy opposed the proposed requirement to apply the entry-restricted areas to farms and forests. Most of these commenters argued that the approach is too complicated because it establishes another area to be controlled that varies by application type, may include persons other than those employed by the agricultural establishment and may be different than label restrictions. (Note: Some of the comments appear to reflect a misunderstanding of the proposal, *i.e.,* that the entry-restricted areas would be ''buffer zones'' that would remain in effect after the application was complete.) Some states and their organizations commented that the requirement to keep individuals out of varying widths of areas surrounding treated areas would be difficult for an agricultural employer to implement and even more difficult for a state to enforce.

Most of these commenters asserted that the proposed requirement to apply entry-restricted areas to farms and forests would present some logistical issues that could effectively shut down parts of the establishment. For example, many ground and aerial pesticide applications occur along rural roads or near access points to the agricultural establishment. These roads and access points would be within the proposed entry-restricted areas. On larger fields, pesticide applications could take several hours to complete. Commenters claimed that prohibiting workers from using these roads or gaining access to farm buildings for long periods of time would be impractical and could have an adverse economic impact. Many of the commenters stated that EPA did not account for the cost of stopping business during some pesticide applications. As an example, one grower organization opposed the ''worker buffers'' because they could take a lot of area out of cultivation on smaller farms, farms with widely varied crop maturities and farms that are not laid out in large blocks. Instead of arbitrary buffers, this commenter argued to keep the standard as it is—do not apply where workers are present and do not allow spray (or drift) to contact workers.

Comments on application types and distances. Some commenters addressed the specific application methods and the distances of 100 feet and 25 feet in the proposed entry-restricted areas. Some states, grower organizations, agricultural organizations and pesticide manufacturer organizations commented that the distances of 25 to 100 feet are not supported by drift reduction technologies, applicator standard operating procedures or incident data. A state commented that the table of application methods and distances is flawed because it does not account for all application scenarios and does not logically apply distances.

EPA Response. Based on the comments, EPA has made some changes in the final rule from the proposed requirement to extend entry-restricted areas to farms and forests. However, experiences such as those of workers having to move to get out of the way of the tractor that was applying pesticide (described previously) and workers being directly sprayed confirm EPA's position that additional protections are necessary during pesticide applications on farms and in forests. The existing WPS prohibits a farm or forest agricultural employer from allowing or directing any worker to enter or remain in a treated area, which is defined to include areas being treated. The existing regulations require oral notifications before pesticide applications to include the location and description of the treated area, the time during which entry is restricted and instructions not to enter the treated area until the REI has expired. The existing regulations require handler employers to ensure that pesticides are applied in a manner that will not contact a worker either directly or through drift. Inasmuch as these requirements—clearly intended to prevent direct exposure of workers during pesticide applications—have proven insufficient for that purpose, additional measures are needed.

EPA has changed the final rule in several ways to address some of the concerns expressed in the comments about the logistical problems with the proposal. First, in the final rule EPA replaced the term ''entry-restricted area'' with ''application exclusion zone,'' which more clearly associates this restriction with the period during the pesticide application. This new term is also less likely to be confused with the term ''restricted-entry interval.'' Second, EPA revised the requirements for the application exclusion zone so that it is not based on the ''treated area,'' but instead a specified distance from the application equipment. The application exclusion zone is essentially a horizontal circle surrounding the application equipment that moves with the application equipment. For example, if a pesticide is applied aerially, the border of the application exclusion zone is a horizontal circle that extends 100 feet from the place on the ground directly below the aircraft, and moves with the aircraft as the application proceeds.

Because the application exclusion zone is based on the location of the application equipment, rather than the location of the treated area, the application exclusion zone could extend

beyond the boundary of the agricultural establishment. However, in 40 CFR 170.405(a)(2), the final rule limits the requirement for the agricultural employer to keep workers and other persons out of the treated area or the application exclusion zone during application to areas that are within the boundaries of the agricultural establishment, as proposed. The existing entry-restricted area requirement for nurseries is also limited to areas that are within the boundaries of the agricultural establishment. EPA retained the existing and proposed limitation because this requirement applies to the agricultural employer. The agricultural employer can control what happens on the agricultural establishment but could have difficulty limiting access to roads or fields that are beyond his property.

The comments reflected a general lack of understanding that the proposed entry-restricted areas would exist only during application, and many comments anticipated conflicts between no-spray buffers on some pesticide labels and the proposed entry-restricted area. However, these are two different types of requirements. If a label specifies a ''no-spray'' buffer, pesticide cannot be applied in that area at any time. Under the final rule, a pesticide can be applied in an application exclusion zone, and the requirement for agricultural employers is to keep workers and other people out of this zone during the pesticide application. These two types of requirements are distinct, and as a result should not be problematic to implement.

EPA reassessed the application methods and distances in the proposed requirements for entry-restricted areas for outdoor production and made some changes in the description of application exclusion zones in the final rule in § 170.405(a)(1). The final rule maintains the proposed distances of 100 feet and 25 feet but revises the application methods associated with each distance.

The application methods that have an application exclusion zone of 100 feet are the ones where pesticide is expected to move a longer distance from where they are applied. The changes include:

• Adding air blast applications, to more accurately and more broadly describe current application methods.

• Deleting pesticides applied as an aerosol because it is unnecessary.

• Including pesticides applied as a spray using a spray quality (droplet spectrum) of smaller than medium (volume median diameter less than 294 microns). The volume median diameter refers to the midpoint droplet size or mean, where half of the volume of spray is in droplets smaller, and half of the volume is in droplets larger than the mean. EPA chose to establish this criteria based on the spray quality rather than just the pressure because the drop size depends on a number of variables, including the pressure, the nozzle type, liquid properties, and the spray angle. Focusing on the spray quality, rather than pressure, is also consistent with EPA's voluntary Drift Reduction Technology program and current models of drift used in EPA's risk assessments.

The application methods that have an application exclusion zone of 25 feet are the ones where pesticide is expected to move a shorter distance from where they are applied. The changes include:

• Replacing several of the proposed criteria with pesticides applied as a spray using a spray quality (droplet spectrum) of medium or larger (volume median diameter of 294 microns or larger).

• Eliminating the criterion based on the product label requiring a respirator because it is intended to apply to enclosed spaces like greenhouses and was accidentally included in the proposed criteria for outdoor production.

The corresponding changes to application methods were made to the Table—Entry Restrictions During Enclosed Space Production Pesticide Applications at 40 CFR 170.405(b)(4) for consistency.

EPA acknowledges that some pesticide labels will have restrictions that apply during applications that are different than the application exclusion zones. For example, the restrictions on soil fumigant labels are more restrictive than the application exclusion zone of 100 feet specified in § 170.405(a)(1)(i)(D). In situations like this, pesticide users must follow the product-specific instructions on the labeling. As stated in §§ 170.303(c) and 170.317(a), when 40 CFR Part 170 is referenced on a pesticide label, pesticide users must comply with all of the requirements in 40 CFR Part 170, except those that are inconsistent with product-specific instructions on the pesticide product labeling.

C. Suspend Application

1. Current rule and proposal. As discussed in Unit IX.A., the existing WPS requires handler employers and handlers to assure that no pesticide is applied so as to contact, either directly or through drift, any worker or other person, other than an appropriately trained and equipped handler. However, the existing WPS does not include an explicit requirement for handlers to stop or suspend application. EPA proposed to add a provision to require a handler performing a pesticide application to immediately stop or suspend the pesticide application if any worker or other person, other than an appropriately trained and equipped handler, is in the treated area or the entry-restricted area. Based on the description of entry-restricted areas in the proposed rule, the requirement for handlers to stop or suspend application in certain circumstances would apply only *within* the boundaries of the agricultural establishment.

2. Final rule. In the final rule, EPA has made several changes to the proposed requirement to suspend applications. First, EPA revised the language to require a handler to ''immediately suspend a pesticide application'' rather than to ''immediately *stop or* suspend a pesticide application'' to clarify that the application must be suspended but can be restarted once workers or other persons are out of the zone. Second, EPA changed the area that is covered by the requirement to suspend application in two ways. EPA replaced ''entry-restricted area'' with ''application exclusion zone,'' decreasing the size of the area that is covered by the requirement. See Unit IX.B. Also, EPA removed the treated area from the requirement. For outdoor production, the area covered by the requirement is much smaller than the area that would have been covered by the proposed rule, which would have been the treated area plus up to 100 feet beyond the edge of the treated area. Third, the application exclusion zone can extend beyond the boundaries of the agricultural establishment for the purposes of this requirement, *i.e.,* the handler must suspend application if any person other than another handler involved in the application is in the application exclusion zone, regardless of whether the application exclusion zone extends off of the employer's property.

The final rule requires the handler performing the application to suspend application if people who should not be present are in the application exclusion zone (which ranges up to 100 feet from the application equipment for outdoor production) or in the area identified for exclusion for enclosed space production (which ranges from 25 feet to the entire enclosed space plus any adjacent structure that cannot be sealed off.) The final regulatory text for this requirement is available at 40 CFR 170.505(b).

3. Comments and responses.

Comments. Some commenters, including farmworker advocacy organizations, public health organizations, academics, and a state

generally supported the proposed requirement for applicators to stop or suspend pesticide applications under certain conditions. A farmworker advocacy organization supported the proposed requirement, stating that current rules do not provide meaningful guidance on how applicators can prevent human exposure during applications. Some other commenters from farmworker advocacy organizations, public health organizations and public health agencies supported the proposed requirement but urged EPA to extend the protections to workers at neighboring establishments. Many of these commenters provided information suggesting that workers may be more likely to be affected by drift from a different establishment. For example, commenters cited a Washington Department of Health report that documented 43 workers in Washington being affected by drift from another farm while only 13 workers reported being affected by drift from the farm where they were working in 2010–2011. In comments arguing against the need for entry-restricted areas, some applicator organizations provided examples supporting the requirement to suspend applications, stating that it is standard operating procedure for aerial applicators to temporarily avoid making passes adjacent to roads or other areas if workers happen to be passing by in vehicles or on foot.

Many states and their organizations, grower organizations, farm bureaus, applicator organizations, agricultural producer organizations and pesticide manufacturer organizations opposed the proposed requirement for handlers to stop or suspend pesticide applications in certain circumstances. Most of these commenters argued that the provision is unnecessary because it would not offer any protections or prevent contact from pesticide applications beyond the existing ''do not contact'' requirement. Some commenters raised logistical concerns: Applicators may not be aware that a person has entered a treated area or entry-restricted area in many situations, such as in a forest or an orchard in full leaf, in a very large field, or if there are restricted sight lines or rolling hills; the proposed requirement would impose unwarranted expectations for pilots, who would have to be fully aware of boundaries 100 feet on all sides of the target area while traveling at 150 mph; as proposed, an applicator would have to stop if a person is in an entry-restricted area even if it is not possible for that person to encounter pesticides because of wind conditions.

A few grower organizations and farm bureaus commented that there is a difference between stopping and suspending an application and asked whether this would require applicators to cease application altogether or suspend the application until a person is no longer in the area.

EPA Response. As stated in the proposal, EPA has identified a need to supplement the ''do not contact'' performance standard because exposure to drift or direct spray events still happen despite the ''do not contact'' requirement, and EPA's risk assessments and registration decisions presume that no workers or other persons are being sprayed directly. Therefore, the final rule includes an explicit requirement for handlers to suspend pesticide applications under certain conditions, which mandates applicators to take specified actions to prevent exposing people to pesticide during applications.

However, EPA revised the final rule in response to several points made by commenters. First, the final rule requires a handler to ''immediately suspend a pesticide application'' rather than to ''immediately *stop or* suspend a pesticide application.'' This change was made to clarify that the application must be suspended immediately if workers or persons other than handlers are in the specified areas but can be restarted once workers or other persons are out of the specified area.

EPA was persuaded by the commenters who raised logistical concerns about the proposed requirement, which were related to the handler not being able to see the person or a person entering an edge of a large area that is not near the application equipment. EPA revised the requirement in the final rule to decrease the size of the area that the handler must monitor for workers or persons other than handlers by removing the treated area from the area covered by this requirement and by changing the ''application exclusion zone'' so it is measured from the application equipment rather than from the edge of the treated area. In the final rule, the handler performing the application must suspend application if any of the identified people are in the application exclusion zone (which ranges up to 100 feet from the application equipment) rather than if any of the people are in the entire treated area plus that distance (up to 100 feet) from the edge of the treated area.

EPA was also persuaded by the comments and incident information about workers at neighboring establishments being directly contacted by drift. The incidents cited by commenters show that workers are directly exposed to pesticide applications from neighboring establishments as well as from the establishment where they are working. To reduce the number of incidents where workers are exposed to drift from neighboring establishments, the final rule extends the application exclusion zone beyond the boundaries of the agricultural establishment for this requirement, thus requiring applicators to immediately suspend applications if people other than a properly trained and equipped handler are in the application exclusion zone.

EPA has decided to extend the application exclusion zone beyond the boundaries of the agricultural establishment for the requirement to suspend applications for several reasons. First, this addresses more of the worker drift cases, where workers are within 100 feet of the agricultural establishment to protect more workers. Out of 17 incidents identified in the comments, only one would have been prevented if the application exclusion zone was limited to the boundaries of the agricultural establishment as provided in the proposed rule. The requirement in the final rule would have prevented at least four of the incidents reported in the comments, and possibly as many as 12, depending on the actual distances between the workers and application equipment, which were not specified in the comments. Second, the existing requirement that the handler must assure the pesticide is applied in a way that does not contact workers or other persons already extends beyond the boundary of the agricultural establishment. The new, explicit requirement to suspend application if people other than handlers are in the application exclusion zone is intended to supplement the existing ''do not contact'' requirement by giving the applicator specific criteria for suspending application. These specific criteria should be equally useful to applicators attempting to comply with the existing ''do not contact'' requirement beyond the boundaries of the agricultural establishment. Third, the application exclusion zone would extend a maximum of 100 feet beyond the boundary of an agricultural establishment only for the length of time it takes for the equipment applying the pesticide to pass by, so this should not shut down roads or access points to the establishment for long periods of time.

To reiterate a point made in Unit IX.B., the final rule does not hold agricultural employers responsible for keeping workers and other persons out of portions of the application exclusion zone that extend beyond the boundaries of the agricultural establishment. On the other hand, this provision in § 170.505(b) of the final rule imposes a requirement on the handler applying the pesticide to immediately suspend the application if workers or persons other than handlers involved in the application are in the application exclusion zone, whether on the establishment or beyond the boundaries of the establishment.

D. Costs and Benefits

1. Costs. In the proposal, EPA estimated the cost for restricting entry to areas adjacent to an area being treated would be negligible. EPA assumed that employers could generally reassign workers to other tasks for the duration of the pesticide application in instances where worker tasks in the adjacent areas had to be stopped until the application was complete. In the proposal, EPA estimated the cost of the requirement to suspend application would be negligible because it essentially clarifies an existing requirement. In the final rule, EPA estimates the costs of both requirements remains negligible.

2. Benefits. EPA believes both of the drift-related requirements discussed in this section of the preamble will help reduce the number of exposures of workers and other non-handlers to unintentional contact to pesticide applications. Therefore, the benefits of these requirements outweigh the negligible costs.

X. Establish Minimum Age for Handling Pesticides and Working in a Treated Area While an REI Is in Effect

A. Current Rule and Proposal

The existing regulation does not establish any age restriction for handlers or early-entry work. EPA proposed to prohibit persons younger than 16 years of age from handling pesticides, with an exception for handlers working on an establishment owned by an immediate family member. EPA requested comment on an alternative option of prohibiting any person under 18 years old from handling pesticides.

The existing WPS establishes conditions for when a worker may enter into a treated area under an REI. The conditions are related to the type of work performed (often referred to as ''early-entry'' tasks) and the length of time the worker may be in the treated area. However, the existing WPS establishes no minimum age for workers entering a treated area under an REI to perform early-entry tasks. EPA proposed to prohibit any worker under 16 years old from entering a treated area under an REI to perform early-entry tasks, with an exemption from this prohibition for persons covered by the immediate family exemption. EPA requested comment on an alternative option of prohibiting any person under 18 years old from entering treated areas during the REI to perform early-entry tasks.

B. Final Rule

The final rule prohibits persons younger than 18 years old from handling pesticides. EPA has retained the proposed exemption for handlers working on an establishment owned by an immediate family member. The final regulatory text for the prohibition is available at 40 CFR 170.309(c) and 170.313(c). The final regulatory text for the exemption is available at 40 CFR 170.601(a)(1)(i).

The final rule prohibits persons younger than 18 years old from entering treated areas during the REI to perform early-entry tasks, and retains the proposed exemption for persons working on an establishment owned by an immediate family member. The final regulatory text for this prohibition is available at 40 CFR 170.309(c) and 170.605(a). The final regulatory text for the exemption is available at 40 CFR 170.601(a)(1)(xii).

C. Comments and Responses

Comments. Many commenters requested that EPA establish a minimum age of 18 for handlers and early-entry workers. Commenters cited several reasons for their request. First, many commenters noted that adolescents' bodies are still developing and they may be more susceptible to the effects of pesticide exposure. Second, commenters noted that adolescents are less mature and their judgment is not as well developed as that of adults. This immaturity may mean that adolescents may be less consistently aware of risks associated with handling pesticides or entering a treated area while an REI is in effect, that they may not adequately protect themselves or other workers from known risks, and that spills, splashes, and improper handling practices may be more likely. A few commenters submitted studies related to development of maturity and decision-making skills in adolescents in support of this assertion. Third, commenters asserted that restricting handling activities to persons at least 18 years old could result in higher potential economic benefit from avoiding exposure and any potentially related chronic effects to children, because they have a longer potential life span. Fourth, because information on the potential chronic effects of pesticide exposure on developing systems is not known, commenters recommended that EPA prohibit adolescents from handling pesticides and entering treated areas while an REI is in effect as a precaution until it can be shown that they would not suffer adverse chronic effects from potential exposure. Finally, a few commenters noted that persons under 18 years old are protected in other industries by OSHA and should receive similar protections under the WPS, and that some states have already prohibited handling of pesticides in agriculture by anyone under 18 years old.

Some commenters expressed support for a minimum age of 16. States primarily supported EPA's proposal to establish a minimum age of 16, noting that establishing a minimum age of 18 would require them to change their state laws. Other commenters supporting the proposed minimum age of 16 noted that this requirement would align with DOL's restriction on handling pesticides in toxicity categories I and II in agriculture.

A few commenters opposed establishing any minimum age. These commenters asserted that EPA should not take any action because the DOL's hazardous occupations orders under the Fair Labor Standards Act (FLSA) already prohibit adolescents under 16 years old from handling pesticides in toxicity categories I and II in agriculture with limited exceptions. Some commenters also assert that establishing any minimum age for pesticide handlers is a matter that should be handled by the states, not EPA.

Some commenters requested that EPA eliminate the exception from any minimum age requirement for members of the owner's immediate family. Commenters assert that adolescents' developmental status does not differ if they are an employee on a farm owned by an immediate family member or by someone unrelated to them. Other commenters supported EPA's proposal or requested that EPA establish a higher minimum age only if EPA also retains the exception for members of the owner's immediate family.

EPA Response. Based on the comments received and an evaluation of existing literature related to adolescents' development of maturity and judgment, EPA has decided that the benefits of further reductions in adolescent pesticide exposures justify their cost; the final rule generally prohibits persons under 18 years old from

handling pesticides or entering a treated area while an REI is in effect. EPA recognizes that adolescents' bodies and judgment are still developing. While studies have not demonstrated a clear cut off point at which adolescents are fully developed, literature indicates that their development may continue until they reach their early to mid-20s. EPA also agrees that research has shown that adolescents may take more risks, be less aware of the potential consequences of their actions on themselves and others, and be less likely to protect themselves from known risks. All of this information supports establishing a higher minimum age than proposed in order to allow those handling pesticides to develop more fully before putting themselves, others, and the environment at risk, and to allow those performing early-entry activities to develop more fully in order to adequately protect themselves from the risks of entering a treated area while an REI is in effect. The final rule will reduce the potential for misuse by adolescent handlers who may less consistently exercise good judgment when handling agricultural pesticides.

EPA notes commenters' assertions that avoiding pesticide exposure in adolescents could result in higher potential economic benefit because of adolescents' longer potential lifespans. EPA agrees that it is appropriate to take reasonable precautions to protect adolescents from pesticide exposures, both because of the potential impact of pesticides on further development and because adolescents may not properly appreciate (and take appropriate steps to avoid) the risks of potential pesticide exposure. While statistical associations have been observed in studies that estimate the relation between pesticide exposure and chronic health outcomes such as cancer, the causal nature of these associations has not yet been determined; thus quantifying the magnitude of the chronic health risk reduction expected as a result of pesticide exposure reduction is not possible. However, based on what is known about the potential for biologically active chemicals generally to disrupt developmental processes, it is reasonable to have heightened concern for adolescents under the age of 18 in situations where they face particularly high pesticide exposures. Prohibiting adolescents under the age of 18 from handling agricultural pesticides will protect them from any potential risks of pesticide use through handling activities, ensuring that adolescents do not suffer unreasonable adverse effects from handling agricultural pesticides. Prohibiting adolescents under 18 years old from entering a treated area while an REI is in effect will protect them by delaying their entry into treated areas until residues are at a level that should not cause unreasonable adverse effects.

EPA recognizes that DOL prohibits persons under 18 years old from engaging in hazardous tasks in other industries, and that some states have taken action to prohibit certain adolescents from handling pesticides in agriculture (state minimum ages for pesticide handlers, where established, range from 16 years old to 18 years old). These examples of protections for adolescents in other industries or by states indicate a recognition that different standards for certain adolescents and adults are appropriate.

EPA disagrees with commenters' assertions that EPA should defer to the states or the FLSA and not establish any age-related restrictions on pesticide handling or early-entry activities. EPA has the responsibility under FIFRA to regulate the use of pesticides to avoid unreasonable adverse effects, apart from any requirements established by other federal or state laws. The DOL's actions under the FLSA limiting the use of certain pesticides to persons at least 16 years old do not preclude EPA from taking actions to ensure that human health and the environment are protected from unreasonable adverse effects. While DOL's hazardous occupations order prohibiting those under 16 years old from handling certain pesticides satisfies the purposes of the FLSA, those purposes are distinct from those of FIFRA. EPA has concluded that because, as discussed previously, adolescents' bodies, maturity, and judgment are still developing, the handling of agricultural pesticides and entry into a treated area while an REI is in effect by persons under 18 years old presents an unreasonable likelihood of adverse effects. Therefore, the final rule generally limits pesticide handling and early-entry activities to persons who are at least 18 years old.

EPA agrees that adolescents' developmental status does not differ if they are employees on a farm owned by an immediate family or by someone unrelated to them. However, EPA recognizes that imposing a minimum age for handling agricultural pesticides or performing early-entry tasks on owners or members of their immediate families could significantly disrupt some immediate family-owned farms. Given the high social cost of imposing a minimum age requirement on owners and members of their immediate families on farms owned by members of the same immediate family, EPA has finalized the proposed exemption to this requirement.

4. Costs and benefits. EPA estimates the cost of requiring handlers and early-entry workers to be at least 18 years old would be $3.1 million annually. EPA estimates that, on average, the cost would be about $8 per agricultural establishment per year. The cost per commercial pesticide handling establishment per year is estimated to be over $360. The estimated cost of the final requirement is likely to be overstated, particularly for commercial pesticide handling establishments, because EPA made some very conservative assumptions regarding the amount of time an adolescent works.

EPA cannot quantify the benefits associated with this specific proposal. However, this requirement would improve the health of adolescent handlers, as well as other workers and handlers on the establishment and the environment. It would also improve the health of adolescent workers by reducing their potential for exposure to pesticides in a treated area when an REI is in effect. As discussed in the preamble to the proposed rule, adolescents' judgment is not fully developed. Restricting adolescents' ability to handle pesticides will lead to less exposure potential for the handlers themselves, and less potential for misapplication that could cause negative impacts on other handlers or workers on the establishment, as well as the environment.

XI. Restrictions on Worker Entry Into Treated Areas

A. Requirements for Entry During an REI

1. Current rule and proposal. The existing WPS establishes specific exceptions to the general prohibition against sending workers into a treated area while an REI is in effect. Workers who enter pesticide-treated areas during an REI (known as ''early-entry workers'') without adequate protection may face an elevated risk from pesticide exposure. Under the existing rule, the employer must: Ensure that the worker has read or been informed of the human health hazards on the product labeling; provide instruction on how to put on, use, and remove PPE; stress the importance of washing after removing the PPE; and instruct the worker on how to prevent, recognize, and treat heat-related illness. The employer must also implement measures to prevent heat related illness when workers must wear PPE.

In addition to these existing requirements, EPA proposed to require

employers to inform workers sent into a treated area while the REI is in effect of the specific exception under which they would enter, to describe the tasks permitted and any limitations required under that exception, and to identify the PPE required by the labeling. EPA also proposed to require the employer to create a record of the oral notification provided to early-entry workers, to obtain the signature of each early-entry worker acknowledging the oral notification prior to the early entry, and to maintain the record for 2 years.

2. Final Rule. EPA has finalized the proposed requirements for the employer to inform the worker of the type of exception which permits the entry into the area under an REI, to describe the tasks that the worker may perform and other limitations under the exception, and to identify the PPE that must be worn. However, EPA has decided not to require employers to create or maintain records of the oral notification. The final regulatory text for this requirement is available at 40 CFR 170.605.

3. Comments and responses.

Comments on oral notification. Comments on the proposal to inform workers of the early entry exception and to explain the PPE were largely supportive, recognizing the reasonable nature of the proposed information. Commenters in support of the proposal included a pesticide manufacturer organization and farmworker advocacy organizations. One public health organization supported the proposal, but recommended that the requirement be modeled after OSHA's confined space regulations, to include: Specific training for early entry, a requirement for workers to be provided respirators and other necessary PPE, written emergency rescue procedures and resources in case of an overexposure or other mishap, on-site monitoring of the worker from outside the entry zone, and recordkeeping of each entry.

Several agricultural producer organizations and pesticide manufacturer organizations supported the proposal, but expressed concern for the requirement for employers to manage heat stress.

EPA Response. EPA has decided not to amend the final rule based on OSHA's confined space regulations. OSHA's definition of a confined space is one in which there is limited or restricted means for entry or exit. These characteristics exacerbate any hazard to the employee, in that the employee could be overcome by a toxic atmosphere or by physical engulfment, such as in a grain storage bin, and be unable to quickly exit. EPA recognizes a similar potential for pesticide handlers making fumigant applications in greenhouses to be overcome by the fumigant. The WPS provides protections for such scenarios by requiring PPE, including respirators where required by the label, and continuous monitoring by a handler outside of the treatment area. The handler entering the greenhouse would have specific instructions on the labeled hazards. The monitoring handler must have access to the PPE required by the product labeling in case they would need to enter the greenhouse for rescue of the applicator. However, except for the use of fumigants, which have specific label requirements because of their increased potential for inhalation risk, the more common scenario of a worker entering a treated area on a farm, forest, or in a nursery during the REI would not pose such risks from a toxic atmosphere. It is unlikely that there would be an environment that could concentrate the pesticide and produce a potentially life-threatening environment. The predominant component of exposure during work in a treated area where an REI is in effect is dermal, with rare exceptions. Specific information about the entry must include the human health hazards on the pesticide labeling, explanation of the required PPE and the proper way to wear and remove PPE, description of the tasks that may be performed and any limitations on the time permitted in the area. Workers directed to enter a treated area during the REI must have had the pesticide safety training so they may protect themselves. Employers must provide the PPE required by the product label for early entry to minimize exposure. Employers must provide early entry workers with the decontamination supplies appropriate for pesticide handlers.

EPA agrees with commenters that heat stress can be a problem for workers in warm, humid climes and when employees must wear PPE. EPA notes that requirements related to heat stress for early entry workers are already included in the existing rule at 40 CFR170.112(c)(6)(x) and 170.112(c)(7).

Comments in opposition to the early-entry exceptions. A number of farmworker advocacy organizations voiced opposition, in general, to most or all of the early entry exceptions in the existing rule, suggesting that workers should not be required to enter treated areas under an REI, due to risk of exposure.

EPA Response. In deciding whether to allow workers to enter treated areas prior to the expiration of the REI, EPA considered the risk to the workers and the benefits from the early-entry activities. In each case, EPA determined that the potential risks to properly trained and equipped early-entry workers are reasonable in comparison to the significant economic impacts from delaying necessary activities, provided that the required limitations to each exception are observed.

Comments on recordkeeping of oral notification. One farmworker advocacy organization supported the recordkeeping requirement, stating that the ''proposed changes will ensure early entry workers are adequately informed about the risks of the work they are asked to do.'' In contrast, several states and their organizations expressed concern for the recordkeeping requirement, stating that it is not practical and would result in technical violations, such as failures to obtain the necessary signatures, without enhancing worker protection.

EPA Response. EPA was convinced by the rationale provided by the states that the requirement for records of notification to early-entry workers was too burdensome for agriculture, while adding little or no protections for the workers. There is typically some urgency to the need for entry into a treated area while the REI is in effect; the added burden to create records during this time could be unreasonable as it would not necessarily increase protection of early-entry workers. EPA retained the requirement for employers to provide protective information to early-entry workers, but did not include the proposed recordkeeping requirement because it is unclear that such records would improve the transmission of information.

B. Clarify Conditions of the ''No Contact'' Exception

1. Current rule and proposal. The existing WPS allows workers to enter areas while an REI is in effect for activities that do not result in contact with any treated surfaces. In the proposal, EPA sought to clarify the ''no contact'' requirement of the exception by explaining that performing tasks while wearing PPE does not qualify as ''no contact.'' The proposal offered three examples of acceptable ''no contact'' activities.

2. Final rule. EPA has finalized the proposed clarification. The final rule adds to the exception the following language: ''This exception does not allow workers to perform any activities that involve contact with treated surfaces even if workers are wearing personal protective equipment.'' The final regulatory text for this requirement is available at 40 CFR 170.603(a)(1).

3. Comments and responses.

Comments. One farm bureau stated that workers are prevented from having contact with pesticides and their residues through the medium of PPE.

EPA Response. Although PPE—when properly fitted, worn, removed, cleaned and maintained—can provide significant protection against pesticide exposures, it does not eliminate exposure. The variation in exposure reduction offered by various types of PPE can be seen in EPA's ''Exposure Surrogate Reference Table'' (*http://www.epa.gov/opp00001/science/handler-exposure-table.pdf*). Use of PPE for activities involving contact with pesticide-treated surfaces does not reduce risks to the same level as no-contact activities. EPA has finalized the ''no contact'' exception as proposed because the PPE appropriate for early entry into treated areas under this exception is appropriate only for activities that do not involve contact with treated surfaces.

C. Limit ''Agricultural Emergency'' Exception

1. Current rule and proposal. The existing WPS permits entry into a treated area during an REI when a state, tribal, or federal agency having jurisdiction declares the existence of conditions that could cause an agricultural emergency. EPA proposed that only agricultural emergency determinations by EPA, state and tribal pesticide regulatory agencies, and state departments of agriculture, could authorize early entry under the agricultural emergency exception.

In addition, EPA proposed to limit the time a worker may be in the treated area under the agricultural emergency exception when the label of the product used to treat the area requires both oral and written notification (''double notification''). Under the existing rule, there is no time limit; EPA proposed to establish allowing workers to be in a treated area under this exception for a maximum of 4 hours in any 24 hour period.

2. Final rule. EPA has finalized the proposal, with one change. The final rule does not include EPA as an agency with authorization to declare the existence of conditions that could cause an agricultural emergency because EPA decided that States and Tribes are best situated to decide what conditions in their respective jurisdictions could constitute an agricultural emergency. The final regulatory text for this requirement is available at 40 CFR 170.603(c).

3. Comments and responses.

Comments on restricting the declaration of an agricultural emergency. One state supported the proposal, but recommended broadening it to include the state governor. Another state found the proposal satisfactory. One grower organization opposed the proposal, stating that pre-approval to enter the treated area would be cumbersome and unnecessary if the criteria are clearly defined and documented. Another grower organization and a farm bureau from the same state expressed concern that this change would seriously impact growers' ability to enter a treated area to manage fires, fix broken irrigation and chemigation pipes, and address other problems that could pose risks to adjacent public areas and cause crop loss. These commenters recommended that EPA develop guidance to instruct relevant municipal agencies such as local fire departments to declare agricultural emergencies.

Commenters also suggested that there is a need for entities other than EPA, state departments of agriculture and the state pesticide regulatory agencies to declare agricultural emergencies. In the examples provided by commenters, fires and broken irrigation or chemigation pipes could pose risks to the public and the crop.

EPA Response. As described in the preamble to the proposed rule, EPA noted that entities other than the state pesticide regulatory agencies, state departments of agriculture, and EPA might not have the background and technical expertise to assess the benefits and risks to workers from the entry while the REI is in effect, and might not understand the statutory requirement to consider both risks and benefits when establishing conditions for early-entry workers. EPA decided not to include state governors as an entity authorized to declare an agricultural emergency because it is not necessary; a state governor could direct the state department of agriculture or pesticide regulatory agency to determine whether conditions that could result in an agricultural emergency exist.

The need for pre-approval for conditions that may result in an agricultural emergency is a requirement in the existing rule. EPA has responded to the concern of the grower organization through its Interpretive Guidance Workgroup on the existing WPS, which clarified that state pesticide regulatory agencies may establish guidance or regulations describing the circumstances that could constitute an agricultural emergency and for which entry into areas under an REI is permitted. If a grower determines that such conditions exist at a site, then workers may enter the area while the REI is in effect under the agricultural emergency exception, consistent with applicable restrictions.

EPA has decided not to expand the declaring agencies to include municipal agencies such as local fire departments, but will work with state pesticide regulatory agencies and departments of agriculture to support identification of circumstances that could constitute an agricultural emergency in their jurisdictions. EPA recommends that these entities identify, in their states, local conditions that could constitute such emergencies. Through state regulation or by policy, these agencies may pre-approve entry when such conditions occur.

D. Codify ''Limited Contact'' and ''Irrigation'' Exceptions

1. Current rule and proposal. EPA established ''limited contact'' and ''irrigation'' exceptions as administrative exceptions in 1995. Although these exceptions are noted in the existing rule at 40 CFR 170.112(e)(7), the terms and conditions of these exceptions are not included in the existing rule. These exceptions permit entry into a treated area during the REI for certain non-hand labor activities, including irrigation. The existing exception for irrigation requires that the need for the early entry be unforeseen.

EPA proposed to incorporate the terms and conditions for these exceptions into the final rule, and to eliminate the requirement for the need for irrigation to be unforeseen.

2. Final rule. EPA has finalized the rule as proposed. The final regulatory text for this requirement is available at 40 CFR 170.603(d).

3. Comments. Two farm bureaus specifically supported the codification of the limited contact and irrigation exceptions.

E. Eliminate the Option for an Exception Requiring Agency Approval

1. Current rule and proposal. Under the existing rule, an applicant may request approval from EPA for an exception to the prohibition on worker entry into a treated area during the REI for a specific need. EPA proposed to eliminate the process for requesting an exception from the rule.

2. Final rule. EPA is finalizing the proposal to eliminate the provision for exceptions requiring Agency approval.

3. Comments and responses.

Comment. One grower opposed the elimination of the provision, citing the evolution of farming practices and the potential for conflict between new practices and the rule. The commenter

stated that there is no administrative burden to the EPA, except to evaluate requests if they are submitted.

EPA Response. EPA included the administrative exception process into the WPS in 1992 in recognition that the general prohibition on routine early entry might significantly affect various agricultural entities or practices in ways that might only become apparent as the 1992 WPS was put into effect. EPA created a small number of exceptions during the 1990s, but none since 1997. The effects of reentry intervals on agricultural entities and practices are now sufficiently well understood that the administrative exception process is no longer needed in the WPS. As explained in the preamble to the proposed rule, EPA finds the pesticide re-evaluation process a more appropriate venue than the WPS for considering the economic impacts of REIs on particular agricultural entities and practices. Under EPA's registration review process, applicants may request alternative REIs for specific needs for their crop. This process takes into account the potential increased risk to workers and the benefits to the production of the crop. In cases where EPA finds that the revision of an REI is warranted, the product label will be amended to specify the REI for that particular use.

F. Costs and Benefits

1. Costs. EPA estimates the cost of implementing the requirement for oral notification prior to workers' entry into a treated area under an REI to be about $706,000 per year, or about $2 per establishment annually. EPA estimates that the revisions to the exceptions allowing entry into a treated area before the REI expires would have negligible cost, if any.

2. Benefits. EPA concludes that the benefit of providing detailed information about the tasks they are to undertake and the limitations on their exposure to the worker prior to entry into an area under an REI is reasonable compared with the cost.

XII. Display of Pesticide Safety Information

A. Pesticide Safety Information Content

1. Current rule and proposal. The existing rule requires employers to display a pesticide safety poster containing the following information:

- Avoid getting on your skin or into your body any pesticides that may be on plants and soil, in irrigation water, or drifting from nearby applications.
- Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.
- Wear work clothing that protects the body from pesticide residues (long-sleeved shirts, long pants, shoes and socks, and a hat or scarf).
- Wash/shower with soap and water, shampoo hair, and put on clean clothes after work.
- Wash work clothes separately from other clothes before wearing them again.
- Wash immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible, shower, shampoo, and change into clean clothes.
- Follow directions about keeping out of treated or restricted areas.
- There are federal rules to protect workers and handlers, including a requirement for safety training.

The existing rule also requires the employer to provide contact information for the nearest emergency medical care facility and to promptly update the safety information poster when any of the required contact information changes.

EPA proposed changing the term for what employers must display from ''pesticide safety poster'' to ''pesticide safety information.'' EPA proposed retaining the existing content requirements of the existing rule, with one exception. EPA proposed removing the item regarding federal rules to allow the other information to be more prominent. EPA proposed retaining the requirement to display the contact information for the medical facility and amending the language from ''nearest emergency medical care facility'' to ''a nearby operating medical facility.'' Finally, EPA proposed requiring the employer to provide on the display the name, address, and telephone number of the state or tribal pesticide regulatory agency.

2. Final rule. EPA has finalized the proposed requirements for content, and has added a point to the proposed display requirements that advises workers and handlers to seek medical attention as soon as possible if they believe they have been made ill from pesticides. EPA has also amended one of the existing required points to clarify that if pesticides are spilled or sprayed on the body, workers and handlers should rinse immediately in the nearest clean water if more readily available than the decontamination supplies, and should wash with soap and water as soon as possible. The final rule refers to the requirement as ''pesticide safety information'' and allows display of the information in any format that meets the requirements of the rule, rather than only as a pesticide safety poster. EPA has included a requirement in the final rule for the employer to update the pesticide information display within 24 hours of notice of any changes to the medical facility or pesticide regulatory agency contact information. Finally, EPA has provided an option in the regulatory text that allows employers to comply by following the requirements at 40 CFR 170.311(a)(1)–(4) before they are fully implemented. The final regulatory text for these requirements is available at 40 CFR 170.311(a)(1)–(4).

The final rule delays implementation of the changes to the required pesticide safety information until two years after the rule is made final, in order to allow time for model pesticide safety information display materials to be developed and distributed.

3. Comments and responses.

Comments. Farmworker advocacy groups and public health organizations supported the emergency medical care change and inclusion of the state or tribal agency responsible for enforcement. However, they urged implementation sooner than the proposed two years from the effective date of the final rule. One commenter reported that a recent survey they conducted indicated that 25% of respondents did not complain about pesticide-related health problems or pesticide applications to the fields while they were working because they did not know to whom to complain and 62% feared losing their jobs if they were to complain.

In general, agricultural producer organizations did not object to the proposed changes for providing emergency medical information but two commenters were concerned about spurious reporting of alleged violations resulting from inclusion of the state or tribal regulatory agency in the pesticide safety information. Two commenters interpreted the proposal as requiring injured workers to contact state or tribal agencies responsible for enforcement for emergency medical attention. A grower organization pointed out that the nearest operating medical facility might change depending on the time of day and wondered if they needed to list hours of operation and addresses of all emergency medical care facilities in the area where the employer operates.

One commenter suggested the safety poster should always be in a standardized format and requested that EPA not allow the information to be displayed in several different formats.

EPA Response. EPA has concluded that there was general support for the proposed requirement regarding the content of the safety information display. EPA has delayed implementation of the final requirements for two years after

publication of the final rule to allow time for display material to be updated, printed and distributed. However, EPA encourages employers to implement the new requirements prior to that date by allowing employers the option to use the new safety information content.

In response to concerns about the placement of the medical facility information and the inclusion of regulatory agency information in the display, EPA has revised the regulatory text to clarify that the contact information about the medical facility must be clearly identified as the emergency medical contact information on the display. Displaying the regulatory agency information is important for the ability of workers and handlers to report possible violations, and in those states where it is already required, it does not appear to have generated spurious reporting of alleged violations. EPA appreciates that some states may already require employers to make such medical and regulatory information available and where state requirements meet or exceed the federal requirement, they do not need to be duplicated. However, EPA has added this requirement to the WPS to ensure the information is available to workers and handlers in all states.

EPA is finalizing the proposed requirement to identify a *nearby* operating emergency medical care facility to simplify the requirement in situations where the *nearest* operating emergency medical facility varies with the location of workers and handlers.

EPA disagrees with the comment requesting that the information be displayed in a standardized format. As long as the information is provided in a way that workers and handlers can understand, EPA sees no need to mandate a specific format.

B. Location of Pesticide Safety Information Display

1. Current rule and proposal. The existing rule requires agricultural and handler employers to display the pesticide safety poster at a central location on the establishment. EPA proposed to require that agricultural employers display the pesticide safety information at locations where decontamination supplies must be provided, in addition to the existing requirement to display it at a central location.

2. Final rule. In the final rule, EPA has amended the proposal to require that in addition to displaying pesticide safety information at a central location, employers must also display it at permanent decontamination supply locations and where decontamination supplies are provided in quantities to meet the needs of 11 or more workers or handlers. The final regulatory text for this requirement is available at 40 CFR 170.311(a)(5).

3. Comments and responses.

Comments. Farmworker advocacy organizations and public health organizations supported requiring display of pesticide safety information where decontamination supplies are provided for easy access to safety information for farm workers and families at strategic locations. They asserted that this would improve the ability of farmworkers and their families to stay healthy. They maintained that due to language barriers, immigration status, and fear of retaliation, farmworkers are often reluctant to ask their employers for information. Three individual farmworkers also commented on the proposed rule and echoed concerns expressed by farmworker advocacy groups and public health organizations. The commenters requested clear information in Spanish and English at a central location with easy access that includes telephone numbers, places to go for help, and hospitals in the area. They stated that it was important that employers give farmworkers the necessary information about the pesticide application without workers having to ask for information. About half of the grower organizations commenting had no objection to the additional mandate on employers and agreed that the additional reminders at decontamination sites have potential benefits.

The remaining grower organizations believed that the proposed requirement would pose a significant burden. One commenter stated that duplicating the pesticide safety information at multiple sites throughout an agricultural organization did not equate to a better training program and believed this requirement would likely result in additional fines for noncompliance without raising safety awareness. Some pointed out that workers are bused in for a day in the field and irrigators are sent to different areas by phone; none of these congregate at a central location.

Many states opposed displaying the pesticide safety information at decontamination sites. Because of the mobile nature of many decontamination sites, such as the back of a pickup truck, some noted the proposed requirement would be burdensome. One indicated that it would be difficult for a grower owning fields across multiple counties to keep the pesticide safety information accurate. They generally supported displaying the pesticide safety information at permanent decontamination sites and base of operation mix/load sites. Several states asked for clarification about what types of decontamination sites would be required to display the pesticide safety information and suggested that portable toilet facilities and plumbed wash sites would be more appropriate locations.

Others mentioned the lack of protection from the weather of the pesticide safety information at OSHA-required restroom facilities and the lack of access to this information when the vehicles carrying decontamination supplies are locked up at night. Two states recommended different sizes for the pesticides safety information. One state suggested that pesticide safety information displays be no larger than 11 x 17 inches and laminated to withstand at least one year's worth of weather conditions for use at decontamination sites; this state also recommended resizing the existing pesticide safety information to 8.5 x 11 inches or less and made of durable card stock or plastic for the agricultural workers to take home.

EPA Response. EPA agrees with the commenters who supported requiring safety information displays at a central location and anywhere decontamination supplies must be provided because the information is a useful reminder of the hygienic safety principles from their training. However, EPA was persuaded by arguments that the burden to display the information at mobile decontamination sites could be substantial, based on concerns for their ability to display the information so that it could be easily seen by workers, such as by posting it on a vertical surface. The final rule requires employers to display the information at the central display and all permanent sites, including a lavatory or bathroom, where decontamination supplies are provided to meet the requirements of the rule. However, for other locations where decontamination supplies must be provided, the pesticide information display is required only when the supplies are provided for 11 or more workers or handlers. This aligns with OSHA's field sanitation standard that requires toilet facilities for 11 or more workers. EPA notes that employers may use these portable toilet facilities or permanent wash sites to display the information, as recommended by some states.

EPA does not agree with the contention that requiring the pesticide safety information display at multiple locations would result in fines for noncompliance, without greatly benefiting the employee. The pesticide safety information display reinforces the

hygienic training principles from the safety training, and when coupled with access to decontamination supplies, offers a hands-on opportunity for workers and handlers to adopt these practices. Additionally, information about medical facilities available to workers where they may be exposed to pesticides may help them take steps to respond to an emergency.

EPA appreciates the comments regarding display size and options for lamination. The final rule does not establish a specific size for the information or require it to be laminated. However, the final rule requires the information to be legible at all times while it is displayed, and EPA expects that employers will opt for the optimal size and protection from the elements for their specific needs. Because the final rule limits the type of decontamination sites covered by this requirement and includes flexibility for identifying the regulatory agency and a nearby operating emergency medical care facility, it is possible but unlikely that some growers with larger establishments may need to provide different specific contact information about the regulatory agency and/or the medical facility, depending on the area where workers or handlers are working.

Commenters suggested the information be available in English and Spanish. EPA notes that the requirement is for the information to be provided in a manner that the workers and handlers can understand, which may include making it available in English and Spanish, or in other languages as appropriate.

EPA plans to develop and make available to agricultural and handler employers posters bearing the pesticide safety information, in a bilingual and pictorial format and with space for employers to add the required regulatory agency and medical facility information. As discussed in the proposed rule, the information does not have to be displayed as a poster as long as the display includes the required information and meets the requirements of the section.

C. Costs and Benefits

1. Costs. EPA estimates the cost of requiring additional pesticide safety information displays at permanent sites with decontamination supplies and at other locations where there are 11 or more workers or handlers and of requiring contact information on the display to be updated to be $390,000 annually, or about $1 annually per establishment per year.

2. Benefits. Workers and handlers will benefit from having access to information about basic pesticide safety at locations they are likely to visit. In addition, workers and handlers will benefit from having accurate information about nearby medical facilities and how to contact the state regulatory agency if necessary. EPA finds the costs from this requirement are reasonable when compared to the benefits of reminding employees about basic pesticide safety and hygienic practices at the sites where they routinely wash.

XIII. Decontamination

A. Clarify the Quantity of Water Required for Decontamination

1. Current rule and proposal. The existing rule requires employers to provide ''enough water for routine washing and emergency eye flush'' when workers are performing activities in areas where a pesticide was applied and the REI has expired. For early-entry workers, the existing WPS requires employers to provide ''a sufficient amount of water'' for decontamination. The existing WPS requires employers to provide handlers with ''enough water for routine washing, for emergency eye flushing and for washing the entire body in case of an emergency.'' EPA proposed to require specific quantities of water for workers, early-entry workers and handlers based on its 1993 guidance, ''How to Comply with the Worker Protection Standard for Agricultural Pesticides; What Employers Need to Know.'' In the guidance, EPA recommended one gallon of water per worker for routine decontamination, three gallons of water for early-entry workers for decontamination and three gallons of water per handler for routine handwashing and potential emergency decontamination.

EPA requested comment on the proposed quantities of water and the use of waterless cleansing agents in place of soap, water, and single-use towels. EPA also requested information on the efficacy of waterless cleansing agents for removing pesticide residues.

2. Final rule. EPA has finalized the proposed decontamination water requirements. EPA has also clarified that employers must make the required quantities of water and other decontamination supplies available at the beginning of the work period. The final rule does not allow waterless cleansing agents to be used in place of water, soap, and single-use towels. The final regulatory text for these requirements is available at 40 CFR 170.411(b), 170.509(b) and 170.605(h).

3. Comments and responses.

Comments. A majority of commenters supported the proposal to require one gallon of water per worker for routine decontamination, three gallons of water for early-entry workers for decontamination and three gallons of water per handler for routine washing and emergency decontamination but many requested clarification of the time frame associated with the supply; they wondered if the prescribed amounts were the maximum quantity per site or per number of workers, the minimum amount at the beginning of the day or at all times during the work period. Six commenters were in favor of replacing soap and water with a waterless cleansing agent. One commenter noted such a substitution would be effective for workers but not handlers; another suggested that these agents might be less bulky than the existing required supplies. One commenter provided information on a specific waterless cleansing agent.

EPA Response. EPA notes that the proposed quantities of water for decontamination are intended for agricultural settings that are not subject to the field standards of OSHA and the American National Standards Institute (ANSI). Based on comments, EPA has clarified the final rule to require that the specified amount of supplies be available at the beginning of the work period and that they are to be calculated per worker and per handler. The final rule does not require the replenishment of used supplies until the beginning of the next work period. The information supplied by commenters was insufficient to convince EPA to replace water, soap, and single-use towels with a waterless cleansing agent. The one waterless cleansing agent discussed in the comments had limited use since the information indicated it could be used to remove only one family of pesticides; workers and handlers are likely to encounter residues from various families of pesticides.

B. Eliminate the Substitution of Natural Waters for Decontamination Supplies

1. Current rule and proposal. For sites where worker or handler activities are farther than one-quarter mile from the nearest vehicular access, the existing rule permits employers to allow workers and handlers to use clean water from springs, streams, lakes or other sources (''natural waters'' for the purposes of this section) for decontamination, if such water is more accessible than the employer-provided water. The employer must ensure any water used for decontamination, including natural waters, is of a quality and temperature that will not cause illness or injury. EPA

proposed to eliminate the provision that allows employers to permit workers and handlers to substitute natural waters for the required decontamination supplies at remote sites. For remote sites, the proposal would have maintained the existing requirement for employers to provide all decontamination supplies (soap, single-use towels, clean change of clothing and water) at the nearest point of vehicular access. However, the existing regulation does not permit substitution of waters from natural sources for the decontamination water at the point of nearest vehicular access, and EPA's proposed change mischaracterized the existing requirements.

2. Final rule. In the final rule, EPA has removed from the regulatory text the provision that allows employers to permit workers and handlers to use clean water from springs, streams, lakes or other sources if that water is more accessible in remote locations where the decontamination supplies are farther than one-quarter mile from where workers and handlers are working. EPA is taking this approach to remove confusion about the employer's responsibilities. The employer must always provide the decontamination supplies in quantities outlined in the regulation. When workers or handlers are performing tasks at remote sites more than one-quarter mile from the nearest point of vehicular access, employers must provide all required decontamination supplies (soap, single-use towels, and water, plus clean change of clothing if required) at the nearest point of vehicular access. Under the final rule, employers are required to make the decontamination supplies available as close as possible to the remote site (as determined by how close a vehicle can get) and employers do not have to check or confirm that water from springs, streams, lakes or other sources at remote sites meets the standard of being of a quality and temperature that will not cause illness or injury. EPA has amended the training requirements to cover the proper use of natural waters at remote sites by workers and handlers. EPA believes that workers and handlers in these remote areas should primarily rely on the decontamination water that is provided by the employer for routine washing and emergency decontamination because the quality of the natural waters at the remote site is unknown. In case of an overexposure, such as a spill, contact from drift, or direct spray, workers and handlers should always use the emergency decontamination supplies if they are more readily available. However, training will emphasize that workers or handlers should rinse immediately using the nearest source of clean water to mitigate the exposure, and to use the nearest source of clean water, including springs, streams, lakes or other sources, if more readily available than the decontamination supplies. Workers and handlers will be advised through training that as soon as possible they should decontaminate thoroughly with the soap, water and towels provided by the employer and, if available, change into clean clothes. EPA plans to modify training materials to incorporate this information. The final regulatory text for worker and handler decontamination is available at 40 CFR 170.411(b)(1), 170.509(b)(1), and 170.605(h)–(j).

3. Comments and responses.

Comments. Many commenters supported not using natural waters to replace the required decontamination supplies. Two states, a farmworker advocacy organization, and a grower organization supported the need for employees to access the nearest clean water in case of an exposure. Some farmworker advocacy organizations expressed concern that the quality of the natural waters might be questionable and not the best choice for decontamination.

Finally, one farm bureau commenter stated that large scale planting activities can place workers more than one-quarter mile from vehicular access, and retaining the existing requirement is more reasonable than expecting workers to carry washing water with them.

EPA Response. EPA maintains its position that the employer-provided decontamination supplies, provided within one-quarter mile of the workers and handlers—or in remote areas, at the nearest point of vehicular access to worker and handler work sites—are the appropriate supplies for routine washing and emergency decontamination. The employer must ensure this water meets the minimum criteria for quality. However, EPA agrees with commenters that prompt washing in clean water is an important step in reducing overexposure, for example, from a spill, contact from drift, or direct spray. EPA has identified acute incidents that would have been mitigated if the exposed worker or handler had decontaminated promptly. EPA is concerned that the existing requirements for employers to ensure the quality of natural waters prior to its use and for them to permit its use will prevent workers and handlers from using these waters to decontaminate in case of an emergency. Ensuring the quality of all natural waters on their establishment could be burdensome for employers, and as a result they might not evaluate the quality or permit the use of natural waters.

To ensure that workers and handlers needing emergency decontamination can use water that is more accessible than the decontamination water provided by the employer, the employer no longer must predetermine that the quality of the water meets the criteria or permit their employees access. The rule permits the use of natural waters for emergency decontamination, but does not require it. Workers and handlers seeking to mitigate an emergency exposure will be informed in their training to use the nearest clean water to immediately rinse off if such water is more readily available than the employer-provided decontamination supplies, and then go to where the employer-provided supplies are to fully decontaminate. EPA believes the benefits of using natural clean waters to decontaminate immediately in an emergency pesticide exposure situation outweighs the potential risks of making workers or handlers wait until they can use supplied decontamination water that has been evaluated for quality but may be less available to immediately address the exposure. EPA thinks that washing in natural waters in any agricultural area is unlikely to pose risks comparable to a significant direct pesticide exposure.

C. Requirements for Ocular Decontamination in Case of Exposed Pesticide Handlers

1. Current rule and proposal. The existing rule requires employers to provide ''enough'' water to handlers for routine and emergency washing and emergency eye flushing. For handlers who use products that require eye protection, employers must provide each handler with at least one pint of water that they can carry for use in the event of an ocular pesticide exposure. EPA proposed to require employers to provide clean, running water at permanent (*i.e.,* plumbed and not portable) mixing and loading sites for handlers to use in the event of an ocular pesticide exposure when using a pesticide with labeling that requires eye protection.

2. Final rule. Under the final rule, employers must provide water for ocular decontamination either through a system capable of delivering 0.4 gallons/minute for at least 15 minutes or from six gallons of water able to flow gently for about 15 minutes. This water must be available at all mixing and loading sites where handlers are mixing or loading a product that requires eye

protection or when closed systems, operating under pressure, are in use. The final rule amends the existing requirement for employers to provide at least one pint of water per handler in portable containers that are immediately available to handlers applying the pesticide, rather than to all handlers mixing, loading and applying pesticides, if the pesticide labeling requires protective eyewear. The final regulatory text for these requirements is available at 40 CFR 170.509(d).

The term ''potable'' in the preamble and regulatory text for the proposed rule was a typographical error and has been corrected to ''portable'' in the final rule.

3. Comments and responses.

Comments. There was general support for this proposal. Many commenters urged EPA to adopt or coordinate with American National Standards Institute (ANSI) standard Z358.1–2009 and/or the OSHA requirements, 29 CFR 1928.110, as several states have done. Many requested a definition of ''permanent mixing and loading site'' and ''a system capable.'' Some qualified their support based on the inclusion of ''nurse rigs,'' ''nurse tanks'' and ''gravity-fed tanks'' in the final rule. Commenters also explained that much of the mixing and loading is done in the field rather than at a site with running water. Other commenters wondered if the water for decontamination needed to be potable.

EPA Response. The OSHA standard at 29 CFR 1910.151(c) specifies that ''. . . where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided . . .''. The ANSI standard provides specifications for two types of eyewash stations, plumbed and gravity-fed. The specifications describe a system with a precise rate of flow (0.4 gallons/minute for 15 minutes), that can activate in 1 second or less and does not require the user to control the flow of water. While the OSHA and ANSI standards are very protective, EPA believes that the final rule requirements provide handlers with mitigation appropriate to pesticide exposure in agricultural settings at significantly lower costs than the ANSI standards. Based on the comments, EPA realized that there might have been some confusion regarding the nature of permanent mixing and loading sites, the plumbing associated with non-permanent mixing and loading sites, and the quality of the water required. In the final rule, EPA decided to apply the requirements to all mixing and loading sites where pesticides whose labeling requires protective eyewear are handled because the risk to handlers who mix and load these products is the same, regardless of where they perform the tasks. Rather than specify what types of water tanks or eye wash systems would comply with the requirement, EPA opted for flexibility. The final rule allows employers to provide either at least 6 gallons of water in containers suitable for providing a gentle eye flush for about 15 minutes, or a system capable of delivering gently running water at a rate of 0.4 gallons per minute for at least 15 minutes to satisfy the requirement. One emergency eyewash system is required at a mixing/loading site when a handler is mixing or loading a product whose labeling requires protective eyewear for handlers, regardless of how many handlers are mixing or loading at that site. The final retains the existing requirement for water to be of ''a quality and temperature that will not cause illness or injury.''

D. Showers for Handler Decontamination

1. Current rule and proposal. The existing rule establishes specific requirements for routine and emergency handler decontamination supplies, but these requirements do not include shower facilities. EPA considered but did not propose a requirement for handler employers to provide shower facilities.

2. Final rule. EPA has not included in the final rule a requirement for employers to provide shower facilities for handlers.

3. Comments and responses.

Comments. Many commenters supported the proposal for not providing shower facilities for handlers while others requested that EPA require employers to provide shower facilities for handlers. Those against adding the shower requirement noted the provision would not necessarily guarantee use in order to reduce take-home or handler exposure. Those supporting a requirement for shower facilities indicated that handlers would use them if they were provided. Both groups, however, agreed that better training and adequate information on reducing take-home exposure, as suggested by EPA, would be a better approach.

EPA Response. EPA agrees that additional training for handlers and clarified decontamination provisions such as the provision of at least 3 gallons of water per handler for routine and emergency washing, available at the beginning of the day, would help reduce take-home exposure without requiring shower facilities. The estimate of the cost of installing showers as provided in the proposal, combined with the lack of confidence that most handlers would routinely use showers if provided, led to the conclusion that a shower requirement would be unlikely to reduce risks to an extent commensurate with the costs.

E. Costs and Benefits

1. Costs. EPA estimates the total cost of the revisions to the decontamination requirements to be approximately $412,000 annually, or about $1 per establishment per year, CPHEs $21 per establishment per year.

EPA does not believe there will be any cost associated with deleting the provision allowing employers to direct workers and handlers to use natural waters in addition to the decontamination supplies required by the rule. The final rule still allows workers and handlers to use clean, natural waters, but removes employers' obligation to ensure that the water is of a temperature and quality that will not cause harm.

Because EPA is not imposing a requirement for employers to provide shower facilities for handlers, there is no estimated cost. Refer to the Economic Analysis of the proposed rule for details regarding the estimated cost of requiring showers for handlers (Ref. 14).

2. Benefits. EPA expects that workers and handlers will benefit from having access to sufficient supplies for routine washing and decontamination. In addition, handlers will benefit by having sufficient water available to rinse their eyes in the event of an accident while mixing or loading certain pesticides. Employers will benefit from certainty about the amount of water that they must supply and when that water must be available.

XIV. Emergency Assistance

A. Current Rule and Proposal

The existing WPS requires employers of workers or handlers, including those handlers employed by the agricultural establishment or those working for a pesticide handling establishment, to provide prompt transportation to an emergency medical facility to employees who have been poisoned or injured by exposure to pesticides used on the establishment. Emergency medical assistance under the existing rule consists of the prompt provision of transportation to an emergency medical facility for the worker or handler and the provision of obtainable information about the exposure, including information about the product(s) that may have been used, to emergency

medical personnel or the exposed employee.

EPA proposed to require agricultural and handler employers to provide emergency medical assistance within 30 minutes after learning that an employee may have been poisoned or injured by exposure to pesticides as a result of his or her employment, replacing the current standard of ''prompt.'' The proposed change was intended to ensure that the potentially injured party would be on route to a medical facility within 30 minutes.

EPA also proposed that the employer provide a copy of the pesticide label, or specific information from the label, along with the SDS and circumstances of the pesticide use and potential exposure, to employees potentially injured by exposure to pesticides and to treating medical personnel.

B. Final Rule

EPA has retained the existing requirement for providing transportation and information promptly. The final rule clarifies that these requirements apply only to current or recently employed workers, and that emergency assistance must be provided if there is reason to believe that a worker or handler has been potentially exposed to pesticides or shows symptoms of pesticide exposure.

EPA has amended the requirement for the information that the employer must provide related to emergency assistance. The final rule requires the employer to provide to treating medical personnel a copy of the SDS, product name, EPA registration number and active ingredient for each pesticide product to which the person may have been exposed, as well as the circumstances of application or use of the pesticide on the agricultural establishment and the circumstances that could have resulted in exposure to the pesticide. This is a slight change to the existing rule which makes the information available to the worker or handler. In this final rule, the worker or handler has access to the information through the hazard communications requirement. This provision deals specifically with meeting the needs for medical assistance, and requires that the information be provided to the medical personnel.

EPA has clarified in the final rule that the provision of the emergency assistance requirement for transportation and information applies only to currently employed workers seeking emergency medical assistance or recently employed workers within 72 hours after their employment for acute exposures occurring on the agricultural establishment.

The final regulatory text for these requirements is available at 40 CFR 170.309(f) and 170.313(k).

Readiness is among the most important factors in an employer's ability to promptly carry out the emergency assistance requirements. EPA strongly encourages employers to develop an emergency response plan and to address in such a plan details related to the emergency medical assistance requirements of the WPS. EPA also encourages employers to periodically test, evaluate and, if necessary, update the plan. EPA will develop a sample plan to help employers prepare for possible pesticide-related emergencies. Employers can also find additional information concerning the development and implementation of an emergency preparedness program at the U.S. Department of Homeland Security's Web site, *http://www.ready.gov/business/*.

Although EPA believes that it is important for employers to develop emergency response plans, EPA has not made this a requirement of the final rule. EPA recognizes that pesticide exposure is just one of many hazards that should be addressed in an emergency response plan, and that EPA has very little information about the extent of emergency planning in the agricultural community. Accordingly, EPA has decided that it would be unwise to address this issue in the WPS without the benefit of a more robust dialogue with all stakeholders.

C. Comments and Responses

Comments. Many private citizens and farmworker advocacy organizations, some pesticide state regulatory agencies and several public health organizations supported the proposal to require agricultural employers and handler employers to provide emergency medical assistance within 30 minutes after learning that an employee may have been poisoned or injured by exposure to pesticides as a result of his or her employment, replacing the current standard of ''prompt.'' They stated that the clarification of time for the provision of transportation and information would improve the safety of farmworkers.

The Progressive Congressional Caucus, many farmworker advocacy organizations and public health organizations expressed concern that the proposed emergency response time of 30 minutes is too long and recommended that it should be further reduced. Commenters reasoned that pesticide poisoning can be fatal or result in long-term effects if not quickly treated.

On the other hand, many commenters, mostly growers and farm bureaus, and some states and agricultural producer organizations expressed opposition to the proposal and favored retaining ''prompt '' to allow more flexibility due to geographical constraints. The Small Business Administration's Office of Advocacy stated that small farms that are farther away from medical facilities would not be able to obtain emergency transportation within the timeframe. Those with few employees and limited transportation options would be overburdened in attempting to comply with a 30 minute timeframe.

Commenters representing many states, several agricultural industries, many growers and farm bureaus, and the Small Business Administration's Office of Advocacy recommended that emergency response requirements should apply only to current employees seeking emergency medical assistance for acute incidents.

Additional comments from states and their organizations recommended that the agriculture emergency requirement address only acute exposures to current employees of the establishment. They raised concerns for the potential for former employees or those with exposures in the past to request emergency assistance. One commenter stated that allowing any person who was ever employed by the establishment the ability to demand emergency assistance could cause problems with compliance and enforcement. Some of these organizations requested clarification of the term ''emergency medical facility.''

Commenters also recommended that the requirement allow, similar to OSHA, trained first aid providers on the establishment to provide care, which could enable more timely treatment.

Commenters noted that requiring the employer to provide the label to employees potentially injured by exposure to pesticides and to treating medical personnel could lead to further exposure, if the employee takes an open container of pesticides bearing the label. Further, commenters suggested that the information outlined in the proposal could be obtained from sources other than the label.

EPA Response. EPA was convinced by the concerns raised by members of the agricultural community that geographical constraints, in some cases, would make the 30 minute response timeframe for transportation difficult or impossible to meet. Agricultural establishments can be very large and are

often distant from population centers. Remote locations, including those in forestry, are common; and the distance to an emergency medical facility or to an ambulance service can be significant.

The final rule requires employers to comply with the emergency assistance requirements by promptly making transportation available to an emergency medical facility for potentially injured employees and providing the SDS, specific product information, and information about the exposure to the treating medical personnel. Because the information about the pesticide may be critical to effectively manage the illness, EPA decided to focus the requirement to ensure that treating medical personnel receive the information. The agricultural employer must provide that information in a way that is reasonably expected to be accessible to the treating medical personnel. The requirement does not preclude the employer providing the information to injured employees and does not prevent injured employees from requesting this information. This requirement will allow continued flexibility for employers and encourage timely medical treatment for potentially injured employees.

In deciding to retain the requirement for prompt provision of transportation, EPA also took into consideration OSHA's standard for the provision of transportation to persons in construction, which requires ''Proper equipment for prompt transportation of the injured person to a physician or hospital.'' 29 CFR 1926.50(e).

EPA agrees with the recommendation to clarify that the requirement applies only to current or recently employed workers seeking emergency medical assistance for acute exposures occurred at the agricultural establishment, and has revised the final rule accordingly.

EPA notes that for some cases of suspected pesticide injury, the attention of a trained first aid provider can mitigate the injury. Such treatment would not negate the obligations of the employer to provide transportation promptly to an injured employee, or to provide information about the pesticide and exposure to medical personnel, but is encouraged. Allowing a competent first aid provider to administer timely treatment to an injured employee could offset complications from longer exposures.

EPA agrees with comments that a requirement to provide the label in the event of an emergency could be burdensome and place employees at risk for additional exposure if the label is attached to an open container of pesticides. EPA has not included the proposed requirement to provide the label or information from the label; rather, the final rule requires the employer to provide the necessary information, but does not specify the source of the information. EPA has removed from the list of specific pieces of information the employer must provide information about antidote, first aid, and recommended treatment because the SDS contains this information. EPA notes that the information about the product and the SDS will be available as part of the pesticide application and hazard information.

In response to the requests for clarification of what qualifies as an emergency medical facility, EPA notes that a hospital, clinic, or infirmary offering emergency health services qualifies.

Finally, the employer must provide information about the pesticide and the exposure to the treating medical personnel.

D. Costs and Benefits

There are no incremental costs associated with the decision to retain the requirement of prompt provision of transportation in the existing rule. The cost associated with the SDS were included in the costs for the pesticide application and hazard information. There are significant benefits to reducing damage from pesticide exposure by prompt medical attention.

XV. Personal Protective Equipment

A. Respirators: Fit Testing, Training and Medical Evaluation

1. Current rule and proposal. The existing regulation requires handler employers to ensure that each handler's respirator fits correctly. However, the existing rule does not provide specific details on ensuring that a respirator fits properly, nor does it require employers to conduct medical evaluations of the handler's fitness for respirator use, provide training on the proper use of respirators, or retain fit test records.

EPA proposed to require handler employers to comply with the respirator fit testing, training, and medical evaluation requirements set by OSHA at 29 CFR 1910.134 whenever a respirator other than a dust or mist filtering mask is required by the labeling. EPA did not propose any new requirements for filtering facepiece respirators (OSHA's term for dust or mist filtering masks). The OSHA standard includes a specific standard for fitting a user for respirator use, training on recognizing when the respirator seal may be broken, and what steps to take to properly use and maintain respirators. OSHA also requires respirator users to be medically evaluated to ensure the respirator use does not cause undue stress on their bodies. EPA proposed to require that employers comply with the OSHA requirements for fit testing, training, and medical evaluation by cross-referencing 29 CFR 1910.134, in order to avoid creating a duplicative regulation and to ensure that if technology advances lead OSHA to amend its standard, the change would automatically apply to pesticide uses subject to the WPS as well. EPA also proposed to require handler employers to maintain records of the fit test, training, and medical evaluation for two years.

2. Final rule. EPA has retained the proposed elements in the final rule, with some changes and clarifications. Specifically, the final rule cross references and requires compliance with the OSHA standards for fit testing, training, and medical evaluation when a respirator is required by the labeling. The final rule expands from the proposal the types of respirators covered by the requirement to include filtering facepiece respirators. The final rule also adds an additional item to the list of conditions that would trigger replacement of the gas- or vapor-removing canisters or cartridges.

In the final rule, EPA has retained the proposed requirement for handler employers to maintain records of the fit testing, medical evaluation, and training. The final rule clarifies that the required training is limited to the care and use of respirators, 29 CFR 1910.134(k)(1)(i)–(vi), and does not include the training on the general requirements (*i.e.,* 29 CFR 1930.134(k)(1)(vii)).

The final regulatory text for these requirements is available at 40 CFR 170.507(b)(10) and 170.507(d)(7).

3. Comments and responses.

Comments. EPA received many comments in favor of requiring handler employers to comply with the respirator fit testing, training, and medical evaluation requirements established in the OSHA standard. Many farmworker advocacy organizations and some PPE manufacturers asserted that EPA should also apply the proposed standards for fit testing, training, and medical monitoring to users of filtering facepiece respirators in addition to the other respirator types (*e.g.,* tight fitting elastomeric facepieces). Commenters suggested that filtering facepiece respirators are widely used and covered by OSHA's respirator requirements, and that their exclusion would result in inadequate protection for many pesticide handlers. OSHA defines a filtering facepiece as ''a negative

pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium'' in 29 CFR 1910.134(b).

Furthermore, many farmworker advocacy organizations stated that EPA should require compliance with all elements of 29 CFR 1910.134, rather than the proposal to just include fit testing, training, and medical evaluation. Specifically, they urged EPA to adopt OSHA's requirements for employers to develop a respiratory protection program (29 CFR 1910.134(c)) and conduct a workplace hazard evaluation (29 CFR 1910.134(d)(1)(iii)).

Nearly all commenters expressed support for a general requirement related to proper respirator care and use, such as appears in the existing rule. However, many pesticide manufacturers and their associations, state farm bureaus and agricultural producer organizations questioned the feasibility of the proposed requirement for medical evaluations because locating qualified physicians practicing in rural areas would be difficult. Other farm bureaus noted that the OSHA standard applies to general industries, shipyards, marine terminals, longshoring and construction, and it would not likely be easily adopted in agricultural settings. Some commenters, including the Small Business Administration's Office of Advocacy, also asserted that EPA's cost estimates associated with the medical evaluations and fit testing were too low.

Some commenters, including a state farm bureau, raised concerns that EPA's reference to OSHA's regulations could give OSHA legal grounds to pursue oversight of certain small farming operations, contrary to provisions of existing law.

EPA Response. In the final rule, EPA has required that employers comply with the respirator fit testing, training, and medical evaluation requirements described in the proposed rule when the use of respirators is required by the labeling. The final rule also expands its coverage to include filtering facepiece respirators (referred to as dust/mist filtering respirators in the proposal). EPA included filtering facepiece respirators in the final rule to ensure that handlers required to use any type of respirator are adequately protected. Filtering facepiece respirators need to be fit tested and used properly to provide the intended protection. In addition, this will ensure that respirators used under the WPS provide the same level of protection as comparable respirators used under OSHA's respiratory protection requirements.

EPA acknowledges that, if the final rule were to require handler employers to comply with the OSHA requirement to adopt a worksite-specific respiratory protection program, such a requirement would address in detail the selection, cleaning, storing, repair and replacement of respirators, as well as worksite-specific procedures when respirator use is required. EPA has decided not to expand the final rule to include the OSHA requirement to adopt a worksite-specific respiratory protection program because specific respirator requirements are described on EPA-approved, product-specific pesticide labeling. These product-specific respirator requirements are based on the acute inhalation toxicity of the end-use product or a comprehensive risk assessment informed by incident data, or on extensive pesticide active ingredient toxicology data, exposure science and epidemiology data (if available), or on both. Therefore, requiring a general worksite-specific respiratory protection program would duplicate the analysis underlying product-specific respirator requirements included on pesticide labeling.

EPA acknowledges that implementing respirator fit testing, training, and medical evaluation in agriculture will place additional burden on agricultural employers. However, the proper fit and use of respirators is essential in order to realize the protections respirators are intended to provide. EPA's pesticide risk assessment process relies on National Institute for Occupational Safety and Health (NIOSH) protection factors (*i.e.,* respirators used according to OSHA's standards) when deciding whether handler inhalation exposure can be mitigated by respirator use. If the handler inhalation exposure can be mitigated by a particular type of respirator, EPA may require the use of that respirator on the pesticide label, among other risk mitigation measures. Without the protection provided by the respirators identified on the label, use of those pesticides would cause unreasonable adverse effects on the pesticide user, *i.e.,* the handler.

EPA is aware of several states, including California, Oregon and Washington, that have successfully incorporated all aspects of the OSHA standard for respirators in agriculture, demonstrating the feasibility of applying OSHA's requirements in agriculture. North Carolina has incorporated many innovative ways to facilitate the medical evaluation and fit testing process, and helped farmers (including handler employers) locate reputable sources for online services for fit testing and medical evaluation, and sources for NIOSH-approved respirators, filters, and cartridges. EPA plans to work with stakeholders such as state regulatory agencies, universities, and others to provide outreach assistance such as training programs and written materials and to encourage the dissemination of information about fit testing and medical evaluation resources.

EPA has reviewed and revised its cost estimates for fit testing, training and medical evaluation. The cost estimate assumes that farms would designate one handler to be fit tested so the incremental costs for the filtering facepiece respirators reflects the need to fit test and train on multiple types of respirators. The increased costs also reflects the cost of the on-line medical evaluation, which replaces the estimated time of a medical technician reviewing the evaluation, and the cost of the employer's time to arrange (if off-site) or oversee (if on-farm) the evaluation and fit test, which was previously omitted. EPA has also updated wages, price of materials and services such as the cost of the medical evaluation and the fit test materials. Details of the revised estimate are available in the Economic Analysis for this final rule (Ref. 1).

EPA recognizes that some handlers may not be able to use a tight-fitting respirator. EPA notes that the purpose of the medical evaluation is to ensure handlers are able to tolerate the physical burden caused by the use of respirators. Many medical conditions, such as cardiovascular diseases and the reduced pulmonary function caused by smoking, could impede the ability of the handler to wear a respirator without adverse health impacts. The medical evaluation should identify these potential issues and disqualify the handler from using a tight-fitting respirator. Tight fitting respirators include filtering facepiece respirators, full and half face elastomeric respirators and tight fitting powered air purifying respirators (PAPR). However, for these handlers, loose-fitting PAPRs are an option for respiratory protection because they do not require medical evaluations or fit testing. EPA notes that many handler employers may be able to rely on online services where medical evaluations can be performed by relying on medical questionnaires. The employee would complete the medical questionnaire, which would be provided to the licensed medical professional for review. If the employee is cleared by the review, he or she is approved to wear a respirator. If the employee is not cleared through the review of the questionnaire, the employer may send the employee for further medical review

or the employer may identify a different employee to handle the pesticide.

EPA does not believe that including in the WPS a requirement that employers must perform respirator fit testing, training, and medical evaluation in accordance with OSHA's requirements by cross-reference to 29 CFR 1910.134 affects the scope of OSHA's jurisdiction. This final rule changes only the FIFRA WPS, which is implemented and enforced by EPA, the States and Tribes, and not by OSHA.

However, in consideration of the commenters who asked that EPA require compliance with all elements of OSHA requirements at 29 CFR 1910.134, the Agency re-evaluated other elements of that regulation. As part of that re-evaluation, EPA identified an inconsistency between the Agency's proposal and OSHA's requirements concerning a change schedule for the replacement of the gas- or vapor-removing canisters or cartridges. Specifically, OSHA requirements address change schedules that utilize NIOSH end-of-service-life indicator designations (29 CFR 1910.134(d)(3)(iii)(B)(2)). To ensure respirator protections are of greater consistency across industries, EPA has added the OSHA requirement that triggers the replacement of the gas- or vapor-removing canisters or cartridges to the list of conditions in the final rule at § 170.507(d)(7) through an incorporation by reference.

4. Costs and benefits. EPA estimates the cost to employers of complying with the WPS respirator requirements that cross-reference the OSHA standard would be $10.6 million annually, or about $43 per year, on average, for agricultural establishments with handlers and about $8 for commercial pesticide handling establishments per year. On family-owned farms that use pesticides and do not hire labor, the estimated annual cost of the respirator requirements is approximately $9 per establishment per year. As explained previously, the estimated cost increased in the final rule because the cost analysis was revised to account for handlers to be fit tested and trained to use multiple types of respirators, the cost of an on-line medical evaluation, and the employer's time to arrange for the fit testing, evaluation and training. EPA assumes that about 30 percent of handlers working on 60 percent of farms that employ handlers will be fit tested in any year; the average cost per farm reflects this assumption. The cost to commercial pesticide handling establishments only reflects the cost of recordkeeping because EPA assumes that they already comply with OSHA's respirator requirements because they engage in activities outside of the scope of the WPS that are covered by OSHA. The cost estimates for agricultural establishments are very conservative because of broad assumptions regarding the number of handlers and farms affected, and the fact that some establishment owners are already required to comply with OSHA requirements related to respirator use for other reasons.

EPA cannot quantify the benefits associated with this specific requirement. However, ensuring that handlers can safely use respirators and that those respirators fit properly will increase the protections offered by respirators to the levels presumed in EPA's pesticide registration decisions. This should lead to a reduction in occupational pesticide-related illnesses. In comparison to these expected benefits of proper respirator use and reduced illnesses, the costs associated with the final rule requirements appear to be reasonable.

B. Chemical-Resistant PPE

1. Current rule and proposal. The definition for ''chemical resistant'' in the existing WPS is a ''material that allows no measurable movement of the pesticide being used through the material during use.'' Prior to the proposed rule, EPA received many comments from stakeholders suggesting that there was no way for agricultural employers, handlers, early-entry workers, pesticide educators and inspection personnel to ensure the PPE being used was ''chemical resistant.'' EPA proposed requiring employers to provide PPE defined by its manufacturer as chemical resistant.

2. Final rule. EPA has rejected the proposed change. The final rule retains the existing definition of chemical resistance. The final regulatory text for this requirement is available at in 40 CFR 170.507(b)(1).

3. Comments and responses.

Comments. While several commenters representing states and academia supported the idea of PPE manufacturers defining chemical resistant in principle, many also questioned the feasibility of such an approach. Specifically, the commenters questioned whether manufacturers can reliably label PPE as chemical resistant in a permanent manner that would be easy for enforcement personnel to check during inspections. Several other commenters from pesticide manufacturers and PPE manufacturers suggested such claims may not be able to be made for the wide range of pesticide formulations and active ingredients. One PPE manufacturer asserted that the existing definition was purposefully worded to ensure worker protection and that EPA's proposal over-simplifies a very complex and critical issue. Many other commenters reiterated this latter comment regarding over-simplification of the process for developing chemical resistant PPE.

EPA Response. EPA recognizes the many comments highlighting the challenging issues involved with having PPE being defined as chemical resistant by the equipment manufacturer, who does not know the ingredients in every pesticide product. EPA agrees with commenters that the proposed approach would create more problems than it would resolve. Therefore, the final rule retains the existing chemical resistant definition.

4. Costs and benefits. Because EPA is retaining the current definition of chemical resistant, there are no estimated costs.

C. Contaminated PPE

1. Current rule and proposal. The existing WPS requires employers to ensure that PPE is cleaned before each day of reuse. If the article cannot be properly cleaned, the employer must dispose of it in accordance with applicable Federal, State, and local regulations. EPA proposed to add a requirement for employers to render unusable contaminated PPE that cannot be properly cleaned before it is disposed.

2. Final rule. In the final rule, the employer must ensure that contaminated PPE is made unusable as apparel or disposed of in such a way that it is unavailable for further use. EPA has also included in the final rule a requirement for the person who cleans, disposes, or otherwise handles the contaminated PPE to wear the gloves required for mixing and loading the pesticide that contaminated the PPE. The final regulatory text for this requirement is available at 40 CFR 170.507(d)(2).

3. Comments and responses.

Comments. Prior to the proposed rulemaking, state pesticide regulatory agencies expressed concern that unless proper measures are taken, contaminated PPE might be reused either as PPE or simply as a garment, placing the person wearing it at risk from pesticide exposure. In support of the proposal, one public health organization commented that rendering contaminated garments unusable would prevent adverse health effects. A state noted that the proposal was an effective method to reduce the potential for access to contaminated PPE. One grower

organization noted that the potential for exposure exists when individuals cut or render contaminated PPE unusable, and suggested a requirement to seal the contaminated PPE in a disposal container and to dispose of the container in an appropriate manner.

In contrast, some grower organizations stated that the current requirement is adequate and EPA should not adopt the proposal. Some farm bureaus opposed the proposal and thought the concern for individuals gaining access to contaminated PPE was well meaning yet hypothetical. Some of these commenters suggested it could lead to confusing violation scenarios, specifically from the interpretation of ''render unusable.''

EPA Response. The final rule clarifies that the requirement is to make the PPE ''unusable as apparel.'' EPA agrees that access to contaminated PPE might be prevented by sealing it in a container and entrusting it to a waste disposal system that effectively prevents diversion of waste, and that such an approach would reduce pesticide exposure to the person handling the contaminated article relative to many methods of rendering the PPE unusable. EPA has included in the final rule a provision allowing the PPE to be ''made unavailable for further use'' as an alternative to the proposed requirement to render the contaminated PPE unusable. To reduce the potential exposure to a person handling contaminated PPE, the final rule requires that a person must wear gloves while handling PPE covered by 40 CFR 170.507(d)(2).

EPA disagrees with comments from farm bureaus suggesting that there is little likelihood of persons accessing contaminated PPE. As mentioned in the preamble to the proposed rulemaking, state pesticide regulatory agencies have raised concerns for the potential reuse of contaminated PPE to EPA. EPA relies on state pesticide regulatory agencies to raise issues with implementation of the existing WPS that arise when they conduct inspections of WPS establishments. EPA has chosen to amend the existing rule in response to the input provided by the States.

4. Costs and benefits. EPA has estimated that the cost of rendering the PPE unusable or unavailable is negligible. Although the benefits cannot be quantified, contact with contaminated PPE may result in significant exposure, especially if worn repeatedly. The negligible cost of this requirement compared to the benefit from ensuring that contaminated PPE cannot continue to cause exposure is reasonable.

XVI. Decision Not To Require Monitoring of Handler Exposure to Cholinesterase-Inhibiting Pesticides

A. Current Rule and Proposal

The existing WPS does not have a requirement to monitor cholinesterase (ChE) levels in workers or handlers. In the proposal, EPA invited comment on whether to require routine ChE monitoring of handlers. However, because EPA's initial judgement was that the benefits of routine ChE monitoring would not justify the cost, EPA did not propose to add a requirement for routine monitoring of ChE inhibition in handlers.

B. Final Rule

The final rule does not include a requirement for routine ChE monitoring for handlers.

C. Comments and Responses

Comments. In response to the proposal, several grower organizations, state farm bureaus, crop consultants and their organizations, and states and their organizations expressed support for EPA's decision not to require a mandatory routine ChE monitoring program as part of the WPS. Several commenters stated that the most effective approach to prevent handler exposure to any pesticide product is to address the potential for exposure in advance of use, rather than after exposure has taken place. Many of these commenters agreed with EPA's assessment in the proposal that EPA's worker risk assessments and mitigation measures are sufficient to provide the necessary protection from pesticide exposure during handling. One commenter also suggested that requiring ChE monitoring may add to confusion and provide a false sense of safety to workers, health care providers, and regulators because it only measures exposure. These commenters suggested that the best approach that can be taken to mitigate exposure would be to address it through product-specific risk assessments supporting the registration of pesticide products, robust handler training on specific pesticides, and effective enforcement of label requirements.

In addition, some of the commenters objected that ChE monitoring is an invasive process, and that routine ChE monitoring would be extremely time-consuming and costly and would provide information of questionable value. One commenter stated that a proper ChE monitoring program would require that a baseline be established for employees, and that it would be highly unlikely that a baseline could be obtained for many workers because of previous exposure to organophosphate insecticides, while another commenter suggested that exposure to other common materials can change the levels of ChE, especially in serum level measurements, making it difficult to establish a baseline. Another commenter added that the timing of meals, stress, physical activity, and changes in body mass can cause ChE levels to fluctuate within an individual, and that the baseline value should be taken on the day of handling a ChE-inhibiting pesticide prior to exposure due to this intra-individual variability. The commenter suggested that baselines established every 1 to 2 years, as currently recommended by Washington State and California, respectively, would not provide meaningful information concerning the degree of exposure due to these daily fluctuations.

Conversely, several commenters, including some members of Congress, the California Department of Public Health, Washington State's Department of Health and Department of Labor and Industries, several public health organizations, academics, and farmworker advocacy organizations supported the idea of adopting a routine ChE monitoring program as part of this rulemaking, particularly for handlers who use ChE-inhibiting pesticides like organophosphates and N-methyl-carbamate pesticides. Many of these commenters cited the existing ChE monitoring programs in California and Washington State in their arguments for why ChE monitoring should be expanded nationally.

Some commenters stated that California and Washington have longstanding medical monitoring programs with proven track records in reducing exposure to, and illnesses from, highly neurotoxic chemicals. These commenters stated that the successful implementation of these monitoring programs has helped health professionals understand the effects of these classes of pesticides and prevent poisoning by identifying overexposure. Two commenters stated that Washington's program is effective and protects workers as reflected by worksite field evaluations of action level ChE depressions, which have identified multiple pesticide WPS violations that are believed to contribute to worker exposure. A couple of commenters stated that the benefits realized by the state programs, which would expand nationally if monitoring were to be required, include:

- Greater certainty about the frequency of pesticide overexposure.

• Avoidance of serious pesticide illness.

• Improved compliance with the WPS.

• Identification of any existing PPE, work practice, and engineering control requirements that are not sufficient to protect pesticide handlers from exposure.

• Greater awareness of chemical and exposure hazards.

Some commenters cited Washington State's data that shows that the percentage of overexposed participating handlers who required remedial action fell from 20% when the program started in 2004 to 6% in 2013, for a reduction of 70%. These commenters stated that Washington's Department of Labor and Industries found that ChE monitoring helped identify the causes of overexposure, which allowed for those causes to be corrected by alerting employers and handlers to unsafe work practices, conditions, or equipment. Additionally, a couple of commenters stated that the percentages of handlers who actually reached the removal level from handling ChE-inhibiting pesticides remained consistently low after the implementation of the ChE monitoring program, with the percentages being 3.8% in 2004, 0% in 2010 and 2011, 2.3% in 2012, and 4% in 2013. These commenters believed that the sharp decline in the number of handlers needing remedial action, along with the consistently low percentage of handlers who exceeded 20% below their baseline (*i.e.,* those who reach the evaluation level in the state programs), shows that the program has been effective in reducing exposure to OPs and carbamates, and that monitoring should be implemented nationally so that all workers receive similar benefits.

Some commenters in support of requiring ChE monitoring also discussed the costs associated with ChE monitoring. They stated that the cost of implementation should not deter EPA from requiring medical monitoring on a national level. A few commenters stated that EPA's estimate that the cost of ChE monitoring would average $53 per year per agricultural establishment was a small cost when contrasted with the 70% reduction in overexposure according to Washington State's data. A couple of commenters also stated that monitoring in California and Washington has led to substantially fewer pesticide poisonings and reduced use of these highly toxic pesticides, and can, in turn, reduce long-term medical costs to farmworkers and the agricultural economy. Some commenters stated that EPA's analysis did not include an estimation of the medical expenses that were saved, the lost wages prevented, and the pesticide-related illnesses avoided as a result of early detection and intervention. As a result, the commenters believed that the benefits of a national ChE monitoring program would more than justify the costs given the severe effects of overexposure to ChE-inhibiting pesticides.

Other commenters supporting ChE monitoring stated that employees who handle ChE-inhibiting chemicals in non-agricultural sectors routinely receive the protection of medical monitoring. For example, some commenters stated that OSHA requires medical monitoring for workers who handle a wide range of toxic substances. They also stated that USDA requires monitoring of its employees who may be exposed to organophosphate or carbamate pesticides. These commenters stated that these safeguards should be provided for all workers who handle these pesticides, and therefore should be included in the final rule.

EPA Response. After reviewing the comments, EPA continues to believe that the expected benefits of a routine ChE monitoring program for handlers are not sufficient to justify the costs. As stated in the proposed rule, EPA believes that Washington State's efforts have identified the primary reasons for ChE inhibition among pesticide handlers. In many cases, ChE depression was caused by handlers not following basic safety and hygiene procedures, *e.g.,* not wearing the label-required PPE and failing to wash before meals or bathroom breaks. Additionally, several handlers who did wear respirators as required by labeling had beards, which compromised the seal between the face and the respirator and reduced the protection intended to be afforded by the PPE. EPA believes that requiring expanded and more frequent handler training, in combination with requirements for fit testing and training on proper respirator use for handlers, addresses the primary reasons for overexposure to ChE-inhibiting pesticides.

The revised labeling with increased protections and new mitigation measures resulting from the reregistration of organophosphates and carbamates will also result in lowered handler exposure. Reregistration has resulted in some uses of the most acutely toxic organophosphates being phased out. For the remaining uses, EPA has imposed additional PPE requirements, requirements for closed-system mixing and loading, and reductions to rates of application and number of annual applications permitted. As labels with updated PPE requirements for handlers are seen and followed in the field, EPA expects to see reduced numbers of overexposures. Additionally, the organophosphates and carbamates that are still registered are being used less frequently and being replaced by pesticides with lower risks, also reducing the potential for overexposure.

While EPA estimated the costs of a national, routine ChE monitoring program to be at least $15.2 million annually, or about $53 per agricultural establishment per year and $120 per commercial pesticide handling establishment per year, this estimate does not include the full costs that would be expected of a national ChE monitoring program. As stated in the proposed rule, a national, routine ChE monitoring program would likely include program components such as training, recordkeeping, clinical testing, and field investigations, which were not included in the estimated costs because the initial $15.2 million estimate appeared by itself to be disproportionately high in comparison to the expected benefits. Additionally, the estimated costs do not include the states' costs to build infrastructure to support ChE monitoring or to cover continued laboratory costs such as equipment maintenance and administrative support. If EPA were to calculate these additional costs, the estimated costs would be much higher than $15.2 million annually. Therefore, EPA stands by its assessment in the proposed rule that the cost of implementing a national, routine ChE monitoring program is not justified by its limited benefits.

EPA believes that the increased handler protections being finalized in this rulemaking, combined with the product-specific risk mitigation measures, will appropriately address the elevated potential for ChE inhibition in handlers. Moreover, the training and PPE elements of the final rule will have the combined effect of providing important protective benefits to all pesticide handlers through increased knowledge of exposure risks and prevention strategies. This approach will lead to a reduction of pesticide exposures because it prevents handler exposure before it occurs.

D. Costs and Benefits

Since EPA is not requiring routine ChE monitoring, there are no costs associated with this decision.

XVII. Exemptions and Exceptions

A. Immediate Family

1. Current rule and proposal. The WPS currently exempts the owners of agricultural establishments from requirements to provide certain WPS protections to themselves and their immediate family members. Owners are required to comply with all applicable provisions of the WPS for any worker or handler employed on the establishment who is not a member of the owner's immediate family. The definition of ''immediate family'' in the existing rule includes only the owner's spouse, children, stepchildren, foster children, parents, stepparents, foster parents, brothers, and sisters. EPA proposed to expand the definition of ''immediate family'' to add father-in-law, mother-in-law, sons-in-law, daughters-in-law, grandparents, grandchildren, brothers-in-law, and sisters-in-law.

Note, too, that the existing WPS definitions of workers and handlers depend upon them being employed for compensation. Therefore, any person performing worker or handler tasks who does not receive a wage, salary or other compensation is not a worker or handler protected by the WPS, regardless of familial relationship to the owner.

EPA requested comment on but did not propose changes narrowing the immediate family exemption in two ways: (1) Limiting it only to those immediate family members of an owner of an agricultural establishment who are at least 16 years old, and (2) eliminating the exemptions from requirements regarding emergency assistance for workers and handlers and regarding handler monitoring during fumigant application.

As part of the proposal to establish a minimum age for pesticide handlers and early-entry workers, EPA proposed to add an exemption from the minimum age requirements to the immediate family exemption.

2. Final rule. EPA has finalized the definition of ''immediate family'' as limited to the owner's spouse, parents, stepparents, foster parents, father-in-law, mother-in-law, children, stepchildren, foster children, sons-in-law, daughters-in-law, grandparents, grandchildren, brothers, sisters, brothers-in-law, sisters-in-law, aunts, uncles, nieces, nephews, and first cousins. ''First cousin'' means the child of a parent's sibling, *i.e.,* the child of an aunt or uncle. The final regulatory text for this definition is available at 40 CFR 170.305.

EPA has amended the exemption from certain provisions of the WPS for owners and members of their immediate families to include exemptions from the minimum age requirements for handlers and early-entry workers. The final regulatory text for this exemption is available at 40 CFR 170.601(a)(1)(i) and 170.601(a)(1)(xii).

EPA has clarified the final regulatory text related to the exemption from certain provisions of the WPS for owners and members of their immediate families. The exemption in the final rule will apply to owners and members of their immediate family on any agricultural establishment where a majority of the establishment is owned by one or more members of the same immediate family. The final regulatory text for this exemption is available at 40 CFR 170.601(a)(1).

EPA has not included in the final rule any of the other changes to the owner and immediate family exemption considered in the proposal.

3. Comments and responses.

Comments. Most of the commenters expressed general support for the proposed expansion to the definition of immediate family and the inclusion of an exemption from the minimum age requirement. Some commenters asserted that the definition provides greater clarity about who qualifies under the immediate family exemption and will assist both the regulated community and state regulatory agencies in ensuring compliance with the proposed rule.

A few commenters requested that EPA expand the definition to include cousins. Many commenters, including the Small Business Administration's Office of Advocacy, requested that EPA expand the definition further to include aunts, uncles, nieces, nephews, and cousins. Commenters requesting further expansion of the definition noted that an expansion of the family members considered immediate family under the WPS would better reflect the reality of the family farm in America. Commenters also requested that EPA further expand the definition and exemption to recognize varying ownership patterns used to assure the continued operation of the farm and the involvement of siblings and their heirs. One commenter suggested that EPA align the exemption with USDA's interpretation of farm ownership by family members, which considers a ''family farm'' to be one where a majority of the farm is owned by family members, rather than retaining EPA's interpretation of the exemption as applying only on establishments that are wholly owned by one or more members of the same immediate family.

A few commenters requested that EPA delete the definition of immediate family and eliminate the exemption. These commenters noted that risks from pesticide exposure are the same for family and non-family members, so all persons need the same level of protection regardless of their familial relationship to the owner.

EPA Response. EPA has further expanded the definition of immediate family to also include aunts, uncles, nieces, nephews, and first cousins (*i.e.,* child of a parent's sibling, child of an aunt or uncle) and is retaining the exemption in the WPS. EPA believes that the proposed definition of ''immediate family'' represents an appropriate accommodation to the social costs of the WPS to farm owners and members of their immediate families relative to FIFRA's requirement to prevent unreasonable adverse effects.

EPA considered commenters' requests to expand the definition of ''immediate family.'' Commenters suggested that a definition that includes cousins, or cousins, aunts, uncles, nieces and nephews would better reflect the actual patterns of family-based farm ownership in the United States. EPA agrees with commenters' suggestions that family-based farm ownership may extend beyond relationships covered by EPA's existing or proposed definition. EPA agrees with commenters' requests to expand the definition to include aunts, uncles, nieces, nephews, and first cousins. For clarity, EPA has chosen to define ''first cousin'' as the child of a parent's sibling, *i.e.,* the child of an aunt or uncle.

EPA has clarified the applicability of the exemption in the final rule in response to comments. The exemption in the final rule applies to the owners and their immediate family members on any agricultural establishment where a majority of the establishment is owned by one or more members of the same immediate family. A ''majority of the establishment'' means that more than 50 percent of the equity in the establishment is owned by one or more members of the same immediate family as defined in the WPS.

EPA agrees that the risks associated with pesticide exposure do not vary based on a person's relationship to the owner of the establishment. However, EPA recognizes that family-owned farms need flexibility and expects that those family members working on an establishment covered by the immediate family exception would be adequately prepared and supervised by family members. Although owners and their immediate family members are exempted from certain provisions of the WPS (*e.g.,* providing pesticide safety training and specific decontamination supplies for immediate family

members), they are obligated to follow the pesticide labeling and other WPS provisions that are established to protect workers and handlers from risks associated with specific pesticides. For these reasons, EPA has chosen not to eliminate the definition of immediate family or the exemption from certain portions of the rule for the establishment owner and members of his or her immediate family.

Although owners of establishments and members of their immediate family are exempt from some of the provisions of the rule, EPA expects that they will voluntarily follow the provisions from which they are exempt, or achieve equivalent risk mitigations through other means. EPA encourages owners and family members to carefully study the WPS requirements and assure themselves that they are not placing each other at risk of unreasonable adverse effects.

4. Costs and benefits. EPA estimates changing the definition of immediate family and adding to the existing exemptions for owners and members of their immediate family an exemption from the minimum age requirements would not substantially change the cost of the final rule.

B. Crop Advisors and Employees

1. Current rule and proposal. The existing rule exempts employers from complying with certain handler requirements when the employee performs crop advising tasks in a treated area under an REI and is a certified or licensed crop advisor or directly supervised by a certified or licensed crop advisor. A certified or licensed crop advisor is one who has fulfilled the requirements of a program acknowledged as appropriate in writing by EPA or a state or tribal agency responsible for pesticide enforcement. The existing rule allows a certified or licensed crop advisor to make specific determinations regarding the appropriate PPE, decontamination and safe method of conduct for those working under his or her direct supervision. A person employed by a commercial pesticide handling establishment performing crop advising tasks after expiration of an REI is not subject to any provisions of the WPS. The rule also exempts employers from complying with worker requirements such as providing decontamination supplies and emergency assistance for certified or licensed crop advisors and for persons they directly supervise.

EPA proposed to eliminate the exemptions for employees directly supervised by certified or licensed crop advisors. EPA also proposed to eliminate the exemption from the worker decontamination and emergency assistance provisions for certified or licensed crop advisors employed as workers on agricultural establishments.

2. Final Rule. EPA has eliminated both exemptions as proposed. However, EPA has included in the final rule added flexibility in the PPE requirements for crop advisors and their employees. Specifically, EPA has added language to the final regulation that allows crop advisors and their employees who perform crop advising tasks while an REI is in effect to substitute the label-required handler PPE with either the label-required PPE for early-entry activities or a standard set of crop advisor PPE. The standard set of PPE for crop advising tasks included in the final rule consists of coveralls, shoes plus socks, chemical-resistant gloves made of any waterproof material and eye protection if the labeling of the pesticide product applied requires protective eyewear for handlers. The final regulatory text for this requirement is available at 40 CFR 170.601(b) and 170.607(g).

3. Comments and responses.

Comments. In response to the proposal, crop consultant associations, several states and other commenters objected to eliminating the exemption currently in place for employees working under the direct supervision of a certified or licensed crop advisor. They asserted that certified and licensed crop advisors often exceed the minimum safety training requirements when educating their employees and those employees are aware of the risks associated with their work. Some crop consultant associations and other commenters noted that they are not aware of any case of endangerment or harm that has occurred to any employee under the direct supervision of a certified or licensed crop advisor.

The crop advisor associations also expressed concern that EPA underestimated the economic impact to crop advisors, and in turn to farmers, of eliminating this exemption, citing specifically the increased costs of additional PPE, the cost of work done by certified or licensed crop advisors instead of by their employees, and the cost of increased management time. Crop consultant associations and other commenters contended that these increased costs could discourage investment in integrated pest management (IPM) and result in increased pesticide use that might put workers at increased risk of pesticide exposure. Several states supported EPA's proposal to eliminate the crop advisor exemption.

EPA Response. After consideration of the comments submitted, EPA has concluded that the burdens associated with eliminating the exemption for employees of crop advisors are justified by the additional protections provided to workers performing crop advising tasks who are not certified or licensed crop advisors. EPA has retained the exemption to the WPS for certified or licensed crop advisors because these individuals are highly trained about pesticide risks and how to protect themselves. EPA eliminated the exemption for crop advisors' employees because pest scouting tasks may result in substantial contact with a pesticide on treated surfaces in pesticide-treated areas. The amount of contact with pesticides during scouting depends on variables such as the height and density of the crop, the nature of the activity, the surface that contains the pesticide residue, and whether residues are dry or wet. While EPA recognizes that the crop consulting industry has implemented a training program for employees, the program is not required and can vary in content and quality from employer to employer. Additionally, crop scouts and assistant crop advisors are generally entry-level employees who may not feel empowered to ask an employer for PPE or other protections and may not understand the complex factors influencing risk well enough to take appropriate protective measures for themselves.

Incident monitoring programs do not capture illness data specifically associated with crop advising tasks because cases are categorized under a general ''field worker'' label. However, EPA's risk assessments indicate that people doing crop advising tasks during an REI are at risk of chronic, low-level pesticide exposure over time. PPE requirements and availability of decontamination supplies during and after an REI are fundamental to mitigating risks of concern for workers. Allowing workers who are supervised by certified or licensed crop advisors to conduct crop advising tasks without the same basic protections provided for other workers would establish a lesser standard of protection for similar types of work. EPA understands that IPM programs require post-application entry and the timing is critical to efficacy. By retaining the exemption for certified or licensed crop advisors to conduct crop advising tasks during an REI and allowing flexibility for employers to substitute the label required PPE for handlers with either PPE for early-entry workers or a standard set of PPE, the

increased costs noted in comments are reduced.

4. Costs and Benefits. EPA estimates the cost of amending the exemption for crop advisors would be negligible. EPA finds that the incremental cost of employers providing decontamination supplies and PPE for crop advisor employees are reasonable compared to the cost. EPA is allowing flexibility in the choice of PPE for crop advisor employees who must enter treated areas under an REI to accommodate entry into multiple fields with the same attire. Benefits from reduced exposure to pesticides as a result of requiring the standard protections for all workers, including those supervised by certified or licensed crop advisors, are reasonable when compared to their cost.

C. Closed Systems

1. Current rule and proposal. The existing WPS permits exceptions to the label-specified PPE when using a closed system for certain pesticide handling activities. The existing rule does not adequately describe the specific characteristics of an acceptable closed system. EPA proposed to establish specific design criteria and operating standards for closed systems based on California's existing standards in the 1998 *Closed Systems Director's Memo* (*http://www.cdpr.ca.gov/docs/whs/cac/cacwhs98-01.pdf*).

2. Final Rule. EPA has modified the proposed approach regarding closed systems. Specifically, in the final rule EPA has adopted a broad definition, a performance-based standard, and basic operating standards. The operating standards require the handler employer to ensure that written operating instructions for the closed system are available, that the handler receives training on use of the closed system, and that the system is maintained according to the written instructions. Specific design criteria and recordkeeping requirements that EPA proposed are not included in the final rule.

The final rule retains the existing requirements for PPE when a closed system is used: Labeling-mandated PPE must be immediately available for use in an emergency and handlers must use protective eyewear for closed systems that operate under pressure.

The final regulatory text for the definition of closed systems is available at 40 CFR 170.305. The final regulatory text for the closed system exception is available at 40 CFR 170.607(d)(3).

3. Comments and responses.

Comments. Most comments that addressed closed systems supported the goal of encouraging their use as an engineering control through a WPS exception; however, very few individuals, states or organizations supported the proposal as written. Several farmworker advocacy organizations and public health organizations suggested that EPA require closed systems for all Toxicity Category I pesticide products rather than continuing the voluntary system. Comments from states and grower and industry associations supported the existing voluntary, performance-based system and objected to the proposed specific design criteria, noting a number of weaknesses in the criteria. Specifically, they noted that the pressure requirements were too prescriptive and would not allow effective mixing, that the proposal did not address water soluble packaging or lock and load systems used for dry formulations, and that the complicated requirements would be a deterrent to increased adoption of closed systems. A number of commenters also noted that the design standards are too restrictive to accommodate future innovation. States commented that assessing compliance with the design standard would require extensive inspector training and could result in technical violations without providing additional handler protection.

EPA Response. EPA considered the comments submitted and was convinced that the prescriptive requirements in the proposal would be a disincentive to the voluntary adoption of closed systems. In response, EPA has finalized a closed system performance standard that will permit flexibility for the system while meeting the protection goals.

In response to comments advocating that EPA require closed systems for all Toxicity Category I pesticides under the rulemaking, EPA reminds the commenters that worker risk assessments and the risk management processes establish the required protections that appear on product labels. EPA identifies the basic protections, often PPE, to protect handlers from risks of concern. If handler exposure during mixing and loading is above the established level of concern, and if PPE does not reduce exposure to below the level of concern, the pesticide label may require a closed system for mixing and loading. EPA has required the use of closed systems on some product labeling.

EPA recognizes that the reduction in handler PPE alone is not likely to be enough incentive for an employer to use closed systems. However, EPA is convinced that on larger establishments, the efficiency and comparative protection value of a closed system, combined with the reduction in PPE that must be worn by the handler, may induce users to adopt closed systems. Establishing requirements for such closed systems—whether required or used voluntarily—is necessary to protect handlers, who could be exposed to concentrated pesticides if they use poorly designed or constructed closed systems.

EPA agrees with the comments that a broad definition of ''closed system'' will encourage industry innovation better than the proposed prescriptive rule and will allow flexibility for employers to design systems specific to their needs. A broad performance standard, along with requirements concerning operating instructions, training and maintenance, will enable employers, handlers and regulatory personnel to determine whether a closed system qualifies for the exemption. The operating standards will ensure that the closed systems are used as intended and are adequately maintained.

EPA notes that the California Department of Pesticide Regulation (CDPR) no longer supports use of the prescriptive-based criteria upon which EPA modeled the proposal outlined in the NRPM. In December 2014, CDPR published proposed regulations outlining a simplified, performance-based criteria for closed system design. California is the only state with specific closed system standards, and has required their use with certain chemicals since the 1970s. CDPR developed their revised closed systems standard and discussed the proposal with representatives from groups that will be directly affected including agricultural producer organizations, manufacturers, applicators, and growers, as well as at CDPR's Pesticide Registration and Evaluation Committee and the Agricultural Pest Control Advisory Committee and Pest Management Advisory Committee meetings. EPA considered CDPR's proposed rule in the development of the final closed systems standard. EPA's final closed system requirements were developed using CDPR's proposal as a model and do not conflict with CDPR's proposed closed system requirements.

Section 170.607(d)(2)(i) establishes a performance standard for closed systems. Specifically, a closed system must remove the pesticide from its original container and transfer the pesticide product through connecting hoses, pipes and couplings that are sufficiently tight to prevent exposure of handlers to the pesticide product, except for the negligible escape associated with normal operation of the

system. This closed system performance standard is based on the criteria for closed systems in section 6746(f)(1) of CDPR's proposed regulations with a few changes, partly to accommodate the different terminology in the two sets of regulations. Also, EPA adjusted the requirement to apply to transferring any pesticide product rather than a pesticide concentrate so the WPS criterion would apply to transferring liquid formulations and dry formulations whereas California's proposed requirements would only apply to liquid formulations. Lastly, EPA added the phrase ''except for the negligible escape associated with normal operation of the system'' to provide the flexibility intended in the proposed rule. The existing WPS describes a closed system as preventing the pesticide from contacting handlers or other persons, which is a very high standard because it does not allow any exposure. The phrase ''except for the negligible escape associated with normal operation of the system'' is intended to account for the expected or predictable small release of pesticides from existing closed systems when hoses, pipes and couplings are disconnected. EPA recognizes that there will often be a small amount of material in the hoses, pipes and couplings to which the handler possibly could be exposed. EPA has not quantified the maximum amount of pesticide escape that is acceptable, but notes that it should be consistent with the intent of a closed system, which is to prevent contact to the handlers or other persons.

EPA also adjusted the final regulatory text for closed systems to address the comments about water soluble packaging. The regulatory text in the final rule was revised to state clearly that the closed system exception from PPE applies when intact, sealed water soluble packaging is loaded into a mixing tank or system. The regulation also clarifies that water soluble packaging is no longer a closed system if the integrity of the packaging is compromised. This language in the final rule incorporates EPA's current position about water soluble packaging and closed systems, as established in the Interpretive Guidance on the WPS: *http://www.epa.gov/pesticides/safety/workers/wpsinterpolicy.htm*.

While the final rule includes only a performance standard, EPA recognizes that it may be helpful to have guidance on how to construct a system to meet that standard. As part of California's proposed rulemaking, CDPR and the University of California, Davis (UC Davis) developed plans for building a closed system to release along with the proposal. The ''Overview of Closed Systems Components and User Designs'' document includes lists of component parts (and costs) for three levels of systems (basic, medium and high). The design plans developed by CDPR and UC Davis will provide users with examples of representative closed systems components so they can identify or develop acceptable closed systems.

4. Costs and benefits. EPA estimates the cost of the final closed system requirements will be $2.1 million annually. EPA estimates that cost per agricultural establishment will range from $5–$30 per year, and the cost per commercial pesticide handling establishment will be about $21 per year. EPA estimates that on family establishments, the cost would range from $1–$30 per year. Many commenters from the pesticide industry and grower associations stated that EPA underestimated the costs of closed systems in the proposed rule partly because existing closed systems would need to be upgraded to meet the proposed standards. The changes to replace the proposed specific design standards with a broad performance standard in the final rule address these comments, because employers will be able to continue using most existing closed systems with minimal adjustments. For details refer to the Economic Analysis accompanying this rule (Ref. 1). In addition, EPA notes that the WPS does not require use of closed systems, so commenters who assumed many pesticide users would have to purchase expensive closed systems were incorrect.

EPA adjusted the closed system cost estimates from the proposed rule in several ways to reflect changes in the final rule. The cost estimate in the proposed rule assumed that some users of closed systems would purchase new systems while others would revert to using PPE. In light of the revised definition, the final cost estimate assumes that most users would simply purchase an adapter to connect their existing closed system to the pesticide container, which is the part that most likely needs to be added to convert existing mechanical transfer systems to be closed systems that meet EPA's criteria. These changes and costs are based on the CDPR and UC Davis document ''Overview of Closed Systems Components and User Designs,'' which includes lists of component parts and their costs for three levels of systems. In addition, the cost of developing operating instructions was added, assuming that most closed systems are custom-made systems that would require the employer to develop operating instructions, while the costs of keeping records of maintenance was deleted. EPA reduced the estimated number of farms using closed systems based on information from the Agricultural Handler Exposure Task Force, which showed that the limited number of pesticide users who use closed systems are primarily larger establishments and commercial pesticide handling establishments. Therefore, the estimated costs of the closed system criteria decreased from the proposed rule to the final rule.

Using closed systems is preferred to wearing PPE as an approach for managing chemical exposure in the ''hierarchy of controls'' established under standard industrial hygiene principles. Enclosing the chemical and substantially reducing the potential for exposure at the source reduces the potential for subsequent exposure to handlers, other people, and the environment.

D. Aerial Applications—Eyewear Protection for Open Cockpits

1. Current rule and proposal. Under the existing WPS, where labeling requires eye protection, the requirement may be satisfied by goggles, safety glasses with front, brow and temple protection, or a full face respirator. The existing WPS allows aerial applicators applying pesticides from open cockpit aircraft to substitute a visor for label-required eye protection. Because the term ''visor'' can be used to refer to the brim of a cap that provides only shade and offers little eye protection from pesticide sprays, EPA proposed to clarify the requirement by removing the term. EPA proposed to allow aerial applicators to substitute for the label-required eyewear a helmet with the face shield lowered, because this more clearly indicates EPA's expectation of a clear visor that covers and adequately protects the eyes.

2. Final rule. In the final rule, EPA has removed the term ''visor.'' The final rule allows the substitution of a helmet with face shield lowered for labeled protective eyewear for aerial applicators in aircraft with open cockpits. The final regulatory text for this requirement is available at 40 CFR 170.607(f)(2).

3. Comments and responses.

Comments. There were very few comments addressing this proposal. One state suggested EPA consult with relevant aerial agencies responsible for overseeing the use of open cockpits for making pesticide applications to see if the proposal is feasible.

An aerial applicators association asserted that aerial applications of pesticides using open cockpit aircraft

are very rare and that EPA is solving a problem that does not exist. They objected to handlers operating open cockpit aircraft being required to wear the same PPE as handlers operating open cab ground equipment. They did not highlight any specific issue with the helmet and visor being lowered when protective eyewear are required.

EPA Response. EPA acknowledges that while open cockpit aircraft may be rare, available exposure data indicate that even pilots in enclosed cab aircraft are exposed to the pesticides they apply. Ensuring that the eye is protected from pesticides is required by the product labeling. Helmets with face shields in the lowered position provide acceptable eye protection, but many items referred to as ''visors'' offer no eye protection from pesticide sprays.

4. Costs and benefits. This provision does not represent a substantive change to the existing rule. EPA expects the cost to aerial applicators to be negligible.

E. Aerial Applications—Use of Gloves

1. Current rule and proposal. In the existing rule, aerial applicators have the option of whether to wear chemical resistant gloves to enter and exit the aircraft unless gloves are required by the product labeling. In the proposal, EPA inadvertently inserted the regulatory language that existed prior to the 2004 rule revision that required pilots to wear chemical resistant gloves.

2. Final rule. The final rule retains the exception in the existing WPS that offers aerial applicators the option of wearing chemical-resistant gloves when entering and exiting the aircraft, except when the product labeling requires that chemical-resistant gloves be worn when entering and exiting the aircraft. The final regulatory text for this requirement is available at 40 CFR 170.607(f)(1).

3. Comments and responses.

Comments. Many applicators and their associations and pesticide manufacturers noted this error. The commenters also asserted the use of gloves presents a hazard to pilots who may fall when entering and exiting the aircraft when wearing gloves. They also suggested contamination from contact with the exterior of the aircraft is minimized due to advances in application techniques (*e.g.,* GPS) that help pilots avoid flying through their spray.

EPA Response. The final rule retains the exception in the existing regulation that offers aerial applicators the option of wearing chemical-resistant gloves when entering and exiting the aircraft, except when the product labeling requires that chemical resistant gloves be worn entering and exiting the aircraft.

4. Costs and benefits. There is no cost associated with including the existing exception in the final regulation.

F. Enclosed Cabs—Changes to Exceptions to PPE Requirements When Applying Pesticides From Inside an Enclosed Cab

1. Current rule and proposal. The existing WPS permits exceptions to the labeling-specified PPE when handling tasks are performed from inside an enclosed cab that meets the specifications defined in the rule based on the dermal protection provided by the enclosed cab, which prevents pesticides from contacting the body. The existing rule also permits persons occupying an enclosed cab to forego certain labeling-required respiratory protection if the cab has been certified by the manufacturer to provide respiratory protection equivalent to the handler respiratory protection required by the pesticide labeling.

EPA proposed to eliminate the requirement for any labeling-specified respiratory protection PPE when applying pesticides from inside an enclosed cab. This would have allowed handlers to substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified PPE in all cases no matter what type of respiratory protection PPE was required by the labeling.

2. Final Rule. In the final rule, EPA requires handlers in enclosed cabs to wear the labeling-specified respiratory protection except when the only labeling-specified respiratory protection is a filtering facepiece respirator (NIOSH approval number prefix TC–84A) or dust/mist filtering respirator. In the final rule, handlers in enclosed cabs may substitute a long-sleeved shirt, long pants, shoes and socks for the labeling-specified PPE for skin and eye protection. If a filtering facepiece respirator (NIOSH approval number prefix TC–84A) or dust/mist filtering respirator is required by the pesticide product labeling for applicators, then handlers do not need to wear the respirator inside the enclosed cab if the enclosed cab has a properly functioning air ventilation system that is used and maintained in accordance with the manufacturer's written operating instructions. If any other type of respirator is required by the pesticide labeling for applicators, then the handler must wear the respirator inside the enclosed cab during handling activities.

EPA has retained other exceptions to PPE requirements for handlers using enclosed cabs. Specifically, all of the PPE required by the pesticide product labeling for applicators must be immediately available to handlers in an enclosed cab and be stored in a sealed container to prevent contamination. Handlers must wear the applicator PPE if they exit the cab within a treated area during application or when a REI is in effect. Once PPE has been worn in a treated area, handlers must remove it before reentering the cab to prevent contamination of the cab.

The final regulatory text for the enclosed cab exception is available at 40 CFR 170.607(e).

3. Comments and responses.

Comments. EPA did not receive any comments in opposition to the proposed changes to the enclosed cab exception. One grower noted that the enclosed cab exception is an excellent component of the proposal. Another commenter noted that respirator use is infrequent since the spraying operation takes place from inside an enclosed, climate-controlled tractor cab.

EPA Response. EPA considered the comments submitted and is convinced that the enclosed cab exception should be retained since it provides an important option to reduce potential pesticide exposure through engineering controls rather than PPE, and such cabs can be an important tool for addressing heat stress issues for handlers. Although EPA considered a more expansive exception under its proposal, after reevaluation of the potential exposure risks for handlers and the protections afforded by enclosed cabs, EPA determined that enclosed cabs may not universally provide respiratory protection necessary to mitigate inhalation risks for any pesticide product that required respiratory protection greater than a filtering facepiece respirator (NIOSH approval number prefix TC–84A) or dust/mist filtering respirator. EPA determined that enclosed cabs may not provide adequate protection from inhalation exposure hazards when the inhalation exposure risk arises from vapors or other non-particulate inhalation hazards. Additionally, EPA has learned that there are no longer any enclosed cab manufacturers certifying cabs to provide respiratory protection and the American Society of Agricultural and Biological Engineers has withdrawn their enclosed cab standard. Based on this information, EPA has removed provisions under the enclosed cab exception that permit persons occupying an enclosed cab to eliminate certain labeling-required respiratory protection PPE if the cab has been certified by the manufacturer to provide respiratory protection

equivalent to the respiratory protection required by the pesticide labeling.

4. Costs and benefits. EPA does not estimate that the change to the exception to PPE requirements for handlers using a tractor with an enclosed cab to apply pesticides will have a significant cost. Handlers will benefit by using adequate respiratory protection when applying pesticides from an enclosed cab.

XVIII. General Revisions

A. Label vs. Labeling

1. Current rule and proposal. FIFRA defines the label as ''the written, printed, or graphic matter on, or attached to, the pesticide or device or any of its containers or wrappers.'' 7 U.S.C. 136(p)(1) For reasons of space and user convenience, detailed use instructions and precautions often appear in labeling provided with the pesticide product upon sale. As defined in FIFRA, ''labeling'' includes ''all labels and all other written, printed, or graphic matter accompanying the pesticide or device at any time; or to which reference is made on the label or in literature accompanying the pesticide or device . . .'' 7 U.S.C. 136(p)(2).

Labeling may include booklets distributed with the product when such documentation is too long to be included on the label that is securely attached to the container. For example, some products have labeling that is 60 or more pages long. FIFRA and EPA regulations require certain information to appear on the label—on or attached to the pesticide container. Other information necessary to use the product safely, such as directions for use, may be included in a booklet distributed with, but not securely attached to, the container (40 CFR 156.10(i)(1)(ii)); this information could also be available on the Internet if the producer has decided to provide web-distributed labeling for the product (Ref. 21). In either format, the information would be considered labeling. Labeling sometimes includes enforceable references to other documents that do not physically accompany the container, such as the WPS.

The existing rule discusses employers' responsibilities related to pesticide labels and labeling in several places. The existing rule requires agricultural and handler employers to ensure that pesticides are used in a manner consistent with the labeling. When the emergency assistance provisions of the WPS are triggered, the existing rule requires employers to provide information from the product labeling to affected workers, handlers, and/or treating medical personnel. Handlers must receive training on the format and meaning of information contained on pesticide labels and in labeling. Finally, employers must ensure that handlers have either read or have been informed in a manner they understand of all labeling requirements related to safe use of the pesticide, and that the handler has access to the product labeling during handling activities.

Although the proposal reorganized the rule, some of the requirements for the existing rule outlined in the previous paragraph remained essentially unchanged in the proposed rule, *e.g.,* agricultural and handler employers' responsibility to ensure that pesticides are used in a manner consistent with the labeling. The proposal included a requirement for employers to maintain copies of the pesticide labeling for each pesticide used on the establishment for 2 years from the date of application. The proposal also would have required the employer to provide a copy of the label and the product's SDS when the emergency assistance provisions are triggered, rather than to provide information from the pesticide labeling.

2. Final rule. Where the proposed rule would have required the employer to provide a copy of the pesticide label, or specific information from the labeling, and the SDS under the emergency assistance provisions, the final rule only requires the employer to provide the SDS and specific information, which can be obtained from the pesticide application and hazard information display, rather than the label or labeling. See Unit XIV. for other comments, EPA's responses and the final regulatory text related to emergency assistance. The final rule eliminates the proposed requirement for employers to maintain copies of the labeling, rather than the label, for each product bearing a WPS requirement on the labeling, and replaces it with a requirement for the employer to retain specific information about the product used and the application, as well as the SDS. See Unit VII. for other comments, EPA's responses and the final regulatory text related to this requirement.

For handler training requirements, EPA has amended the language in the final rule to delete the word ''all'' related to labeling. The final rule requires handlers to receive training on following *the portions of the labeling applicable to the safe use of the pesticide* and on the format and meaning of *information contained on pesticide labels and in labeling applicable to the safe use of the pesticide.* The final regulatory text for these provisions is available at 40 CFR 170.501(c)(3)(iii)–(iv).

For labeling and application-specific information the employer must provide to the handler, EPA has amended the final rule to require the employer to provide the handler with information on all *portions of the labeling applicable to the safe use of the pesticide,* rather than on all labeling requirements. The final regulatory text for this provision is available at 40 CFR 170.503(a).

3. Comments and responses.

Comments. Commenters raised issues with EPA's use of the term ''labeling'' in the proposed rule. Commenters raised specific concerns with the use of the broader ''labeling'' in various requirements instead of limiting those requirements to just the label. These concerns arose in regard to agricultural and commercial pesticide handler employer duties, emergency assistance, hazard communication, and handler training and establishment-specific information.

Some commenters generally disagreed with EPA's use of ''labeling'' and requested that EPA use ''label'' instead throughout the rule. They asserted that labeling is too broad and that labeling includes materials not attached to the container, such as advertisements, brochures and pamphlets. Commenters assert that the broadness of ''labeling'' applied to requirements to provide or retain this information could result in a requirement on employers to track down many ancillary pieces of information for a complete record, or to face a technical violation for failure to retain all elements of the labeling.

Under the agricultural and commercial pesticide handler employer duties, at 40 CFR 170.9(a) and 170.13(a) of the proposal, commenters said that EPA's use of labeling was too broad. They asserted that employers' liability should be only to comply with the WPS rather than with the label or all relevant labeling because making the employer responsible for complying with all labeling exceeds the scope and intent of the WPS. They also noted that certified applicators, those competent to use pesticides according to the labeling instructions and who make the actual applications, should be required to comply with the labeling, but that the agricultural employer should not.

In regard to emergency assistance, commenters requested that EPA delete the reference to labeling and replace it with a requirement to provide the label and EPA registration number of the product. Commenters note that this requirement would be sufficient to provide appropriate information for emergencies.

Commenters also requested that in the section on pesticide application and hazard information, EPA delete the requirement for the employer to maintain copies of the labeling for all WPS-labeled pesticides used on the establishment, and instead to require the employer to maintain a copy of the label and EPA-registration number. Again, commenters noted that such a requirement would likely result in technical violations without providing benefit to workers or handlers.

In the sections on handler training and establishment-specific information, commenters took issue with requirements to train handlers on all labeling and to ensure that for specific applications handlers have read the labeling or have been informed of all labeling requirements. Commenters noted that a requirement for handlers to be trained on all labeling requirements, rather than those pertinent to their specific tasks, would be overly broad and unnecessary. Commenters requested that EPA replace ''labeling'' with ''label'' in these sections.

EPA Response. EPA disagrees with commenters' request to replace ''labeling'' with ''label'' throughout the regulation because the broader term is appropriate in many provisions of the WPS. The FIFRA scheme for managing the risks of pesticide products rests primarily on mandatory use directions and precautionary statements approved by EPA in the registration process and communicated to users through labels and labeling. Although in the case of lower risk products intended for general consumer use, this information typically fits on the label, this is not the case for many agricultural and commercial-use pesticides.

Labeling does not include advertisements, pamphlets or brochures unless they accompany the product when sold or are referenced on the labeling. For instance, EPA has indicated that documents such as marketing brochures used to sell the product and to provide information to customers and is not labeling as defined by FIFRA section 2(p). (*http://www.epa.gov/pesticides/regulating/labels/labels_faq/lr_faq_10.html*) If a document of this type does not accompany the product when sold and there is no reference to the bulletin on the product label, it is not ''labeling.'' Note though, that non-labeling documentation related to a product must not have claims that differ from the product label. 7 U.S.C. 136j(a)(1)(B).

Because mandatory use directions often appear in the labeling of agricultural pesticides, rather than the label, some provisions of the WPS appropriately use the word ''labeling.'' Where the word ''labeling'' appears in the WPS, employers are responsible for following or providing labeling as defined in FIFRA. This does not require employers to find, retain, or provide advertisements, pamphlets or marketing brochures that do not meet the definition of ''labeling.''

For example, it is appropriate that agricultural and handler employers' duties under the final rule include ensuring compliance with ''labeling'' rather than just the label. The existing regulation has the same requirement under general duties and prohibited actions. 40 CFR 170.7(a)(2). The labeling may include directions for use or other information essential to the safe and effective application of the pesticide, or specific information related to WPS protections, such as the REI. For these reasons, EPA has decided not to replace ''labeling'' with ''label'' throughout the final rule as suggested by the commenters.

Furthermore, the obligation of certified applicators (or any other person legally applying a pesticide) to follow the labeling does not negate the obligation of agricultural and handler employers to comply with the labeling. Requirements related to the WPS are found both in the regulation (*e.g.,* training, application-specific information) and on specific product labeling (*e.g.,* directions for use, REI, PPE). In addition, other non-WPS elements of the labeling, such as application rates and maximum number of applications to a crop, are relevant to protecting workers and handlers from occupational exposure to pesticides. When employers choose to use a pesticide that references the WPS on the labeling on their establishment (either as the applicator or by directing another person to apply the pesticide on their behalf), they are obligated to ensure that all requirements of the labeling are followed, not only those related to the WPS, to ensure that workers and handlers are adequately protected.

However, EPA agrees that certain WPS requirements could be limited to the information on the label or specific information from the label, and has specified ''label'' instead of ''labeling'' or specific information from the label where appropriate. For example, EPA agrees with commenters that employers need not provide all labeling in the event of the emergency. In the current rule, EPA lists specific information that must be provided to a potentially injured worker or handler, or to treating medical personnel: Product name, EPA registration number, active ingredients, antidote, and first aid and medical treatment information. Since all of this information is required on the label (40 CFR 156.10(a)(1)), the final rule allows the employer to provide a copy of the label or this specific information from the label, in addition to providing a copy of the SDS, when emergency assistance is required.

EPA also agrees with commenters' request to eliminate the requirement for employers to maintain copies of the labeling for all pesticides with a WPS reference statement used on the establishment. EPA agrees that if workers, handlers, or other persons need information on a specific product that was used on the establishment, such information can be obtained using the EPA registration number and product name. In response to comments received, EPA has replaced the proposal with a requirement for the employer to retain only the EPA registration number, active ingredient(s), product name, and other application-specific information for such products, in addition to the SDS.

Similarly, EPA agrees that requiring handler employers to ensure that handlers have been trained generally on, and for specific applications have read or been informed of all labeling requirements may be unnecessary if they are only using a product for a single type of application. The labeling could include directions for use covering multiple application methods and multiple crop sites, which may be of no relevance to a particular handler. Although the final rule continues to refer to ''labeling'' in this context, it now requires employers to ensure that for specific applications, handlers have read the portions of the labeling applicable to the safe use of the pesticide or have been informed in a manner they understand of all portions of the labeling applicable to the safe use of the pesticide. Further, EPA has amended handler training to require that handlers are instructed on their duty to follow the portions of the labeling applicable to the safe use of the pesticide, and on the format and meaning of information contained on pesticide labels and in labeling.

4. Costs and benefits. Where requirements related to labeling have imposed a cost, *e.g.,* the requirement for the employer to retain product labeling, the cost is discussed in the Unit related to the overall requirement. EPA does not estimate any additional costs with these requirements.

B. Regulating Other Persons

1. Current rule and proposal. Some provisions in the existing WPS provide protections to persons other than

workers and handlers (''other persons''). For example, an existing requirement on the label and in § 170.210(a) specifies that the applicator must apply the pesticide in a way that will not contact workers or other persons. The existing requirement for entry-restricted areas on nurseries in § 170.110 specifies that an agricultural employer must not allow or direct any person, other than an appropriately trained and equipped handler, to enter or remain in the restricted area. The existing immediate family exemption in § 170.104(a)(2) states that the owner of the agricultural establishment must provide protections to other workers and other persons who are not part of his immediate family. The description of closed systems in § 170.240(d)(4) of the existing rule describes closed systems as systems that enclose the pesticide to prevent it from contacting handlers or other persons. Also, the scope and purpose in § 170.1 of the existing rule explains that the WPS is intended, in part, to reduce the risks of illness or injury resulting from the accidental exposure of workers and other persons to pesticides.

The proposed rule included these same protections for persons other than workers and handlers and added several additional provisions that would affect ''other persons.'' The proposed requirement for a handler to cease or suspend application if a worker or other person is in the treated area or entry-restricted area was intended to supplement the existing ''do not contact'' requirements, which already protect persons other than workers or handlers. In addition, EPA proposed to include ''other persons involved in the use of a pesticide to which this part applies'' in the proposed anti-retaliation provision in § 170.15.

2. Final rule. The final rule includes the protections and references to ''other persons'' that were proposed, except that EPA removed the reference to other persons from the definition of closed systems. The final rule's prohibition against ''other persons involved in the use of a pesticide'' retaliating against workers or handlers in § 170.315 of the final rule is consistent with OSHA's non-retaliation provision. The other sections that provide protections to other persons continue existing requirements or supplement existing requirements and are discussed in detail in Unit IX. and Unit XVII.C.

3. Comments and responses.

Comments. Some grower organizations, states and their organizations, a retailer organization, and a commercial applicator opposed including protections for ''other persons'' in the WPS. These commenters argued that the proposal would extend the WPS to persons not currently covered and would result in an unwarranted expansion of scope beyond workers, handlers and employee/employer relationships. The grower, retailer and applicator commenters stated that including ''other persons'' could create the potential for frivolous legal challenges by anti-chemical activists seeking to prevent pesticide applications.

EPA Response. EPA disagrees with the comments on including protections for ''other persons'' in the WPS. EPA already protects ''other persons'' in addition to workers and handlers in the existing WPS. EPA notes that anti-chemical activists are not using the current protections to prevent pesticide applications and the final rule does not appear significantly more likely to be used in that manner.

4. Costs and benefits. The final rule generally continues or supplements existing protections so there are no incremental costs or benefits to the protections for other persons.

C. Definitions

1. General

i. Current rule and proposal. The existing WPS provides definitions for certain terms for use in the rule. In addition to the specific definitions for the twenty terms listed in 40 CFR 170.3, the WPS defines the terms ''closed system,'' ''enclosed cab,'' ''entry-restricted area,'' ''personal protective equipment,'' and ''use'' in other sections of the rule where those terms are used. EPA proposed to revise certain existing definitions to provide greater clarity, to add several new definitions for terms used in the rule, including definitions for the terms that had previously been defined elsewhere, and to eliminate two unnecessary existing definitions for ''greenhouse'' and ''forest.''

ii. Final rule. In the final rule, EPA has adopted the revisions to the definitions as proposed except for the definitions of the terms ''agricultural establishment,'' ''agricultural plant,'' ''authorized representative,'' ''closed system,'' ''commercial pesticide handler employer,'' ''commercial production,'' ''employ,'' ''enclosed space production,'' ''entry-restricted area,'' ''farm,'' ''forest operation,'' ''hand labor,'' ''immediate family,'' ''labor contractor'' ''outdoor production,'' ''nursery,'' and ''use.'' In the final rule, EPA has deleted the definitions for the terms ''greenhouse'' and ''forest'' as proposed. EPA has also deleted the existing definitions for the terms ''farm,'' ''forest operation,'' and ''nursery,'' as well as the proposed definition for ''commercial production.'' Additionally, in the final rule EPA has added a new definition for the term ''application exclusion zone.'' The discussions of the existing definitions and proposal, final rule, comments and EPA response for these terms are contained in Units XVIII.C.2—XVIII.C.8. The final regulatory text for these definitions is available at 40 CFR 170.305.

iii. Comments and responses.

Comments. EPA received comments on the proposed definitions of the terms ''authorized representative,'' ''closed system,'' ''enclosed space production,'' ''entry-restricted area,'' ''hand labor,'' ''immediate family,'' ''outdoor production,'' and ''use''. EPA did not receive any substantive comments opposed to the other proposed revisions related to definitions. EPA received several general comments from state, grower and agricultural producer associations that supported developing improved definitions because it would reduce the likelihood of alternative interpretations, while improving compliance and enforceability. Many farmworker advocacy organizations and public health organizations also supported EPA's proposed revisions to improve definitions, commenting that it is important to have clear and understandable language in order to avoid ambiguity.

During USDA's FIFRA section 25 review of the final rule, USDA commented that the definition for ''agricultural plant'' depends on the definition for ''commercial production,'' and the definition for ''commercial production'' depends on the definition for ''agricultural plant'' (Ref. 15). USDA said similar issues exist in the definitions of ''agricultural establishment'' and ''farm,'' ''forest operation,'' and ''nursery.'' USDA recommended resolving these circular dependencies. USDA also commented that the proposed definitions of ''employ,'' ''labor contractor,'' and ''commercial pesticide handler employer'' contained problematic language that could confusion as to who is ultimately responsible for providing the handler protections in Subpart F of the proposed rule.

EPA Response. EPA agrees that improved definitions will reduce the likelihood of ambiguity and alternative interpretations, while improving compliance and enforceability. EPA believes these proposed revisions to the definitions adopt more widely used and commonly accepted ''plain English'' language, and will add clarity and consistency to the rule. The proposed revisions to the definitions will also

help address regulatory or policy issues with the existing rule raised by state regulatory partners and other program stakeholders.

In response to comments from USDA made during their FIFRA section 25 review of the final WPS rule, EPA agrees that the definitions for ''agricultural plant'' and ''commercial production,'' and the definitions for ''agricultural establishment'' and ''farm,'' ''forest operation,'' and ''nursery'' are circular (Ref. 15). While EPA is not convinced that serious confusion would result, EPA has eliminated some definitions and revised others to address USDA's concern. The terms ''commercial production,'' ''farm,'' ''nursery,'' and ''forest operation'' appear only in the definition section and are not used elsewhere in the regulation. Accordingly, EPA has deleted these definitions and merged their substantive content into the definitions of ''agricultural establishment'' and ''agricultural plant.'' EPA also agrees that the current definitions of labor contractor and commercial pesticide handler employer contain some problematic language that could result in potential confusion and/or conflict regarding agricultural employer and commercial pesticide handler employer duties under the rule. In the final rule, EPA has adopted revised definitions for ''employ,'' ''labor contractor,'' and ''commercial pesticide handler employer'' to address the potential confusion that could result from conflicting language in the existing proposed definitions. EPA believes the revised regulatory text clarifies that CPHEs are responsible for the handlers they employ and agricultural employers would no longer be considered employers of CPHE handlers for the purposes of the WPS, without overlooking the fact that some handlers are hired by agricultural employers through labor contractors and not CPHEs. A copy of USDA's comments and EPA's responses is available in the docket for this rulemaking. (Ref. 15).

iv. Costs and benefits. EPA estimates the proposed changes to the definitions will not substantially change the cost of the final rule.

2. Authorized Representative. i. Current rule and proposal. The existing WPS does not contain a definition for ''authorized representative.'' EPA proposed to add the term ''authorized representative'' to the rule and defined it as ''a person designated by the worker or handler, orally or in writing, to request and obtain any information that the employer is required to provide upon request to the worker or handler.''

ii. Final rule. The rule finalizes the proposed definition with changes. EPA has retitled the term ''authorized representative'' to ''designated representative'' to better describe the relationship between the representative and the worker or handler, and the definition narrows the information that is required to be provided by the employer to the designated representative. In the final rule, ''designated representative'' means ''any persons designated in writing by a worker or handler to exercise a right of access on behalf of the worker or handler to request and obtain a copy of the pesticide application and hazard information required by § 170.309(h) in accordance with § 170.311(b) of this part.''

iii. Comments and responses.

Comments. EPA received many comments from states, growers, agricultural associations and pesticide manufacturer associations objecting to the definition of ''authorized representative.'' Most commenters objected to the proposed requirement for employers to make certain pesticide information available to an ''authorized representative'' of their workers or handlers rather than the actual definition of authorized representative. Several farm bureau commenters and grower groups stated that oral designation of the representative could result in abuse, and would be unenforceable. One comment from a farmworker advocacy organization stated that EPA should keep the definition for authorized representative and clarify the range of representatives that could legitimately be asked to receive information on behalf of a worker or handler (*e.g.,* medical care provider, legal advocate, family member, etc.).

EPA Response. EPA has been convinced by comments that designation of the representative must be in written form to protect employers from fraudulent claims. A written request that identifies the worker or handler can be verified against employment records, and information about the dates of their employ can be used to narrow the information needed to be provided. The final rule requires employers to respond to written requests.

EPA disagrees with the recommendation to limit the definition to certain persons that could be asked to request the information on behalf of the worker or handler. EPA believes that specifying classes of persons permitted to serve as designated representative would unnecessarily limit worker and handler access to needed information. The final rule requires employers to respond to such requests within 15 days. However, to ensure that medical personnel treating a worker or handler have timely access to information necessary for purposes of diagnosis or treatment, EPA has included a separate requirement for employers to promptly provide the information to treating medical personnel or those working under their direction, at 170.311(b)(8).

iv. Costs and benefits. EPA estimates that including the definition of authorized representative will not change the cost of the final rule. Costs associated with the requirement for employers to respond to written requests for pesticide application and hazard information are included in the discussion in Unit VII.A.

3. Closed System. i. Current rule and proposal. The existing WPS defines the term ''closed system'' as ''a system that encloses the pesticide to prevent it from contacting handlers or other persons.'' EPA proposed to move the definition of closed system to the definition section of the rule and to redefine a closed system as ''a system for mixing or loading pesticides that encloses the pesticide during removal of the pesticide from its original container and transfer, mixing, or loading of the pesticide product, mixtures or dilutions, and any rinse solution, if applicable, into a new container or application equipment, in such a manner that prevents the pesticide and any pesticide mixture or use dilution from contacting handlers or other persons before, during and after the transfer, except for negligible release associated with normal operation of the system.''

ii. Final rule. In the final rule, EPA has defined ''closed system'' as ''an engineering control used to protect handlers from pesticide exposure hazards when mixing and loading pesticides.'' The final regulatory text for this definition is available at 40 CFR 170.305.

iii. Comments and responses.

Comments. EPA did not receive any specific comments on the definition of closed system. However, EPA received a number of comments related to EPA's proposal on closed systems that indicated the proposed requirements may be too prescriptive or limiting, could eliminate desired flexibility for growers, and could discourage innovation and the adoption of closed systems.

EPA Response. EPA agreed with the comments that the proposed requirements related to closed systems may be too prescriptive or limiting, could eliminate desired flexibility for growers, and could discourage

innovation and the adoption of closed systems. Although the comments did not specifically mention the closed system definition, EPA reconsidered the proposed definition of closed system in light of the overall comments on closed system requirements. EPA believes that a broader definition of ''closed system'' will encourage industry innovation better than the proposed prescriptive definition, and will retain flexibility for handler employers to design systems specific to their needs. In the final rule, EPA has adopted a new definition of closed system that more accurately defines the nature and intent of a closed system without inadvertently prescribing specific requirements and operational components for such closed systems.

iv. Costs and benefits. EPA estimates that revising the definition of closed system will not change the cost of the final rule.

4. Enclosed space production and outdoor production. i. Current rule and proposal. The existing WPS does not contain definitions for the terms ''enclosed space production'' or ''outdoor production.'' Instead, the existing WPS defines the term ''greenhouse'' to describe the type of WPS-covered agricultural establishments that produce agricultural plants inside enclosed structures. The existing rule uses the terms ''farm,'' ''forest'' and ''nursery'' for WPS-covered agricultural establishments that produce agricultural plants outdoors. Greenhouse is defined in the existing WPS as ''any operation engaged in the production of agricultural plants inside any structure or space that is enclosed with nonporous covering and that is of sufficient size to permit worker entry. This term includes, but is not limited to, polyhouses, mushroom houses, rhubarb houses, and similar structures. It does not include such structures as malls, atriums, conservatories, arboretums, or office buildings where agricultural plants are present primarily for aesthetic or climatic modification.'' EPA proposed to delete the definition of ''greenhouse'' because it would no longer be necessary as a result of the proposed addition of a new definition for ''enclosed space production.'' EPA proposed to define enclosed space production as ''production of an agricultural plant in a structure or space that is covered in whole or in part and that is large enough to permit a person to enter.'' EPA also proposed to add a new definition for the term ''outdoor production'' and defined it as ''production of an agricultural plant in an outside open space or area that is not enclosed or covered in any way.''

ii. Final rule. In the final rule, EPA has deleted the definition of the term ''greenhouse'' as proposed, and has adopted the definitions for ''enclosed space production'' and ''outdoor production'' with modifications. The final rule defines ''enclosed space production'' as ''production of an agricultural plant indoors or in a structure or space that is covered in whole or in part by any nonporous covering and that is large enough to permit a person to enter,'' and defines ''outdoor production'' as ''production of an agricultural plant in an outside area that is not enclosed or covered in any way that would obstruct the natural air flow.'' The final regulatory text for these definitions is available at 40 CFR 170.305.

iii. Comments and responses.

Comments. EPA received several comments from states and their organizations opposing the definition of ''enclosed space production'' as written. A few other commenters also expressed concerns with the definition of ''outdoor production.'' A state association noted that the proposed definition could greatly expand areas covered under certain entry restrictions to include any covered area such as fields or groves with shade covers and/or screen houses. The commenter expressed concerns that entry restrictions currently applicable to greenhouses would be extended to these establishments, and is not aware of any need for such an extension of these restrictions. States generally echoed these comments. One state requested clarification of whether the term ''spaces covered in part'' includes structures such as ''hoop houses,'' and another state noted that the proposed rule did not define or reference high tunnels and requested clarification of whether ''high tunnels'' are considered a greenhouse for the purposes of WPS (*i.e.,* would ''high tunnels'' be considered a type of enclosed space production?). One state commented that the proposed definition expands areas covered under certain entry restrictions to include shade houses and screen houses and this would have a major impact in on the state's nursery industry. Another state also expressed concerns that the proposed definition of enclosed space production would expand restrictions beyond greenhouses, and suggested that EPA add the phase ''where the production of agricultural plants for research or commercial purposes occurs'' to the definitions of enclosed space production and outdoor production so that only those operations engaged in the production of agricultural plants for commercial purposes would be covered by the WPS. Another state commented that the term ''outdoor production'' is too broad and by misinterpretation, could encompass a number of non-farm activities.

During USDA's FIFRA section 25 review of the final rule, USDA commented that the inclusion of the term ''natural forest'' in the definition of ''outdoor production'' creates confusion since there is no explanation of what the term ''natural forest'' means and therefore the term is not needed (Ref. 15).

EPA Response. EPA considered the comments submitted and agrees with the comments that said the proposed definition of ''enclosed space production'' could expand areas covered under certain entry restrictions to include any covered area such as fields or groves with porous shade covers and/or screen houses where such restrictions are not necessary. EPA noted the potential impact of the proposed definition on the nursery industry as raised by commenters. EPA also agrees that the proposed definition of ''outdoor production'' could lead to some outdoor production being considered enclosed space production because of the phrase ''that is not enclosed or covered in any way.'' EPA is convinced that the definition of enclosed space production and outdoor production should be revised so that operations that use non-porous coverings in their plant production operations, such as screen houses and shade houses, are not covered by the entry restrictions deemed necessary for the protection of workers and handlers that are working with pesticides or in pesticide treated areas in enclosed space production operations. Therefore, EPA revised the definitions of enclosed space production and outdoor production to clarify that enclosed space production only includes areas covered in whole or in part ''by any nonporous covering,'' rather than ''any covering'' as in the proposed definition; and that outdoor production will include areas that are covered only with coverings that are sufficiently porous that they do not obstruct the natural air flow typical of open fields or forests. It is intended that these definitions of enclosed space production and outdoor production be complementary, such that all production agriculture is either enclosed space production or outdoor production.

EPA does not agree with the request to add the phrase ''where the production of agricultural plants for research or commercial purposes occurs'' to the definitions of enclosed space production and outdoor

production so that only those operations engaged in the production of agricultural plants for commercial purposes would be covered by the WPS. EPA believes other definitions and language in the rule already clearly limit the scope of the WPS to establishments where the production of agricultural plants for research or commercial purposes occurs, so the addition of such language to these definitions would be redundant and would not serve to further limit the scope of the rule in any way not already accomplished through other means.

Some commenters requested clarification of whether structures such as ''hoop houses,'' and ''high tunnels'' are considered a type of enclosed space production. The term ''greenhouse'' in the WPS has resulted in enforcement problems, because of the extreme variability in the types of structures that might be considered greenhouses. This problem is compounded when considering the many greenhouse-type structures (*e.g.,* polyhouses, mushroom houses, hoop houses, high tunnels and similar structures) that have come into use. This is why EPA has replaced the term greenhouse with enclosed space production. EPA believes the new terms correspond more accurately to the nature of the risk that EPA is concerned about mitigating (*i.e.,* use of pesticides in enclosed spaces that could affect pesticide inhalation exposure potential). Therefore, if a structure or space is covered in whole or in part by any nonporous covering and is large enough to permit a person to enter, then the structure or space would fall under the definition of enclosed space production in the final rule. EPA anticipates that most greenhouses, hoop houses, high tunnels and similar structures will fall within the definition of enclosed space production, but a final determination will be made on a case-by-case basis applying the parameters of the definition to each situation.

EPA agrees with USDA that the inclusion of the term ''natural forest'' in the definition of ''outdoor production'' creates confusion and is not needed. In response, EPA has revised the final definition of outdoor production accordingly (Ref. 15).

iv. Costs and benefits. EPA estimates adding and changing the definition of enclosed space production and outdoor production will not substantially change the cost of the final rule.

5. Entry-restricted area and application exclusion zone. i. Current rule and proposal. The existing WPS does not contain a definition for the terms ''entry-restricted area'' or ''application exclusion zone.'' Under the existing rule, the term ''entry-restricted area'' is used to refer to areas on an establishment from which workers and other persons must be excluded during, and/or immediately after, an ongoing pesticide application to protect the workers or other persons from being contacted by the pesticide (either directly or through drift). EPA proposed to define the term ''entry-restricted area'' as ''the area from which workers or other persons must be excluded during and after the pesticide application.''

ii. Final rule. In the final rule, EPA has added the term ''application exclusion zone'' instead of the proposed term ''entry-restricted area.'' EPA has defined the term ''application exclusion zone'' as ''the area surrounding the application equipment which must be free of all persons, other than appropriately trained and equipped handlers, during pesticide applications.'' The final regulatory text for this definition is available at 40 CFR 170.305.

iii. Comments and responses.

Comments. EPA received several comments from states regarding the term ''entry-restricted area.'' One commenter said the term was linguistically awkward and said EPA should instead use the term ''restricted area buffer.''

EPA Response. EPA considered the comments submitted and agrees with the comments that the term ''entry-restricted area'' was not clear and would be likely to cause confusion. In the final rule, EPA has eliminated the use of that term and has therefore deleted the proposed definition. The final rule adopts the term ''application exclusion zone'' to refer to the area from which persons must be excluded during applications. See Unit IX. for EPA's response to the comments on the WPS requirements related to entry-restricted areas.

iv. Costs and benefits. EPA estimates that not including the proposed definition of the term ''entry-restricted area'' in the final rule and adding the new definition for ''application exclusion zone'' will not substantially change the cost of the final rule.

6. Hand labor. i. Current rule and proposal. The existing WPS defines hand labor as ''any agricultural activity performed by hand or with hand tools that causes a worker to have substantial contact with surfaces (such as plants, plant parts, or soil) that may contain pesticide residues. These activities include, but are not limited to, harvesting, detasseling, thinning, weeding, topping, planting, sucker removal, pruning, disbudding, roguing, and packing produce into containers in the field. Hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing the tasks of crop advisors.'' In the proposal, EPA intended to revise the definition by deleting the following sentence from the existing definition, ''These activities include, but are not limited to, harvesting, detasseling, thinning, weeding, topping, planting, sucker removal, pruning, disbudding, roguing, and packing produce into containers in the field.'' In the proposed regulatory text for the definition of term ''hand labor,'' EPA inadvertently deleted the phrase ''except that hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing crop advisor tasks'' from the end of the definition. The erroneously proposed definition for the term ''hand labor'' was ''any agricultural activity performed by hand or with hand tools that cause a worker to have substantial contact with plants, plant parts, or soil and other surfaces that may contain pesticide residues.''

ii. Final rule. EPA has corrected the unintentional omission from the proposed definition of ''hand labor.'' The final rule defines ''hand labor'' as ''any agricultural activity performed by hand or with hand tools that cause a worker to have substantial contact with plants, plant parts, or soil and other surfaces that may contain pesticide residues, except that hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing crop advisor tasks.'' The final regulatory text for this definition is available at 40 CFR 170.305 for the final regulatory language for definitions.

iii. Comments and responses.

Comments. One commenter objected to the proposed change to the definition of hand labor that deleted the phrase ''except that hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing crop advisor tasks'' from the end of the definition. The commenter indicated that removing this exception from the definition of hand labor would make the irrigation exception for early entry unworkable and would disrupt irrigation operations.

EPA Response. EPA agrees with the comment on the definition of ''hand labor.'' In the final, rule EPA has deleted the sentence listing hand labor activities as proposed, but has retained the clause excluding ''operating, moving, or repairing irrigation or watering equipment or performing crop advisor

tasks'' from being considered hand labor tasks.

iv. Costs and benefits. EPA estimates that revising the definition of hand labor will not change the cost of the final rule.

7. Immediate Family. See Unit XVII.A. for a complete discussion of EPA's consideration of the definition of ''immediate family'' in conjunction with the exemption from certain provisions of the WPS for owners and members of their immediate families.

8. Use. i. Existing definitions and proposal. The existing WPS provides a definition of the term ''use'' (as in ''to use any registered pesticide in a manner inconsistent with its labeling'') for the purposes of the rule at 40 CFR 170.9, ''Violations of this part.'' For the purposes of the WPS, EPA has interpreted the term ''use'' to cover a broad range of pesticide-related activities that are listed at 40 CFR 170.9. EPA proposed to move the existing definition for ''use'' found at 40 CFR 170.9 into the definitions section of the rule.

ii. Final rule. In the final rule, EPA has adopted the definition for ''use'' as proposed. The final regulatory text for this definition is available at 40 CFR 170.305.

iii. Comments and responses.

Comments. EPA received several comments from states, growers, agricultural associations and pesticide manufacturer associations objecting to the proposed definition of ''use.'' Most commenters objected to the definition of use because they did not support inclusion of ''arranging for application of the pesticide'' as part of the definition of ''use.'' Some commenters said they believed that this language would greatly expand the scope of the WPS and would be unreasonable and unnecessary. Some commenters noted that they could not see how ''arranging for application of the pesticide'' could be considered use. During its review of the draft final rule under FIFRA section 25(a), USDA noted that the term ''arranging for the application of the pesticide'' as part of the definition of the term ''use'' could lead to persons that call on or answer the telephone and ''arrange'' for pest management by scheduling the appointment on behalf of another to be covered by the rule and possibly have WPS responsibilities.

EPA Response. EPA disagrees with comments that say the proposed definition for the term ''use'' could or will expand the scope of the WPS because this interpretation has been in the WPS since the rule first became effective. Moreover, EPA has not been made aware of any instances where this interpretation of ''use'' has resulted in an unreasonable or inappropriate outcome. EPA believes that ''arranging for application of the pesticide'' is appropriately part of the definition of ''use'' for the purposes of the WPS because in production agriculture, the individual who physically ''uses'' a pesticide almost always does so at the direction of another person who has substantially greater control over the circumstances of the use. Thus the WPS is designed so that when an agricultural or handler employer arranges for the application of a pesticide by a handler employee, it triggers certain WPS duties that are properly the responsibility of the agricultural or handler employer. For instance, once the agricultural employer arranges for a pesticide application by a commercial pesticide handling establishment, the commercial pesticide handler employer must provide the agricultural employer with certain information about the intended application before the application takes place (so the employer will be able to fulfill WPS notification requirements and protect workers during application, etc.). In such circumstances, it is reasonable and appropriate that the handler employer should be held responsible for the pre-application information exchange even though the application has not commenced and even though the handler employer personally never physically ''uses'' the pesticide.

EPA interprets ''arranging for application of the pesticide'' as used in § 170.9(a) and § 170.305 as a means of assuring that the entities (generally the agricultural employer or handler employer) with the most authority and control over WPS compliance would be legally responsible for WPS compliance. EPA does not interpret ''arranging for application of the pesticide'' as making subordinate persons who merely perform the clerical functions of arranging for application of the pesticide liable for WPS compliance. Therefore, since EPA has not been made aware of any instances where the existing interpretation of the term use has resulted in any problems for growers, states or the agricultural industry, EPA has moved the definition for the term ''use'' into the definitions section of the rule without any change from the proposal.

iv. Costs and benefits. Moving the definition of use will not change the cost of the final rule.

D. Restructuring 40 CFR Part 170

1. Current rule and proposal. The existing WPS is organized into three subparts: ''General Provisions,'' ''Standard for Workers,'' and ''Standard for Handlers.'' Content that applies to both workers and handlers is repeated creating redundancy throughout the rule.

EPA discussed renaming the regulation ''Requirements for Protection of Agricultural Workers and Pesticide Handlers'' in the preamble of the proposal and proposed reorganizing the rule into four subparts: ''General Provisions,'' ''Requirements for Protection of Agricultural Workers,'' ''Requirements for Protection of Pesticide Handlers,'' and ''Exemptions and Exceptions.'' EPA proposed creating the ''General Provisions'' subpart to describe certain obligations for agricultural employers, handler employers, and those requirements that apply to both. The proposal included subparts ''Requirements for Protection of Agricultural Workers'' and ''Requirements for Protection of Pesticide Handlers'' to provide information that supplements the general duties and obligations for employers and to outline the content of the training and decontamination supplies that the employer must provide for workers and handlers respectively. EPA proposed to consolidate most of the exceptions and exemptions into a separate subpart titled ''Exemptions and Exceptions'' to make them easier to find and reference.

2. Final Rule. In the final rule, EPA has retained the existing name of the regulation, ''Worker Protection Standard,'' and has adopted the proposed restructuring of the rule with minor modifications.

EPA has determined that it is appropriate to allow one year for employers, trainers, and state and tribal regulators to prepare for the changes to the WPS. See Unit XIX. In order to allow the existing WPS to remain in effect for one year and to make available the revised regulatory language in advance of the implementation date, both the existing WPS and the revised WPS must appear in the Code of Federal Regulations. Thus the final rule provides that Subparts A, B and C of part 170 will remain in effect until one year after the effective date of this final rule. Subparts D, E, F and G of part 170 contain the full text of the revised WPS; however, these subparts will not be implemented until one year after the effective date of this final rule. Some provisions of subparts D, E, F and G, such as pesticide safety training and the pesticide information display, will not be implemented until two years after the effective date of this final rule. One year after the effective date of this final rule, subparts A, B and C will no longer be effective. At that time, EPA intends to

delete subparts A, B and C from part 170.

In addition to finalizing the proposed structuring of the rule, EPA has added a new section providing a process for allowing states and tribes to request equivalency determinations from EPA for existing state or tribal laws or regulations that may provide protections equivalent to the WPS. EPA has added this to a retitled subpart: ''Exemptions, Exceptions and Equivalency.''

3. Comments and responses.

Comments. EPA did not receive any comments opposed to the proposal to restructure the WPS. One commenter noted that the proposed restructuring of the rule increased the clarity of the rule and the relationship among the components. Another commenter asserted that there was no need to change the name of the regulation, and noted that if EPA was going to change the name of the rule, it should more accurately represent the full scope of the rule and the impacted establishments.

EPA Response. EPA agrees with the comment that it is unnecessary to change the name of the rule. ''Worker Protection Standard'' and the abbreviation WPS are commonly used and associated with the rule. Upon further consideration, EPA agrees that the existing name of the rule is very widely recognized and that it will facilitate more effective communications on the rule to retain the current name of the rule.

EPA also agrees with the commenter that the proposed restructuring of the rule increases the clarity of the rule and the relationship among the components. EPA is adopting the proposed restructuring of the WPS in the final rule with the minor modifications noted. EPA expects the revised part 170 will be easier to read and understand, thereby improving compliance by worker and handler employers.

4. Costs and benefits. EPA does not estimate any costs associated with the restructuring of the rule. The benefits of the restructuring will be increased clarity and understanding of the rule which should result in improved compliance and more consistent enforcement.

E. Equivalency Provisions

1. Current rule and proposal. The current WPS does not contain equivalency provisions that would permit EPA to potentially recognize, through a WPS-established regulatory mechanism, state or tribal worker protection laws and/or regulations that may provide equivalent or significantly greater protection in comparison to the provisions of the existing WPS, or provide equivalent protection at a significantly lower cost. EPA did not propose to add equivalency provisions to the rule because it did not receive information from states or tribes that such provisions were necessary, and had not been informed by growers that WPS requirements conflicted with existing state or tribal worker protection laws or regulations.

2. Final rule. In the final rule, EPA has included a section on equivalency because of comments received that indicate provisions may be needed to address certain issues with the WPS potentially conflicting with existing state and tribal worker protection laws or regulations. EPA recognizes that some states and tribes have existing worker protection provisions in their own laws and regulations that may be equivalent to the provisions of the existing WPS, that may provide significantly greater protection, or may provide equivalent protection at a significantly lower cost, and decided it would be more practical and efficient to establish a mechanism to evaluate specific state or tribal requirements and to make equivalency determinations rather than relying on other EPA enforcement mechanisms or policies to be able to allow such determinations. The final regulatory text for this requirement is available at 40 CFR 170.609.

3. Comments and responses.

Comments. Although EPA did not propose equivalency provisions, EPA received comments from the California Department of Pesticide Regulation (CDPR) that indicated it would be beneficial if states could be granted 'equivalency' as was done for the current WPS. The CDPR comment refers to an independent enforcement discretion decision that was granted under the current WPS to recognize CDPR's requirement for the content of their field posting sign to be equivalent to the existing requirement at 40 CFR 170.120. Comments from some other state pesticide regulatory agencies indicate there may be issues of equivalency between their regulations and the final WPS requirements. Although these commenters did not specifically raise the need for equivalency provision, they indicated a need for EPA to be aware of the issue and potentially identify solutions.

EPA Response. Based on the comments received and EPA's experience with the current WPS and requests from CDPR for equivalency on certain regulatory requirements, EPA agrees that there are potential situations where states or tribes may request EPA to consider equivalency under the WPS for their laws or regulations. Therefore, EPA believes it is prudent to consider an equivalency process under the WPS, and feels strongly that it is more efficient and advantageous to establish a mechanism for considering equivalency in the WPS rule rather than relying on other mechanisms. EPA has provided a general equivalency process in the rule that is modeled on the provisions that were developed and implemented for substantially the same reason and purpose under the pesticide containment regulations in 40 CFR 165.97. (71 FR 47330, August 16, 2006).

4. Costs and benefits. EPA does not estimate any costs associated with adding the equivalency provisions to the rule. The benefits of allowing equivalency under the provisions being included in the final rule will be that EPA will be able to more easily consider and permit equivalency for some states that have provisions in their own laws and regulations equivalent to the provisions of the WPS or that may provide significantly greater protections or equivalent protection at a lower cost.

F. Clarifications

1. Scope and Purpose. In the final rule, EPA has clarified who the rule protects and that agricultural and commercial pesticide handler employers are responsible for carrying out the requirements of the rule. EPA has also clarified that handlers have responsibilities under the rule to protect workers and other persons during pesticide applications. Refer to 40 CFR 170.301 for the revised language.

2. Applicability. In the final rule, EPA has clarified in 40 CFR 170.303(c) that users must comply with product labeling requirements where the labeling requirements differ from the rule, except as provided in 40 CFR 170.601, 170.603, and 170.607, where the WPS provides exceptions to label-required PPE and REIs.

3. Prohibited Actions. In the proposed rule EPA proposed modifications to the retaliation provisions of the rule to clarify the actions that are prohibited under the rule. In the final rule EPA has further modified the retaliation provisions based on comments provided from DOL on how EPA could improve its retaliation provisions by modeling it after language used in similar provisions in DOL regulations. Moreover, we note that this rule does not preempt the general anti-retaliation provision in the DOL-administered Occupational Safety and Health Act, 29 U.S.C. 660(c). Refer to 40 CFR 170.315 for the regulatory text.

XIX. Implementation

A. Proposal

EPA proposed to make the final rule effective 60 days after the date of publication in the **Federal Register**; however, compliance with certain provisions, including the additional content of pesticide safety training and pesticide safety information, and new signs for posting, would not be required until 2 years after the effective date of the final rule. EPA proposed the 2-year delay between effective date of the final rule and the implementation date to allow time for new training materials to be developed and made available, and to give employers, trainers, and other affected stakeholders time to make the necessary changes to their practices and operations to comply with the new training and pesticide safety information requirements. EPA also linked the implementation date for the revised pesticide safety training requirements for workers and handlers to the availability of new revised training materials that satisfy the new rule requirements. Under the proposal, if EPA announced the availability of such materials sooner than 18 months after the effective date of the final rule, then the new training requirements would go into effect 2 years after the effective date of the final rule. If EPA announced the availability of materials that comply with the requirements more than 18 months after the effective date of the final rule, then the new training requirements would not take effect until 180 days after the announcement of availability of complying training materials published in the **Federal Register**.

B. Final Rule

EPA has included in the final rule a one-year delay from the effective date of the final rule before employers must comply with any of the new WPS requirements. Thus, on January 2, 2017, employers will be required to comply with almost all of the new and revised WPS requirements. However, employers will not be required to comply with certain new WPS provisions until two years after the effective date of the final rule. This two year delay applies to the new requirements for pesticide safety training for workers and handlers, pesticide safety information and handlers to suspend applications when workers or other persons are in the application exclusion zone. As proposed, the final rule provides that compliance with certain new training requirements will not be required until the later of two years after the effective date of the final rule, or 180 days after EPA publishes in the **Federal Register** a notice of availability of new revised training materials that satisfy the new rule requirements.

The final regulatory text for these provisions is available at 40 CFR 170.2, 170.311(a)(3), 170.401(c)(3), 170.501(c)(3) and 170.505(b).

C. Comments and Responses

Comments. Most comments that addressed implementation focused on three main areas: (1) The need for better and more effective enforcement of the revised rule once the new requirements are effective; (2) the need for appropriate supporting communication, education, training and compliance assistance materials to facilitate effective implementation; and (3) the need for additional time before the final rule becomes effective to give regulators and the regulated community time to prepare for compliance with new requirements.

Many comments from states, pesticide safety educators, trainers, grower associations and pesticide manufacturer associations pointed out a need for appropriate training and compliance assistance materials to support effective implementation. Commenters indicated that it was essential for EPA to have updated communications and compliance assistance materials, such as fact sheets and the ''WPS How to Comply'' manual, developed and available to all affected parties in order for the regulated community to be able to learn and understand new requirements. Several states, grower associations and pesticide manufacturer associations commented that EPA should provide more time before the new rule requirements become effective so that regulators and the regulated community can more adequately prepare for compliance with new requirements. However, several farmworker advocacy organizations urged EPA to implement the proposed training requirements for workers and handlers sooner than the proposal of 2 years from the effective date of the final rule.

EPA Response. EPA considered the comments submitted and agrees that after publication of the final rule, some time is needed before the new WPS requirements are implemented. EPA understands that State, tribal and federal regulators need time to become familiar with the new regulation, provide training to pesticide inspectors, develop the capacity for enforcing the new rule requirements, establish appropriate WPS inspection and enforcement policies, and conduct outreach to the regulated and protected communities. In addition, agricultural employers will need time to become familiar with the new requirements and implement any necessary changes. In the final rule, EPA has delayed the implementation of the new WPS requirements for one year so that EPA can work with state and tribal pesticide regulators and the regulated community to better prepare for compliance with new rule requirements. The existing rule will remain in effect and be enforced during this time, as provided in 40 CFR 170.2.

EPA disagrees with comments that the compliance dates for the new worker and handler training requirements should be implemented sooner than 2 years from the effective date of the final rule as outlined in the proposal. EPA believes that up to 18 months could be needed in order to develop and disseminate new, high quality, multi-lingual worker and handler training materials in multimedia formats that comply with the new requirements. Additionally trainers will have to obtain the new training materials, become familiar with the new training content and ensure that they continue to meet any eligibility requirements to train. Therefore, EPA has decided to retain the proposed requirement to delay the new training requirements for 2 years from the effective date of the final rule (or 180 days after the announcement that training materials are available, whichever is later) to allow adequate time for development and widespread distribution of the materials to trainers and employers. While EPA agrees that it is important for workers and handlers to have the new safety training information as soon as possible, time will be needed to create and distribute new training materials and to allow existing trainers to familiarize themselves with those new materials. In order to maximize compliance with the final rule, and in the interests of consistency and efficiency, EPA intends to develop and make available suitable training materials. EPA intends to have new training materials developed and disseminated as soon as practical and will encourage employers to begin using the new materials as soon as they become available so that many workers and handlers will begin receiving the benefits of the new training before the required date.

EPA is committed to a robust outreach, communications and training effort to communicate the new rule requirements to affected WPS stakeholders. To facilitate implementation, EPA plans to issue plain language ''how to comply'' fact sheets and guidance materials once the

final rule is published. EPA plans to develop compliance assistance materials that are targeted to specific agricultural sectors and rule requirements such as respirator requirements or the WPS exemptions and exceptions. EPA also intends to develop and disseminate new worker and handler training materials, conduct outreach to potentially affected parties, and provide assistance and resources to States and Tribes for WPS implementation. EPA plans to hold Pesticide Regulatory Education Program courses for State and Tribal pesticide program staff that will focus on WPS implementation, and Pesticide Inspector Residential Training courses for State and Tribal pesticide inspectors that will focus on WPS inspection requirements.

D. Costs and Benefits

The discussion of the overall expected costs and benefits for implementation are discussed in Unit II.C. EPA believes that delaying the dates for compliance with the final rule for one year after the effective date will allow regulators and the regulated community to better prepare for compliance with the rule while delaying immediate costs and allowing time for employers to explore ways to minimize implementation costs.

XX. References

The following is a listing of the documents that are specifically referenced in this document. The docket includes these documents and other information considered by EPA, including documents that are referenced within the documents that are included in the docket, even if the referenced document is not physically located in the docket. For assistance in locating these other documents, please consult the person listed under **FOR FURTHER INFORMATION CONTACT**.

1. EPA. *Economic Analysis of the Agricultural Worker Protection Standard Revisions.* Washington, DC 2015.
2. EPA. Pesticides; Agricultural Worker Protection Standard Revisions; Proposed Rule. **Federal Register** (79 FR 15444, March 19, 2014) (FRL–9395–8).
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XXI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review; and, Executive Order 13563: Improving Regulation and Regulatory Review

This action is a significant regulatory action because it may raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in Executive Order 12866 (58 FR 51735, October 4, 1993). Accordingly, EPA submitted the action to the Office of Management and Budget (OMB) for review under Executive Order 12866 and Executive Order 13563 (76 FR 3821, January 21, 2011), and any changes made in response to OMB recommendations have been documented in the docket. EPA prepared an economic analysis of the potential costs and benefits associated with this action, which is available in the docket and summarized in Unit II.C. (Ref. 1).

B. Paperwork Reduction Act (PRA)

The information collection activities in this final rule have been submitted to OMB for approval under the PRA, 44 U.S.C. 3501 *et seq.* The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2491.02 and OMB Control No. 2070–0190 (Ref. 23). You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information collection activities related to the existing Worker Protection Standard are already approved by OMB in an ICR titled ''Worker Protection Standard Training and Notification'' (EPA ICR No. 1759; OMB Control No. 2070–0148). The final rule ICR addresses adjustments to the estimated number of respondents, time for activities, and wage rates related to the current regulatory requirements as approved under OMB Control No. 2070–0148. In addition, the final rule ICR addresses program changes related to the amendments, including modifications to restrictions in field entry activities during REIs; increased hazard communications; increased training (for both workers and handlers); provisions for information during emergency assistance; and recordkeeping for respirator and training requirements.

Respondents/affected entities: Agricultural establishments. The number of agricultural establishments is based on the 2012 Census of Agriculture data, special tabulation, by the USDA

National Agricultural Statistics Service (NASS). Based on that information, there are about 870,000 crop producing establishments covered by the rule.

Commercial pesticide handling establishments. Based on information from Hoover's Dun and Bradstreet, EPA estimates there are about 2,000 commercial pesticide handling establishments. Based on EPA's data on certified applicators, there are more than 40,000 commercial applicators in plant agriculture.

Agricultural workers and handlers. EPA estimates that there are about 1.9 million workers, based on the 2012 Census of Agriculture data, special tabulation, by USDA's NASS.

Respondent's obligation to respond: Mandatory (7 U.S.C. 136–136y, particularly section 136w(a)).

Estimated number of respondents: 985,000.

Frequency of response: Rule familiarization will occur annually for the first 3 years. Training of workers and handlers will occur annually. Posting of the hazard communications information will occur, on average, 20 times a year. Recordkeeping of training will occur 1.5 times per year.

Total estimated burden: 10,448,160 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $ 424,166,295 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9, and on applicable collection instruments. When OMB approves this ICR, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under RFA, 5 U.S.C. 601 *et seq.* The small entities subject to the requirements of this action are agricultural and handler employers, and commercial pesticide handler employers. EPA expects the impacts to be less than 0.1% of the annual value of sales or revenues for the average small entity. EPA calculates the impact of the rule as the percent of sales revenue. Only the very smallest farms, with average sales of less than $10,000 per year, may face impacts above one percent of sales. The number of entities that may be impacted in excess of one percent of sales could be about 12,000 farms, nurseries, and greenhouses or about 6% of all small farms impacted by the WPS with revenues less than $10,000 per year. However, this is likely an overestimate of the number of farms impacted as it does not account for the nearly 2,000 such farms in California that would face impacts well below the national average. Additionally, there are nearly 23,000 such farms that produce only oil crops or forage whose employees are not likely to engage in hand labor activities and would not be covered by worker requirements. Please refer to the Economic Assessment, Table 5.4–3. ''Small Business Impacts, WPS Farms making pesticide applications'' for further details of the assessment.

Although EPA was not required by the RFA to convene a Small Business Advocacy Review (SBAR) Panel because this rule would not have a significant economic impact on a substantial number of small entities, EPA nevertheless convened a panel to obtain advice and recommendations from small entity representatives potentially subject to this rule's requirements. A copy of the SBAR Panel Report is included in the docket for this rulemaking (Ref. 3).

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The rule requirements would primarily affect agricultural employers and handler employers. The total estimated annualized cost of the final rule is $60.2—66.9 million.

E. Executive Order 13132: Federalism

This action does not have federalism implications, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. However, this action may be of significant interest to state governments, because states provide enforcement for pesticide laws. EPA solicited and received comments from state partners on the proposed revisions, which are addressed in this final rule preamble and the response to comments document.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The proposed rule would not regulate tribal governments directly; agricultural employers and pesticide handler employers are the directly affected entities. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This final rule is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is not an economically significant regulatory action as defined by Executive Order 12866. However, it is reasonable to expect that the environmental health or safety risks addressed in this rule may have a disproportionate effect on children. As such, EPA considered the best available science in order to protect children against environmental health risks and this final rule is consistent with EPA's 1995 Policy on Evaluating Health Risks to Children (*http://www2.epa.gov/sites/production/files/2014-/documents/1995_childrens_health_policy_statement.pdf*), reaffirmed in 2013 (*http://www2.epa.gov/sites/production/files/2014-05/documents/reaffirmation_memorandum.pdf*).

Protections include improved training on reducing pesticide residues brought from treated areas to the home on workers and handlers' clothing and bodies and establishing a minimum age of 18 for handlers and early entry workers. With regard to establishing an age restriction, while studies have not demonstrated a clear cut off point at which adolescents are fully developed, literature indicates that their development may continue until they reach their early to mid-20s. Additionally, research has shown that adolescents may take more risks, be less aware of the potential consequences of their actions on themselves and others, and be less likely to protect themselves from known risks. All of this information supports establishing a minimum age to allow those handling pesticides to develop more fully before putting themselves, others, and the environment at risk, and to allow those performing early-entry activities to develop more fully in order to adequately protect themselves from the risks of entering a treated area while an REI is in effect. The final rule will reduce the potential for misuse by

adolescent handlers who may less consistently exercise good judgment when handling agricultural pesticides.

Children face the risk of pesticide exposure from work in pesticide-treated areas, from the use of pesticides near their homes, and from residues of pesticides brought home by family members after a day of working with pesticides or in pesticide-treated areas. The final rule is expected to reduce these exposures and risks. By establishing a minimum age for certain pesticide-related activities in agriculture, children would receive less exposure to pesticides that may lead to chronic or acute pesticide-related illness. Another requirement to reduce risk to children is training for workers and handlers on the risks presented by take-home pesticide exposure and how best to reduce it.

Like DOL's regulations that implement the FLSA, the rule regulates the ages at which children can work in certain agricultural activities. The rule establishes a minimum age of 18 for pesticide handlers and for early-entry workers, except those working on an establishment owned by an immediate family member. Since children in agriculture may face elevated risks of pesticide exposure due to their immaturity, failure to exercise good judgment, and developing bodies, EPA feels that they warrant special consideration in light of the Executive Order on children's health. EPA expects that the final rule will mitigate or eliminate many agricultural pesticide risks faced by youths.

Additional information on EPA's consideration of the risks to children in development of this action can be found in the Economic Analysis for this action (Ref. 1).

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' under Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not likely to have a significant adverse effect on the supply, distribution or use of energy.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards that would require Agency consideration under NTTAA section 12(d), 15 U.S.C. 272.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes that this rule would not have disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994), because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. In fact, the population of agricultural workers and handlers that the rule seeks to protect is comprised primarily of minority and low-income individuals. As reviewed in Unit IV.B.3., the farmworker community, due to occupation, economic status, health, language and other sociodemographic characteristics, faces an increased risk of pesticide exposure which this rulemaking seeks to reduce through improving communication and protections.

EPA engaged with stakeholders from affected communities extensively in the development of this rulemaking, in order to obtain meaningful involvement of all parties. EPA believes that the rule would improve the health of agricultural workers and handlers by, among other things, increasing the frequency of training, enhancing training content to include ways to minimize pesticide exposure to children and in the home, adding posting of treated areas near worker and handler housing to prevent accidental entry, and establishing a minimum age for pesticide handlers and early-entry workers.

K. Congressional Review Act (CRA)

This action is subject to the CRA, 5 U.S.C. 801 *et seq.,* and EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 170

Environmental protection, Agricultural worker, Employer, Farms, Forests, Greenhouses, Nurseries, Pesticide handler, Pesticides, Worker protection standard.

Dated: September 28, 2015.

Gina McCarthy,

Administrator.

Therefore, 40 CFR Chapter I is amended as follows:

PART 170—[AMENDED]

■ 1. The authority citation for part 170 continues to read as follows:

Authority: 7 U.S.C. 136w.

■ 2. Section 170.2 is added to subpart A to read as follows:

§ 170.2 Implementation and expiration dates.

(a) *Implementation date.* Beginning January 2, 2017, the requirements of § 170.301 through § 170.609 of this part shall apply to any pesticide product that bears the statement ''Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170''.

(b) *Expiration date.* Sections 170.1 through 170.260 of this part shall expire on, and will no longer be effective after January 2, 2017.

■ 3. In § 170.135, revise paragraphs (b) and (c)(1) to read as follows:

§ 170.135 Posted pesticide safety information.

* * * * *

(b) *Pesticide safety poster.* A safety poster must be displayed that conveys, at a minimum, the pesticide safety concepts listed in paragraphs (b)(1)(i) through (vii) and (b)(2) of this section. Displays conforming to § 170.311(a)(3) meet the requirements of this paragraph.

(c) * * *

(1) The name, address, and telephone number of the nearest emergency medical care facility shall be on the safety poster or displayed close to the safety poster. Displays conforming to § 170.311(a)(3)(ix) meet the requirements of this paragraph.

* * * * *

■ 4. In § 170.235, revise paragraphs (b) and (c)(1) to read as follows:

§ 170.235 Posted pesticide safety information.

* * * * *

(b) *Pesticide safety poster.* A safety poster must be displayed that conveys, at a minimum, the pesticide safety concepts listed in paragraphs (b)(1)(i) through (vii) and (b)(2) of this section. Displays conforming to § 170.311(a)(3) meet the requirements of this paragraph.

(c) * * *

(1) The name, address, and telephone number of the nearest emergency medical care facility shall be on the safety poster or displayed close to the

safety poster. Displays conforming to § 170.311(a)(3)(ix) meet the requirements of this paragraph.

* * * * *

■ 5. Subpart D is added to part 170 to read as follows:

Subpart D—General Provisions

Sec.

§ 170.301 Scope and purpose.

This regulation is primarily intended to reduce the risks of illness or injury to workers and handlers resulting from occupational exposures to pesticides used in the production of agricultural plants on agricultural establishments. It requires agricultural employers and commercial pesticide handler employers to provide specific information and protections to workers, handlers and other persons when pesticides are used on agricultural establishments in the production of agricultural plants. It also requires handlers to wear the labeling-specified clothing and personal protective equipment when performing handler activities, and to take measures to protect workers and other persons during pesticide applications.

§ 170.303 Applicability of this part.

(a) This regulation applies whenever a pesticide product bearing a label requiring compliance with this part is used in the production of agricultural plants on an agricultural establishment, except as provided in paragraphs (b) and (c) of this section.

(b) This regulation does not apply when a pesticide product bearing a label requiring compliance with this part is used on an agricultural establishment in any of the following circumstances:

(1) As part of government-sponsored public pest control programs over which the owner, agricultural employer and handler employer have no control, such as mosquito abatement and Mediterranean fruit fly eradication programs.

(2) On plants other than agricultural plants, which may include plants in home fruit and vegetable gardens and home greenhouses, and permanent plantings for ornamental purposes, such as plants that are in ornamental gardens, parks, public or private landscaping, lawns or other grounds that are intended only for aesthetic purposes or climatic modification.

(3) For control of vertebrate pests, unless directly related to the production of an agricultural plant.

(4) As attractants or repellents in traps.

(5) On the harvested portions of agricultural plants or on harvested timber.

(6) For research uses of unregistered pesticides.

(7) On pasture and rangeland where the forage will not be harvested for hay.

(8) In a manner not directly related to the production of agricultural plants, including, but not limited to structural pest control and control of vegetation in non-crop areas.

(c) Where a pesticide product's labeling-specific directions for use or other labeling requirements are inconsistent with requirements of this part, users must comply with the pesticide product labeling, except as provided for in §§ 170.601, 170.603 and 170.607.

§ 170.305 Definitions.

Terms used in this part have the same meanings they have in the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. In addition, the following terms, when used in this part, shall have the following meanings:

Agricultural employer means any person who is an owner of, or is responsible for the management or condition of, an agricultural establishment, and who employs any worker or handler.

Agricultural establishment means any farm, forest operation, or nursery engaged in the outdoor or enclosed space production of agricultural plants. An establishment that is not primarily agricultural is an agricultural establishment if it produces agricultural plants for transplant or use (in part or their entirety) in another location instead of purchasing the agricultural plants.

Agricultural plant means any plant, or part thereof, grown, maintained, or otherwise produced for commercial purposes, including growing, maintaining or otherwise producing plants for sale or trade, for research or experimental purposes, or for use in part or their entirety in another location. Agricultural plant includes, but is not limited to, grains, fruits and vegetables; wood fiber or timber products; flowering and foliage plants and trees; seedlings and transplants; and turf grass produced for sod. Agricultural plant does not include pasture or rangeland used for grazing.

Application exclusion zone means the area surrounding the application equipment that must be free of all persons other than appropriately trained and equipped handlers during pesticide applications.

Chemigation means the application of pesticides through irrigation systems.

Closed system means an engineering control used to protect handlers from pesticide exposure hazards when mixing and loading pesticides.

Commercial pesticide handler employer means any person, other than an agricultural employer, who employs any handler to perform handler activities on an agricultural establishment. A labor contractor who does not provide pesticide application services or supervise the performance of handler activities, but merely employs laborers who perform handler activities at the direction of an agricultural or handler employer, is not a commercial pesticide handler employer.

Commercial pesticide handling establishment means any enterprise, other than an agricultural establishment, that provides pesticide handler or crop advising services to agricultural establishments.

Crop advisor means any person who is assessing pest numbers, damage, pesticide distribution, or the status or requirements of agricultural plants.

Designated representative means any persons designated in writing by a worker or handler to exercise a right of access on behalf of the worker or handler to request and obtain a copy of the pesticide application and hazard information required by § 170.309(h) in accordance with § 170.311(b) of this part.

Early entry means entry by a worker into a treated area on the agricultural establishment after a pesticide application is complete, but before any restricted-entry interval for the pesticide has expired.

Employ means to obtain, directly or through a labor contractor, the services of a person in exchange for a salary or wages, including piece-rate wages, without regard to who may pay or who may receive the salary or wages. It includes obtaining the services of a self-employed person, an independent contractor, or a person compensated by a third party, except that it does not include an agricultural employer obtaining the services of a handler through a commercial pesticide handler employer or a commercial pesticide handling establishment.

Enclosed cab means a cab with a nonporous barrier that totally surrounds

the occupant(s) of the cab and prevents dermal contact with pesticides that are being applied outside of the cab.

Enclosed space production means production of an agricultural plant indoors or in a structure or space that is covered in whole or in part by any nonporous covering and that is large enough to permit a person to enter.

Fumigant means any pesticide product that is a vapor or gas, or forms a vapor or gas upon application, and whose pesticidal action is achieved through the gaseous or vapor state.

Hand labor means any agricultural activity performed by hand or with hand tools that causes a worker to have substantial contact with plants, plant parts, or soil and other surfaces that may contain pesticide residues, except that hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing crop advisor tasks.

Handler means any person, including a self-employed person, who is employed by an agricultural employer or commercial pesticide handler employer and performs any of the following activities:

(1) Mixing, loading, or applying pesticides.

(2) Disposing of pesticides.

(3) Handling opened containers of pesticides, emptying, triple-rinsing, or cleaning pesticide containers according to pesticide product labeling instructions, or disposing of pesticide containers that have not been cleaned. The term does not include any person who is only handling unopened pesticide containers or pesticide containers that have been emptied or cleaned according to pesticide product labeling instructions.

(4) Acting as a flagger.

(5) Cleaning, adjusting, handling, or repairing the parts of mixing, loading, or application equipment that may contain pesticide residues.

(6) Assisting with the application of pesticides.

(7) Entering an enclosed space after the application of a pesticide and before the inhalation exposure level listed in the labeling has been reached or one of the ventilation criteria established by § 170.405(b)(3) or the labeling has been met to operate ventilation equipment, monitor air levels, or adjust or remove coverings used in fumigation.

(8) Entering a treated area outdoors after application of any soil fumigant during the labeling-specified entry-restricted period to adjust or remove coverings used in fumigation.

(9) Performing tasks as a crop advisor during any pesticide application or restricted-entry interval, or before the inhalation exposure level listed in the pesticide product labeling has been reached or one of the ventilation criteria established by § 170.405(b)(3) or the pesticide product labeling has been met.

Handler employer means any person who is self-employed as a handler or who employs any handler.

Immediate family is limited to the spouse, parents, stepparents, foster parents, father-in-law, mother-in-law, children, stepchildren, foster children, sons-in-law, daughters-in-law, grandparents, grandchildren, brothers, sisters, brothers-in-law, sisters-in-law, aunts, uncles, nieces, nephews, and first cousins. ''First cousin'' means the child of a parent's sibling, *i.e.,* the child of an aunt or uncle.

Labor contractor means a person, other than a commercial pesticide handler employer, who employs workers or handlers to perform tasks on an agricultural establishment for an agricultural employer or a commercial pesticide handler employer.

Outdoor production means production of an agricultural plant in an outside area that is not enclosed or covered in any way that would obstruct the natural air flow.

Owner means any person who has a present possessory interest (*e.g.,* fee, leasehold, rental, or other) in an agricultural establishment. A person who has both leased such agricultural establishment to another person and granted that same person the right and full authority to manage and govern the use of such agricultural establishment is not an owner for purposes of this part.

Personal protective equipment means devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respirators, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.

Restricted-entry interval means the time after the end of a pesticide application during which entry into the treated area is restricted.

Safety data sheet has the same meaning as the definition at 29 CFR 1900.1200(c).

Treated area means any area to which a pesticide is being directed or has been directed.

Use, as in ''to use a pesticide'' means any of the following:

(1) Pre-application activities, including, but not limited to:

(i) Arranging for the application of the pesticide.

(ii) Mixing and loading the pesticide.

(iii) Making necessary preparations for the application of the pesticide, including responsibilities related to worker notification, training of workers or handlers, providing decontamination supplies, providing pesticide safety information and pesticide application and hazard information, use and care of personal protective equipment, providing emergency assistance, and heat stress management.

(2) Application of the pesticide.

(3) Post-application activities intended to reduce the risks of illness and injury resulting from handlers' and workers' occupational exposures to pesticide residues during and after the restricted-entry interval, including responsibilities related to worker notification, training of workers or early-entry workers, providing decontamination supplies, providing pesticide safety information and pesticide application and hazard information, use and care of personal protective equipment, providing emergency assistance, and heat stress management.

(4) Other pesticide-related activities, including, but not limited to, transporting or storing pesticides that have been opened, cleaning equipment, and disposing of excess pesticides, spray mix, equipment wash waters, pesticide containers, and other pesticide-containing materials.

Worker means any person, including a self-employed person, who is employed and performs activities directly relating to the production of agricultural plants on an agricultural establishment.

Worker housing area means any place or area of land on or near an agricultural establishment where housing or space for housing is provided for workers or handlers by an agricultural employer, owner, labor contractor, or any other person responsible for the recruitment or employment of agricultural workers.

§ 170.309 Agricultural employer duties.

Agricultural employers must:

(a) Ensure that any pesticide is used in a manner consistent with the pesticide product labeling, including the requirements of this part, when applied on the agricultural establishment.

(b) Ensure that each worker and handler subject to this part receives the protections required by this part.

(c) Ensure that any handler and any early entry worker is at least 18 years old.

(d) Provide to each person, including labor contractors, who supervises any workers or handlers information and directions sufficient to ensure that each

worker and handler receives the protections required by this part. Such information and directions must specify the tasks for which the supervisor is responsible in order to comply with the provisions of this part.

(e) Require each person, including labor contractors, who supervises any workers or handlers to provide sufficient information and directions to each worker and handler to ensure that they can comply with the provisions of this part.

(f) Provide emergency assistance in accordance with this paragraph. If there is reason to believe that a worker or handler has experienced a potential pesticide exposure during his or her employment on the agricultural establishment or shows symptoms similar to those associated with acute exposure to pesticides during or within 72 hours after his or her employment on the agricultural establishment, and needs emergency medical treatment, the agricultural employer must do all of the following promptly after learning of the possible poisoning or injury:

(1) Make available to that person transportation from the agricultural establishment, including any worker housing area on the establishment, to an operating medical care facility capable of providing emergency medical treatment to a person exposed to pesticides.

(2) Provide all of the following information to the treating medical personnel:

(i) Copies of the applicable safety data sheet(s) and the product name(s), EPA registration number(s) and active ingredient(s) for each pesticide product to which the person may have been exposed.

(ii) The circumstances of application or use of the pesticide on the agricultural establishment.

(iii) The circumstances that could have resulted in exposure to the pesticide.

(g) Ensure that workers or other persons employed by the agricultural establishment do not clean, repair, or adjust pesticide application equipment, unless trained as a handler under § 170.501. Before allowing any person not directly employed by the agricultural establishment to clean, repair, or adjust equipment that has been used to mix, load, transfer, or apply pesticides, the agricultural employer must provide all of the following information to such person:

(1) Pesticide application equipment may be contaminated with pesticides.

(2) The potentially harmful effects of exposure to pesticides.

(3) Procedures for handling pesticide application equipment and for limiting exposure to pesticide residues.

(4) Personal hygiene practices and decontamination procedures for preventing pesticide exposures and removing pesticide residues.

(h) Display, maintain, and provide access to pesticide safety information and pesticide application and hazard information in accordance with § 170.311 if workers or handlers are on the establishment and within the last 30 days a pesticide product has been used or a restricted-entry interval for such pesticide has been in effect on the establishment.

(i) Ensure that before a handler uses any equipment for mixing, loading, transferring, or applying pesticides, the handler is instructed in the safe operation of such equipment.

(j) Ensure that before each day of use, equipment used for mixing, loading, transferring, or applying pesticides is inspected for leaks, clogging, and worn or damaged parts, and any damaged equipment is repaired or replaced.

(k) Ensure that whenever handlers employed by a commercial pesticide handling establishment will be on an agricultural establishment, the handler employer is provided information about, or is aware of, the specific location and description of any treated areas on the agricultural establishment where a restricted-entry interval is in effect that the handler may be in (or may walk within ¼ mile of), and any restrictions on entering those areas.

(l) Ensure that workers do not enter any area on the agricultural establishment where a pesticide has been applied until the applicable pesticide application and hazard information for each pesticide product applied to that area is displayed in accordance with § 170.311(b), and until after the restricted-entry interval has expired and all treated area warning signs have been removed or covered, except for entry permitted by § 170.603 of this part.

(m) Provide any records or other information required by this part for inspection and copying upon request by an employee of EPA or any duly authorized representative of a Federal, State or Tribal government agency responsible for pesticide enforcement.

§ 170.311 Display requirements for pesticide safety information and pesticide application and hazard information.

(a) *Display of Pesticide Safety Information.* Whenever pesticide safety information and pesticide application and hazard information are required to be provided under § 170.309(h), pesticide safety information must be displayed in accordance with this paragraph.

(1) *General.* The pesticide safety information must be conveyed in a manner that workers and handlers can understand.

(2) *Content prior to January 1, 2018.* Prior to January 1, 2018, the safety information must include all of the following points:

(i) Help keep pesticides from entering your body. Avoid getting on your skin or into your body any pesticides that may be on plants and soil, in irrigation water, or drifting from nearby applications.

(ii) Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.

(iii) Wear work clothing that protects the body from pesticide residues (long-sleeved shirts, long pants, shoes and socks, and a hat or scarf).

(iv) Wash or shower with soap and water, shampoo hair, and put on clean clothes after work.

(v) Wash work clothes separately from other clothes before wearing them again.

(vi) Wash immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible, shower, shampoo, and change into clean clothes.

(vii) Follow directions about keeping out of treated or restricted areas.

(viii) The name, address, and telephone number of a nearby operating medical care facility capable of providing emergency medical treatment. This information must be clearly identified as emergency medical contact information on the display.

(ix) There are Federal rules to protect workers and handlers, including a requirement for safety training.

(3) *Content after January 1, 2018.* After January 1, 2018, the pesticide safety information must include all of the points in § 170.311(a)(3)(i)–(x) instead of the points listed in § 170.311(a)(2)(i)–(ix).

(i) Avoid getting on the skin or into the body any pesticides that may be on or in plants, soil, irrigation water, tractors, and other equipment, on used personal protective equipment, or drifting from nearby applications.

(ii) Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.

(iii) Wear work clothing that protects the body from pesticide residues (long-sleeved shirts, long pants, shoes and socks, and a hat or scarf).

(iv) Wash or shower with soap and water, shampoo hair, and put on clean clothes after work.

(v) Wash work clothes separately from other clothes before wearing them again.

(vi) If pesticides are spilled or sprayed on the body use decontamination supplies to wash immediately, or rinse off in the nearest clean water, including springs, streams, lakes or other sources if more readily available than decontamination supplies, and as soon as possible, wash or shower with soap and water, shampoo hair, and change into clean clothes.

(vii) Follow directions about keeping out of treated areas and application exclusion zones.

(viii) Instructions to employees to seek medical attention as soon as possible if they believe they have been poisoned, injured or made ill by pesticides.

(ix) The name, address, and telephone number of a nearby operating medical care facility capable of providing emergency medical treatment. This information must be clearly identified as emergency medical contact information on the display.

(x) The name, address and telephone number of the State or Tribal pesticide regulatory agency.

(4) *Changes to pesticide safety information.* The agricultural employer must update the pesticide safety information display within 24 hours of notice of any changes to the information required in §§ 170.311(a)(2)(viii) or 170.311(a)(3)(ix).

(5) *Location.* The pesticide safety information must be displayed at each of the following sites on the agricultural establishment:

(i) The site selected pursuant to § 170.311(b)(2) for display of pesticide application and hazard information.

(ii) Anywhere that decontamination supplies must be provided on the agricultural establishment pursuant to §§ 170.411, 170.509 or 170.605, but only when the decontamination supplies are located at permanent sites or being provided at locations and in quantities to meet the requirements for 11 or more workers or handlers.

(6) *Accessibility.* When pesticide safety information is required to be displayed, workers and handlers must be allowed access to the pesticide safety information at all times during normal work hours.

(7) *Legibility.* The pesticide safety information must remain legible at all times when the information is required to be displayed.

(b) *Keeping and displaying pesticide application and hazard information.* Whenever pesticide safety information and pesticide application and hazard information is required to be provided under § 170.309(h), pesticide application and hazard information for any pesticides that are used on the agricultural establishment must be displayed, retained, and made accessible in accordance with this paragraph.

(1) *Content.* The pesticide application and hazard information must include all of the following information for each pesticide product applied:

(i) A copy of the safety data sheet.

(ii) The name, EPA registration number, and active ingredient(s) of the pesticide product.

(iii) The crop or site treated and the location and description of the treated area.

(iv) The date(s) and times the application started and ended.

(v) The duration of the applicable labeling-specified restricted-entry interval for that application.

(2) *Location.* The pesticide application and hazard information must be displayed at a place on the agricultural establishment where workers and handlers are likely to pass by or congregate and where it can be readily seen and read.

(3) *Accessibility.* When the pesticide application and hazard information is required to be displayed, workers and handlers must be allowed access to the location of the information at all times during normal work hours.

(4) *Legibility.* The pesticide application and hazard information must remain legible at all times when the information is required to be displayed.

(5) *Timing.* The pesticide application and hazard information for each pesticide product applied must be displayed no later than 24 hours after the end of the application of the pesticide. The pesticide application and hazard information must be displayed continuously from the beginning of the display period until at least 30 days after the end of the last applicable restricted-entry interval, or until workers or handlers are no longer on the establishment, whichever is earlier.

(6) *Record retention.* Whenever pesticide safety information and pesticide application and hazard information is required to be displayed in accordance with this paragraph (b), the agricultural employer must retain the pesticide application and hazard information described in § 170.311(b)(1) on the agricultural establishment for two years after the date of expiration of the restricted-entry interval applicable to the pesticide application conducted.

(7) *Access to pesticide application and hazard information by a worker or handler.*

(i) If a person is or was employed as a worker or handler by an establishment during the period that particular pesticide application and hazard information was required to be displayed and retained for two years in accordance with §§ 170.311(b)(5) and 170.311(b)(6), and the person requests a copy of such application and/or hazard information, or requests access to such application and/or hazard information after it is no longer required to be displayed, the agricultural employer must provide the worker or handler with a copy of or access to all of the requested information within 15 days of the receipt of any such request. The worker or handler may make the request orally or in writing.

(ii) Whenever a record has been previously provided without cost to a worker or handler or their designated representative, the agricultural employer may charge reasonable, non-discriminatory administrative costs (*i.e.,* search and copying expenses but not including overhead expenses) for a request by the worker or handler for additional copies of the record.

(8) Access to pesticide application and hazard information by treating medical personnel. Any treating medical personnel, or any person acting under the supervision of treating medical personnel, may request, orally or in writing, access to or a copy of any information required to be retained for two years by § 170.311(b)(6) in order to inform diagnosis or treatment of a worker or handler who was employed on the establishment during the period that the information was required to be displayed. The agricultural employer must promptly provide a copy of or access to all of the requested information applicable to the worker's or handler's time of employment on the establishment after receipt of the request.

(9) *Access to pesticide application and hazard information by a designated representative.*

(i) Any worker's or handler's designated representative may request access to or a copy of any information required to be retained for two years by § 170.311(b)(6) on behalf of a worker or handler employed on the establishment during the period that the information was required to be displayed. The agricultural employer must provide access to or a copy of the requested information applicable to the worker's or handler's time of employment on the establishment within 15 days after receiving any such request, provided the request meets the requirements specified in § 170.311(b)(9)(ii).

(ii) A request by a designated representative for access to or a copy of any pesticide application and/or hazard

information must be in writing and must contain all of the following:

(A) The name of the worker or handler being represented.

(B) A description of the specific information being requested. The description should include the dates of employment of the worker or handler, the date or dates for which the records are requested, type of work conducted by the worker or handler (*e.g.,* planting, harvesting, applying pesticides, mixing or loading pesticides) during the period for which the records are requested, and the specific application and/or hazard information requested.

(C) A written statement clearly designating the representative to request pesticide application and hazard information on the worker's or handler's behalf, bearing the worker's or handler's printed name and signature, the date of the designation, and the printed name and contact information for the designated representative.

(D) If the worker or handler requests that the pesticide application and/or the hazard information be sent, direction for where to send the information (*e.g.,* mailing address or email address).

(iii) If the written request from a designated representative contains all of the necessary information specified in § 170.313(b)(9)(ii), the employer must provide a copy of or access to all of the requested information applicable to the worker's or handler's time of employment on the establishment to the designated representative within 15 days of receiving the request.

(iv) Whenever a record has been previously provided without cost to a worker or handler or their designated representative, the agricultural employer may charge reasonable, non-discriminatory administrative costs (*i.e.,* search and copying expenses but not including overhead expenses) for a request by the designated representative for additional copies of the record.

§ 170.313 Commercial pesticide handler employer duties.

Commercial pesticide handler employers must:

(a) Ensure that any pesticide is used in a manner consistent with the pesticide product labeling, including the requirements of this part, when applied on an agricultural establishment by a handler employed by the commercial pesticide handling establishment.

(b) Ensure each handler employed by the commercial pesticide handling establishment and subject to this part receives the protections required by this part.

(c) Ensure that any handler employed by the commercial pesticide handling establishment is at least 18 years old.

(d) Provide to each person, including labor contractors, who supervises any handlers employed by the commercial pesticide handling establishment, information and directions sufficient to ensure that each handler receives the protections required by this part. Such information and directions must specify the tasks for which the supervisor is responsible in order to comply with the provisions of this part.

(e) Require each person, including labor contractors, who supervises any handlers employed by the commercial pesticide handling establishment, to provide sufficient information and directions to each handler to ensure that the handler can comply with the provisions of this part.

(f) Ensure that before any handler employed by the commercial pesticide handling establishment uses any equipment for mixing, loading, transferring, or applying pesticides, the handler is instructed in the safe operation of such equipment.

(g) Ensure that, before each day of use, equipment used by their employees for mixing, loading, transferring, or applying pesticides is inspected for leaks, obstructions, and worn or damaged parts, and any damaged equipment is repaired or is replaced.

(h) Ensure that whenever a handler who is employed by a commercial pesticide handling establishment will be on an agricultural establishment, the handler is provided information about, or is aware of, the specific location and description of any treated areas where a restricted-entry interval is in effect, and the restrictions on entering those areas.

(i) Provide the agricultural employer all of the following information before the application of any pesticide on an agricultural establishment:

(1) Specific location(s) and description of the area(s) to be treated.

(2) The date(s) and start and estimated end times of application.

(3) Product name, EPA registration number, and active ingredient(s).

(4) The labeling-specified restricted-entry interval applicable for the application.

(5) Whether posting, oral notification or both are required under § 170.409.

(6) Any restrictions or use directions on the pesticide product labeling that must be followed for protection of workers, handlers, or other persons during or after application.

(j) If there are any changes to the information provided in § 170.313(i)(1), § 170.313(i)(4), § 170.313(i)(5), § 170.313(i)(6) or if the start time for the application will be earlier than originally forecasted or scheduled, ensure that the agricultural employer is provided updated information prior to the application. If there are any changes to any other information provided pursuant to § 170.313(i), the commercial pesticide handler employer must provide updated information to the agricultural employer within two hours after completing the application. Changes to the estimated application end time of less than one hour need not be reported to the agricultural employer.

(k) Provide emergency assistance in accordance with this paragraph. If there is reason to believe that a handler employed by the commercial pesticide handling establishment has experienced a potential pesticide exposure during his or her employment by the commercial pesticide handling establishment or shows symptoms similar to those associated with acute exposure to pesticides during or within 72 hours after his or her employment by the commercial pesticide handling establishment, and needs emergency medical treatment, the commercial pesticide handler employer must do all of the following promptly after learning of the possible poisoning or injury:

(1) Make available to that person transportation from the commercial pesticide handling establishment, or any agricultural establishment on which that handler may be working on behalf of the commercial pesticide handling establishment, to an operating medical care facility capable of providing emergency medical treatment to a person exposed to pesticides.

(2) Provide all of the following information to the treating medical personnel:

(i) Copies of the applicable safety data sheet(s) and the product name(s), EPA registration number(s) and active ingredient(s) for each pesticide product to which the person may have been exposed.

(ii) The circumstances of application or use of the pesticide.

(iii) The circumstances that could have resulted in exposure to the pesticide.

(l) Ensure that persons directly employed by the commercial pesticide handling establishment do not clean, repair, or adjust pesticide application equipment, unless trained as a handler under § 170.501. Before allowing any person not directly employed by the commercial pesticide handling establishment to clean, repair, or adjust equipment that has been used to mix, load, transfer, or apply pesticides, the commercial pesticide handler employer

must provide all of the following information to such persons:

(1) Notice that the pesticide application equipment may be contaminated with pesticides.

(2) The potentially harmful effects of exposure to pesticides.

(3) Procedures for handling pesticide application equipment and for limiting exposure to pesticide residues.

(4) Personal hygiene practices and decontamination procedures for preventing pesticide exposures and removing pesticide residues.

(m) Provide any records or other information required by this part for inspection and copying upon request by an employee of EPA or any duly authorized representative of a Federal, State or Tribal government agency responsible for pesticide enforcement.

§ 170.315 Prohibited actions.

No agricultural employer, commercial pesticide handler employer, or other person involved in the use of a pesticide to which this part applies, shall intimidate, threaten, coerce, or discriminate against any worker or handler for complying with or attempting to comply with this part, or because the worker or handler provided, caused to be provided or is about to provide information to the employer or the EPA or any duly authorized representative of a Federal, State or Tribal government regarding conduct that the worker or handler reasonably believes violates this part, has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing concerning compliance with this part, or has objected to, or refused to participate in, any activity, policy, practice, or assigned task that the worker or handler reasonably believed to be in violation of this part. Any such intimidation, threat, coercion, or discrimination violates FIFRA section 12(a)(2)(G), 7 U.S.C. 136j(a)(2)(G).

§ 170.317 Violations of this part.

(a) Under FIFRA section 12(a)(2)(G), it is unlawful for any person ''to use any registered pesticide in a manner inconsistent with its labeling.'' When this part is referenced on a label, users must comply with all of its requirements, except those that are inconsistent with product-specific instructions on the pesticide product labeling, except as provided for in §§ 170.601, 170.603 and 170.607.

(b) A person who has a duty under this part, as referenced on the pesticide product labeling, and who fails to perform that duty, violates FIFRA section 12(a)(2)(G) and is subject to a civil penalty under section 14. A person who knowingly violates section 12(a)(2)(G) is subject to section 14 criminal sanctions.

(c) FIFRA section 14(b)(4) provides that a person is liable for a penalty under FIFRA if another person employed by or acting for that person violates any provision of FIFRA. The term ''acting for'' includes both employment and contractual relationships, including, but not limited to, labor contractors.

(d) The requirements of this part, including the decontamination requirements, must not, for the purposes of section 653(b)(1) of Title 29 of the U.S. Code, be deemed to be the exercise of statutory authority to prescribe or enforce standards or regulations affecting the general sanitary hazards addressed by the OSHA Field Sanitation Standard, 29 CFR 1928.110, or other agricultural non-pesticide hazards.

■ 6. Subpart E is added to part 170 to read as follows:

Subpart E—Requirements for Protection of Agricultural Workers

Sec.

§ 170.401 Training requirements for workers.

(a) *General requirement.* Before any worker performs any task in a treated area on an agricultural establishment where within the last 30 days a pesticide product has been used or a restricted-entry interval for such pesticide has been in effect, the agricultural employer must ensure that each worker has been trained in accordance with this section within the last 12 months, except as provided in paragraph (b) of this section.

(b) *Exceptions.* The following workers need not be trained under this section:

(1) A worker who is currently certified as an applicator of restricted use pesticides under part 171 of this chapter.

(2) A worker who has satisfied the handler training requirements in § 170.501.

(3) A worker who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or the State or Tribal agency responsible for pesticide enforcement, provided that such certification or licensing requires pesticide safety training that includes all the topics in § 170.501(c)(2) or § 170.501(c)(3) as applicable depending on the date of training.

(c) *Training programs.* (1) Pesticide safety training must be presented to workers either orally from written materials or audio-visually, at a location that is reasonably free from distraction and conducive to training. All training materials must be EPA-approved. The training must be presented in a manner that the workers can understand, such as through a translator. The training must be conducted by a person who meets the worker trainer requirements of paragraph (c)(4) of this section, and who must be present during the entire training program and must respond to workers' questions.

(2) The training must include, at a minimum, all of the following topics:

(i) Where and in what form pesticides may be encountered during work activities.

(ii) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.

(iii) Routes through which pesticides can enter the body.

(iv) Signs and symptoms of common types of pesticide poisoning.

(v) Emergency first aid for pesticide injuries or poisonings.

(vi) How to obtain emergency medical care.

(vii) Routine and emergency decontamination procedures, including emergency eye flushing techniques.

(viii) Hazards from chemigation and drift.

(ix) Hazards from pesticide residues on clothing.

(x) Warnings about taking pesticides or pesticide containers home.

(xi) Requirements of this subpart designed to reduce the risks of illness or injury resulting from workers' occupational exposure to pesticides, including application and entry restrictions, the design of the warning sign, posting of warning signs, oral warnings, the availability of specific information about applications, and the protection against retaliatory acts.

(3) EPA intends to make available to the public training materials that may be used to conduct training conforming to the requirements of this section. Within 180 days after a notice of availability of such training materials appears in the **Federal Register**, but no earlier than January 1, 2018, training programs required under this section must include, at a minimum, all of the topics

listed in § 170.401(c)(3)(i)–(xxiii) instead of the topics listed in § 170.401(c)(2)(i)–(xi).

(i) The responsibility of agricultural employers to provide workers and handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes ensuring workers and handlers have been trained on pesticide safety, providing pesticide safety and application and hazard information, decontamination supplies and emergency medical assistance, and notifying workers of restrictions during applications and on entering pesticide treated areas. A worker or handler may designate in writing a representative to request access to pesticide application and hazard information.

(ii) How to recognize and understand the meaning of the posted warning signs used for notifying workers of restrictions on entering pesticide treated areas on the establishment.

(iii) How to follow directions and/or signs about keeping out of pesticide treated areas subject to a restricted-entry interval and application exclusion zones.

(iv) Where and in what forms pesticides may be encountered during work activities, and potential sources of pesticide exposure on the agricultural establishment. This includes exposure to pesticide residues that may be on or in plants, soil, tractors, application and chemigation equipment, or used personal protective equipment, and that pesticides may drift through the air from nearby applications or be in irrigation water.

(v) Potential hazards from toxicity and exposure that pesticides present to workers and their families, including acute and chronic effects, delayed effects, and sensitization.

(vi) Routes through which pesticides can enter the body.

(vii) Signs and symptoms of common types of pesticide poisoning.

(viii) Emergency first aid for pesticide injuries or poisonings.

(ix) Routine and emergency decontamination procedures, including emergency eye flushing techniques, and if pesticides are spilled or sprayed on the body to use decontamination supplies to wash immediately or rinse off in the nearest clean water, including springs, streams, lakes or other sources if more readily available than decontamination supplies, and as soon as possible, wash or shower with soap and water, shampoo hair, and change into clean clothes.

(x) How and when to obtain emergency medical care.

(xi) When working in pesticide treated areas, wear work clothing that protects the body from pesticide residues and wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.

(xii) Wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible after working in pesticide treated areas.

(xiii) Potential hazards from pesticide residues on clothing.

(xiv) Wash work clothes before wearing them again and wash them separately from other clothes.

(xv) Do not take pesticides or pesticide containers used at work to your home.

(xvi) Safety data sheets provide hazard, emergency medical treatment and other information about the pesticides used on the establishment they may come in contact with. The responsibility of agricultural employers to do all of the following:

(A) Display safety data sheets for all pesticides used on the establishment.

(B) Provide workers and handlers information about the location of the safety data sheets on the establishment.

(C) Provide workers and handlers unimpeded access to safety data sheets during normal work hours.

(xvii) The rule prohibits agricultural employers from allowing or directing any worker to mix, load or apply pesticides or assist in the application of pesticides unless the worker has been trained as a handler.

(xviii) The responsibility of agricultural employers to provide specific information to workers before directing them to perform early-entry activities. Workers must be 18 years old to perform early-entry activities.

(xix) Potential hazards to children and pregnant women from pesticide exposure.

(xx) Keep children and nonworking family members away from pesticide treated areas.

(xxi) After working in pesticide treated areas, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.

(xxii) How to report suspected pesticide use violations to the State or Tribal agency responsible for pesticide enforcement.

(xxiii) The rule prohibits agricultural employers from intimidating, threatening, coercing, or discriminating against any worker or handler for complying with or attempting to comply with the requirements of this rule, or because the worker or handler provided, caused to be provided or is about to provide information to the employer or the EPA or its agents regarding conduct that the employee reasonably believes violates this part, and/or made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing concerning compliance with this rule.

(4) The person who conducts the training must meet one of the following criteria:

(i) Be designated as a trainer of certified applicators, handlers or workers by EPA or the State or Tribal agency responsible for pesticide enforcement.

(ii) Have completed an EPA-approved pesticide safety train-the-trainer program for trainers of workers.

(iii) Be currently certified as an applicator of restricted use pesticides under part 171 of this chapter.

(d) *Recordkeeping.* (1) For each worker required to be trained under paragraph (a), the agricultural employer must maintain on the agricultural establishment, for two years from the date of the training, a record documenting each worker's training including all of the following:

(i) The trained worker's printed name and signature.

(ii) The date of the training.

(iii) Information identifying which EPA-approved training materials were used.

(iv) The trainer's name and documentation showing that the trainer met the requirements of § 170.401(c)(4) at the time of training.

(v) The agricultural employer's name.

(2) An agricultural employer who provides, directly or indirectly, training required under paragraph (a) must provide to the worker upon request a copy of the record of the training that contains the information required under § 170.401(d)(1).

§ 170.403 Establishment-specific information for workers.

Before any worker performs any activity in a treated area on an agricultural establishment where within the last 30 days a pesticide product has been used, or a restricted-entry interval for such pesticide has been in effect, the agricultural employer must ensure that the worker has been informed of, in a manner the worker can understand, all of the following establishment-specific information:

(a) The location of pesticide safety information required by § 170.311(a).

(b) The location of pesticide application and hazard information required by § 170.311(b).

(c) The location of decontamination supplies required by § 170.411.

§ 170.405 Entry restrictions associated with pesticide applications.

(a) *Outdoor production pesticide applications.* (1) The application exclusion zone is defined as follows:

(i) The application exclusion zone is the area that extends 100 feet horizontally from the application equipment in all directions during application when the pesticide is applied by any of the following methods:

(A) Aerially.

(B) Air blast application.

(C) As a spray using a spray quality (droplet spectrum) of smaller than medium (volume median diameter of less than 294 microns).

(D) As a fumigant, smoke, mist, or fog.

(ii) The application exclusion zone is the area that extends 25 feet horizontally from the application equipment in all directions during application when the pesticide is applied not as in § 170.405(a)(1)(i)(A)–(D) and is sprayed from a height of greater than 12 inches from the planting medium using a spray quality (droplet spectrum) of medium or larger (volume median diameter of 294 microns or greater).

(iii) There is no application exclusion zone when the pesticide is applied in a manner other than those covered in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(2) During any outdoor production pesticide application, the agricultural employer must not allow or direct any worker or other person, other than an appropriately trained and equipped handler involved in the application, to enter or to remain in the treated area or an application exclusion zone that is within the boundaries of the establishment until the application is complete.

(3) After the application is complete, the area subject to the labeling-specified restricted-entry interval and the post-application entry restrictions specified in § 170.407 is the treated area.

(b) *Enclosed space production pesticide applications.* (1) During any enclosed space production pesticide application described in column A of the Table under paragraph (b)(4) of this section, the agricultural employer must not allow or direct any worker or other person, other than an appropriately trained and equipped handler involved in the application, to enter or to remain in the area specified in column B of the Table under paragraph (b)(4) of this section during the application and until the time specified in column C of the Table under paragraph (b)(4) of this section has expired.

(2) After the time specified in column C of the Table under paragraph (b)(4) of this section has expired, the area subject to the labeling-specified restricted-entry interval and the post-application entry restrictions specified in § 170.407 is the area specified in column D of the Table under paragraph (b)(4) of this section.

(3) When column C of the Table under paragraph (b)(4) of this section specifies that ventilation criteria must be met, ventilation must continue until the air concentration is measured to be equal to or less than the inhalation exposure level required by the labeling. If no inhalation exposure level is listed on the labeling, ventilation must continue until after one of the following conditions is met:

(i) Ten air exchanges are completed.

(ii) Two hours of ventilation using fans or other mechanical ventilating systems.

(iii) Four hours of ventilation using vents, windows, or other passive ventilation.

(iv) Eleven hours with no ventilation followed by one hour of mechanical ventilation.

(v) Eleven hours with no ventilation followed by two hours of passive ventilation.

(vi) Twenty-four hours with no ventilation.

(4) The following Table applies to paragraphs (b)(1), (2), and (3) of this section.

TABLE—ENTRY RESTRICTIONS DURING ENCLOSED SPACE PRODUCTION PESTICIDE APPLICATIONS

A. When a pesticide is applied:	B. Workers and other persons, other than appropriately trained and equipped handlers, are prohibited in:	C. Until:	D. After the expiration of time specified in column C, the area subject to the restricted-entry interval is:
(1) As a fumigant	Entire enclosed space plus any adjacent structure or area that cannot be sealed off from the treated area.	The ventilation criteria of paragraph (b)(3) of this section are met.	No post-application entry restrictions required by § 170.407 after criteria in column C are met.
(2) As a (i) Smoke, or (ii) Mist, or (iii) Fog, or (iv) As a spray using a spray quality (droplet spectrum) of smaller than medium (volume median diameter of less than 294 microns).	Entire enclosed space	The ventilation criteria of paragraph (b)(3) of this section are met.	Entire enclosed space.
(3) Not as in (1) or (2), and for which a respiratory protection device is required for application by the pesticide product labeling.	Entire enclosed space	The ventilation criteria of paragraph (b)(3) of this section are met.	Treated area.
(4) Not as in (1), (2) or (3), and: (i) From a height of greater than 12 inches from the planting medium, or (ii) As a spray using a spray quality (droplet spectrum) of medium or larger (volume median diameter of 294 microns or greater).	Treated area plus 25 feet in all directions of the treated area, but not outside the enclosed space.	Application is complete	Treated area.
(5) Otherwise	Treated area	Application is complete	Treated area.

§ 170.407 Worker entry restrictions after pesticide applications.

(a) After the application of any pesticide to an area of outdoor production, the agricultural employer must not allow or direct any worker to enter or to remain in the treated area before the restricted-entry interval specified on the pesticide product labeling has expired and all treated area warning signs have been removed or covered, except for early-entry activities permitted by § 170.603.

(b) After the application of any pesticide to an area of enclosed space production, the agricultural employer must not allow or direct any worker to enter or to remain in the areas specified in column D of the Table in § 170.405(b)(4), before the restricted-entry interval specified on the pesticide product labeling has expired and all treated area warning signs have been removed or covered, except for early-entry activities permitted by § 170.603.

(c) When two or more pesticides are applied to a treated area at the same time, the applicable restricted-entry interval is the longest of all applicable restricted-entry intervals.

§ 170.409 Oral and posted notification of worker entry restrictions.

(a) *General Requirement.* The agricultural employer must notify workers of all entry restrictions required by §§ 170.405 and 170.407 in accordance with this section.

(1*) Type of notification required*—(i) *Double notification.* If the pesticide product labeling has a statement requiring both the posting of treated areas and oral notification to workers, the agricultural employer must post signs in accordance with paragraph (b) of this section and must also provide oral notification of the application to workers in accordance with paragraph (c) of this section.

(ii) *Outdoor production areas subject to restricted-entry intervals greater than 48 hours.* If a pesticide with product labeling that requires a restricted-entry interval greater than 48 hours is applied to an outdoor production area, the agricultural employer must notify workers of the application by posting warning signs in accordance with paragraph (b) of this section.

(iii) *Outdoor production areas subject to restricted-entry intervals equal to or less than 48 hours.* If a pesticide with product labeling that requires a restricted-entry interval equal to or less than 48 hours is applied to an outdoor production area, the agricultural employer must notify workers of the application either by posting warning signs in accordance with paragraph (b) of this section or by providing workers with an oral warning in accordance with paragraph (c) of this section.

(iv) *Enclosed space production areas subject to restricted-entry intervals greater than four hours.* If a pesticide with product labeling that requires a restricted-entry interval greater than four hours is applied to an enclosed space production area, the agricultural employer must notify workers of the application by posting warning signs in accordance with paragraph (b) of this section.

(v) *Enclosed space production areas subject to restricted-entry intervals equal to or less than four hours.* If a pesticide with product labeling that requires a restricted-entry interval equal to or less than four hours is applied to an enclosed space production area, the agricultural employer must notify workers of the application either by posting warning signs in accordance with paragraph (b) of this section or by providing workers with an oral warning in accordance with paragraph (c) of this section.

(2) *Exceptions.* Notification does not need to be given to a worker if the agricultural employer can ensure that one of the following is met:

(i) From the start of the application in an enclosed space production area until the end of any restricted-entry interval, the worker will not enter any part of the entire enclosed structure or space.

(ii) From the start of the application to an outdoor production area until the end of any restricted-entry interval, the worker will not enter, work in, remain in, or pass on foot through the treated area or any area within ¼ mile of the treated area on the agricultural establishment.

(iii) The worker was involved in the application of the pesticide as a handler, and is aware of all information required by paragraph (c)(1) of this section.

(b) *Requirements for posted warning signs.* If notification by posted warning signs is required pursuant to paragraph (a) of this section, the agricultural employer must, unless otherwise prescribed by the label, ensure that all warning signs meet the requirements of this paragraph. When several contiguous areas are to be treated with pesticides on a rotating or sequential basis, the entire area may be posted. Worker entry is prohibited for the entire area while the signs are posted, except for entry permitted by § 170.603 of this part.

(1) *General.* The warning signs must meet all of the following requirements:

(i) Be one of the three sizes specified in paragraph (b)(3) of this section and comply with the posting placement and spacing requirements applicable to that sign size.

(ii) Be posted prior to but no earlier than 24 hours before the scheduled application of the pesticide.

(iii) Remain posted throughout the application and any restricted-entry interval.

(iv) Be removed or covered within three days after the end of the application or any restricted-entry interval, whichever is later, except that signs may remain posted after the restricted-entry interval has expired as long as all of the following conditions are met:

(A) The agricultural employer instructs any workers on the establishment that may come within ¼ mile of the treated area not to enter that treated area while the signs are posted.

(B) The agricultural employer ensures that workers do not enter the treated area while the signs remain posted, other than entry permitted by § 170.603 of this part.

(v) Remain visible and legible during the time they are required to be posted.

(2) *Content.* (i) The warning sign must have a white background. The words ''DANGER'' and ''PELIGRO,'' plus ''PESTICIDES'' and ''PESTICIDAS,'' must be at the top of the sign, and the words ''KEEP OUT'' and ''NO ENTRE'' must be at the bottom of the sign. Letters for all words must be clearly legible. A circle containing an upraised hand on the left and a stern face on the right must be near the center of the sign. The inside of the circle must be red, except that the hand and a large portion of the face must be in white. The length of the hand must be at least twice the height of the smallest letters. The length of the face must be only slightly smaller than the hand. Additional information such as the name of the pesticide and the date of application may appear on the warning sign if it does not detract from the size and appearance of the sign or change the meaning of the required information. An example of a warning sign meeting these requirements, other than the size and color requirements, follows:

(ii) The agricultural employer may replace the Spanish language portion of the warning sign with equivalent terms in an alternative non-English language if that alternative language is the language read by the largest group of workers at that agricultural establishment who do not read English. The alternative language sign must be in the same format as the original sign and conform to all other requirements of paragraph (b)(2)(i) of this section.

(3) *Size and posting.* (i) The standard sign must be at least 14 inches by 16 inches with letters at least one inch in height.

(ii) When posting an outdoor production area using the standard sign, the signs must be visible from all reasonably expected points of worker entry to the treated area, including at least each access road, each border with any worker housing area within 100 feet of the treated area and each footpath and other walking route that enters the treated area. Where there are no reasonably expected points of worker entry, signs must be posted in the corners of the treated area or in any other location affording maximum visibility.

(iii) When posting an enclosed space production area using the standard sign and the entire structure or space is subject to the labeling-specified restricted-entry interval and the post-application entry restrictions specified in § 170.407, the signs must be posted so they are visible from all reasonably expected points of worker entry to the structure or space. When posting treated areas in enclosed space production using the standard sign and the treated area only comprises a subsection of the structure or space, the signs must be posted so they are visible from all reasonably expected points of worker entry to the treated area including each aisle or other walking route that enters the treated area. Where there are no reasonably expected points of worker entry to the treated area, signs must be posted in the corners of the treated area or in any other location affording maximum visibility.

(iv) If a smaller warning sign is used with ''DANGER'' and ''PELIGRO'' in letters at least 7/8 inch in height and the remaining letters at least 1/2 inch in height and a red circle at least three inches in diameter containing an upraised hand and a stern face, the signs must be posted no farther than 50 feet apart around the perimeter of the treated area in addition to the locations specified in paragraphs (b)(3)(ii) or (b)(3)(iii) of this section.

(v) If a smaller sign is used with ''DANGER'' and ''PELIGRO'' in letters at least 7/16 inch in height and the remaining letters at least 1/4 inch in height and a red circle at least one and a half inches in diameter containing an upraised hand and a stern face, the signs must be posted no farther than 25 feet apart around the perimeter of the treated area in addition to the locations specified in paragraphs (b)(3)(ii) or (b)(3)(iii) of this section.

(vi) A sign with ''DANGER'' and ''PELIGRO'' in letters less than 7/16 inch in height or with any words in letters less than 1/4 inch in height or a red circle smaller than one and a half inches in diameter containing an upraised hand and a stern face will not satisfy the requirements of the rule.

(c) *Oral warnings—Requirement.* If oral notification is required pursuant to paragraph (a) of this section, the agricultural employer must provide oral warnings to workers in a manner that the workers can understand. If a worker will be on the establishment when an application begins, the warning must be given before the application begins. If a worker arrives on the establishment while an application is taking place or a restricted-entry interval for a pesticide application is in effect, the warning must be given at the beginning of the worker's work period. The warning must include all of the following:

(1) The location(s) and description of any treated area(s) subject to the entry restrictions during and after application specified in §§ 170.405 and 170.407.

(2) The dates and times during which entry is restricted in any treated area(s) subject to the entry restrictions during and after application specified in §§ 170.405 and 170.407.

(3) Instructions not to enter the treated area or an application exclusion zone during application, and that entry to the treated area is not allowed until the restricted-entry interval has expired and all treated area warning signs have been removed or covered, except for entry permitted by § 170.603 of this part.

§ 170.411 Decontamination supplies for workers.

(a) *Requirement.* The agricultural employer must provide

decontamination supplies for routine washing and emergency decontamination in accordance with this section for any worker on an agricultural establishment who is performing an activity in an area where a pesticide was applied and who contacts anything that has been treated with the pesticide, including, but not limited to, soil, water, and plants.

(b) *Materials and quantities.* The decontamination supplies required in paragraph (a) of this section must include at least 1 gallon of water per worker at the beginning of each worker's work period for routine washing and emergency decontamination, soap, and single-use towels. The supplies must meet all of the following requirements:

(1) *Water.* At all times when this part requires agricultural employers to make water available to workers, the agricultural employer must ensure that it is of a quality and temperature that will not cause illness or injury when it contacts the skin or eyes or if it is swallowed. If a water source is used for mixing pesticides, it must not be used for decontamination, unless equipped with properly functioning valves or other mechanisms that prevent contamination of the water with pesticides, such as anti-backflow siphons, one-way or check valves, or an air gap sufficient to prevent contamination.

(2) *Soap and single-use towels.* The agricultural employer must provide soap and single-use towels for drying in quantities sufficient to meet the workers' reasonable needs. Hand sanitizing gels and liquids or wet towelettes do not meet the requirement for soap. Wet towelettes do not meet the requirement for single-use towels.

(c) *Timing.* (1) If any pesticide with a restricted-entry interval greater than four hours was applied, the decontamination supplies must be provided from the time workers first enter the treated area until at least 30 days after the restricted-entry interval expires.

(2) If the only pesticides applied in the treated area are products with restricted-entry intervals of four hours or less, the decontamination supplies must be provided from the time workers first enter the treated area until at least seven days after the restricted-entry interval expires.

(d) *Location.* The decontamination supplies must be located together outside any treated area or area subject to a restricted-entry interval, and must be reasonably accessible to the workers. The decontamination supplies must not be more than 1/4 mile from where workers are working, except that where workers are working more than 1/4 mile from the nearest place of vehicular access or more than 1/4 mile from any non-treated area, the decontamination supplies may be at the nearest place of vehicular access outside any treated area or area subject to a restricted-entry interval.

■ 7. Subpart F is added to part 170 to read as follows:

Subpart F—Requirements for Protection of Agricultural Pesticide Handlers

Sec.

§ 170.501 Training requirements for handlers.

(a) *General requirement.* Before any handler performs any handler activity involving a pesticide product, the handler employer must ensure that the handler has been trained in accordance with this section within the last 12 months, except as provided in paragraph (b) of this section.

(b) *Exceptions.* The following handlers need not be trained under this section:

(1) A handler who is currently certified as an applicator of restricted use pesticides under part 171 of this chapter.

(2) A handler who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or the State or Tribal agency responsible for pesticide enforcement, provided that a requirement for such certification or licensing is pesticide safety training that includes all the topics set out in § 170.501(c)(2) or § 170.501(c)(3) as applicable depending on the date of training.

(c) *Training programs.* (1) Pesticide safety training must be presented to handlers either orally from written materials or audio-visually, at a location that is reasonably free from distraction and conducive to training. All training materials must be EPA-approved. The training must be presented in a manner that the handlers can understand, such as through a translator. The training must be conducted by a person who meets the handler trainer requirements of paragraph (c)(4) of this section, and who must be present during the entire training program and must respond to handlers' questions.

(2) The pesticide safety training materials must include, at a minimum, all of the following topics:

(i) Format and meaning of information contained on pesticide labels and in labeling, including safety information such as precautionary statements about human health hazards.

(ii) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.

(iii) Routes by which pesticides can enter the body.

(iv) Signs and symptoms of common types of pesticide poisoning.

(v) Emergency first aid for pesticide injuries or poisonings.

(vi) How to obtain emergency medical care.

(vii) Routine and emergency decontamination procedures.

(viii) Need for and appropriate use of personal protective equipment.

(ix) Prevention, recognition, and first aid treatment of heat-related illness.

(x) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

(xi) Environmental concerns such as drift, runoff, and wildlife hazards.

(xii) Warnings about taking pesticides or pesticide containers home.

(xiii) Requirements of this subpart that must be followed by handler employers for the protection of handlers and other persons, including the prohibition against applying pesticides in a manner that will cause contact with workers or other persons, the requirement to use personal protective equipment, the provisions for training and decontamination, and the protection against retaliatory acts.

(3) EPA intends to make available to the public training materials that may be used to conduct training conforming to the requirements of this section. Within 180 days after a notice of availability of such training materials appears in the **Federal Register**, but no earlier than January 1, 2018, training programs required under this section must include, at a minimum, all of the topics listed in § 170.501(c)(3)(i)–(xiv) instead of the points listed in § 170.501(c)(2)(i)–(xiii).

(i) All the topics required by § 170.401(c)(3).

(ii) Information on proper application and use of pesticides.

(iii) Handlers must follow the portions of the labeling applicable to the safe use of the pesticide.

(iv) Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide.

(v) Need for and appropriate use and removal of all personal protective equipment.

(vi) How to recognize, prevent, and provide first aid treatment for heat-related illness.

(vii) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

(viii) Environmental concerns, such as drift, runoff, and wildlife hazards.

(ix) Handlers must not apply pesticides in a manner that results in contact with workers or other persons.

(x) The responsibility of handler employers to provide handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes providing, cleaning, maintaining, storing, and ensuring proper use of all required personal protective equipment; providing decontamination supplies; and providing specific information about pesticide use and labeling information.

(xi) Handlers must suspend a pesticide application if workers or other persons are in the application exclusion zone.

(xii) Handlers must be at least 18 years old.

(xiii) The responsibility of handler employers to ensure handlers have received respirator fit-testing, training and medical evaluation if they are required to wear a respirator by the product labeling.

(xiv) The responsibility of agricultural employers to post treated areas as required by this rule.

(4) The person who conducts the training must have one of the following qualifications:

(i) Be designated as a trainer of certified applicators or pesticide handlers by EPA or the State or Tribal agency responsible for pesticide enforcement.

(ii) Have completed an EPA-approved pesticide safety train-the-trainer program for trainers of handlers.

(iii) Be currently certified as an applicator of restricted use pesticides under part 171 of this chapter.

(d) *Recordkeeping.* (1) Handler employers must maintain records of training for handlers employed by their establishment for two years after the date of the training. The records must be maintained on the establishment and must include all of the following information:

(i) The trained handler's printed name and signature.

(ii) The date of the training.

(iii) Information identifying which EPA-approved training materials were used.

(iv) The trainer's name and documentation showing that the trainer met the requirements of § 170.501(c)(4) at the time of training.

(v) The handler employer's name.

(2) The handler employer must, upon request by a handler trained on the establishment, provide to the handler a copy of the record of the training that contains the information required under § 170.501(d)(1).

§ 170.503 Knowledge of labeling, application-specific, and establishment-specific information for handlers.

(a) *Knowledge of labeling and application-specific information.* (1) The handler employer must ensure that before any handler performs any handler activity involving a pesticide product, the handler either has read the portions of the labeling applicable to the safe use of the pesticide or has been informed in a manner the handler can understand of all labeling requirements and use directions applicable to the safe use of the pesticide.

(2) The handler employer must ensure that the handler has access to the applicable product labeling at all times during handler activities.

(3) The handler employer must ensure that the handler is aware of requirements for any entry restrictions, application exclusion zones and restricted-entry intervals as described in §§ 170.405 and 170.407 that may apply based on the handler's activity.

(b) *Knowledge of establishment-specific information.* Before any handler performs any handler activity on an agricultural establishment where within the last 30 days a pesticide product has been used, or a restricted-entry interval for such pesticide has been in effect, the handler employer must ensure that the handler has been informed, in a manner the handler can understand, all of the following establishment-specific information:

(1) The location of pesticide safety information required by § 170.311(a).

(2) The location of pesticide application and hazard information required by § 170.311(b).

(3) The location of decontamination supplies required by § 170.509.

§ 170.505 Requirements during applications to protect handlers, workers, and other persons.

(a) *Prohibition from contacting workers and other persons with pesticides during application.* The handler employer and the handler must ensure that no pesticide is applied so as to contact, directly or through drift, any worker or other person, other than an appropriately trained and equipped handler involved in the application.

(b) *Suspending applications.* After January 1, 2018, the handler performing the application must immediately suspend a pesticide application if any worker or other person, other than an appropriately trained and equipped handler involved in the application, is in the application exclusion zone described in § 170.405(a)(1) or the area specified in column B of the Table in § 170.405(b)(4).

(c) *Handlers using highly toxic pesticides.* The handler employer must ensure that any handler who is performing any handler activity with a pesticide product that has the skull-and-crossbones symbol on the front panel of the pesticide product label is monitored visually or by voice communication at least every two hours.

(d) *Fumigant applications in enclosed space production.* The handler employer must ensure all of the following:

(1) Any handler in an enclosed space production area during a fumigant application maintains continuous visual or voice contact with another handler stationed immediately outside of the enclosed space.

(2) The handler stationed outside the enclosed space has immediate access to and uses the personal protective equipment required by the fumigant labeling for applicators in the event that entry becomes necessary for rescue.

§ 170.507 Personal protective equipment.

(a) *Handler responsibilities.* Any person who performs handler activities involving a pesticide product must use the clothing and personal protective equipment specified on the pesticide product labeling for use of the product, except as provided in § 170.607 of this part.

(b) *Employer responsibilities for providing personal protective equipment.* The handler employer must provide to the handler the personal protective equipment required by the pesticide product labeling in accordance with this section. The handler employer must ensure that the personal protective equipment is clean and in proper operating condition. For the purposes of this section, long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, and socks are not considered personal protective equipment, although such work clothing must be worn if required by the pesticide product labeling.

(1) If the pesticide product labeling requires that ''chemical-resistant'' personal protective equipment be worn, it must be made of material that allows no measurable movement of the

pesticide being used through the material during use.

(2) If the pesticide product labeling requires that ''waterproof'' personal protective equipment be worn, it must be made of material that allows no measurable movement of water or aqueous solutions through the material during use.

(3) If the pesticide product labeling requires that a ''chemical-resistant suit'' be worn, it must be a loose-fitting, one- or two-piece chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.

(4) If the pesticide product labeling requires that ''coveralls'' be worn, they must be loose-fitting, one- or two-piece garments that cover, at a minimum, the entire body except head, hands, and feet.

(5) Gloves must be the type specified on the pesticide product labeling.

(i) Gloves made of leather, cotton, or other absorbent materials may not be worn while performing handler activities unless gloves made of these materials are listed as acceptable for such use on the pesticide product labeling.

(ii) Separable glove liners may be worn beneath chemical-resistant gloves, unless the pesticide product labeling specifically prohibits their use. Separable glove liners are defined as separate glove-like hand coverings, made of lightweight material, with or without fingers. Work gloves made from lightweight cotton or poly-type material are considered to be glove liners if worn beneath chemical-resistant gloves. Separable glove liners may not extend outside the chemical-resistant gloves under which they are worn. Chemical-resistant gloves with non-separable absorbent lining materials are prohibited.

(iii) If used, separable glove liners must be discarded immediately after a total of no more than 10 hours of use or within 24 hours of when first put on, whichever comes first. The liners must be replaced immediately if directly contacted by pesticide. Used glove liners must not be reused. Contaminated liners must be disposed of in accordance with any Federal, State, or local regulations.

(6) If the pesticide product labeling requires that ''chemical-resistant footwear'' be worn, one of the following types of footwear must be worn:

(i) Chemical-resistant shoes.

(ii) Chemical-resistant boots.

(iii) Chemical-resistant shoe coverings worn over shoes or boots.

(7) If the pesticide product labeling requires that ''protective eyewear'' be worn, one of the following types of eyewear must be worn:

(i) Goggles.

(ii) Face shield.

(iii) Safety glasses with front, brow, and temple protection.

(iv) Full-face respirator.

(8) If the pesticide product labeling requires that a ''chemical-resistant apron'' be worn, a chemical-resistant apron that covers the front of the body from mid-chest to the knees must be worn.

(9) If the pesticide product labeling requires that ''chemical-resistant headgear'' be worn, it must be either a chemical-resistant hood or a chemical-resistant hat with a wide brim.

(10) The respirator specified by the pesticide product labeling must be used. Whenever a respirator is required by the pesticide product labeling, the handler employer must ensure that the requirements of paragraphs (b)(10)(i) through (iii) of this section are met before the handler performs any handler activity where the respirator is required to be worn. The handler employer must maintain for two years, on the establishment, records documenting the completion of the requirements of paragraphs (b)(10)(i) through (iii) of this section.

(i) Handler employers must provide handlers with fit testing using the respirator specified on the pesticide product labeling in a manner that conforms to the provisions of 29 CFR 1910.134.

(ii) Handler employers must provide handlers with training in the use of the respirator specified on the pesticide product labeling in a manner that conforms to the provisions of 29 CFR 1910.134(k)(1)(i) through(vi).

(iii) Handler employers must provide handlers with a medical evaluation by a physician or other licensed health care professional that conforms to the provisions of 29 CFR 1910.134 to ensure the handler's physical ability to safely wear the respirator specified on the pesticide product labeling.

(c) *Use of personal protective equipment.* (1) The handler employer must ensure that personal protective equipment is used correctly for its intended purpose and is used according to the manufacturer's instructions.

(2) The handler employer must ensure that, before each day of use, all personal protective equipment is inspected for leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.

(d) *Cleaning and maintenance.* (1) The handler employer must ensure that all personal protective equipment is cleaned according to the manufacturer's instructions or pesticide product labeling instructions before each day of reuse. In the absence of any such instructions, it must be washed thoroughly in detergent and hot water.

(2) If any personal protective equipment cannot or will not be cleaned properly, the handler employer must ensure the contaminated personal protective equipment is made unusable as apparel or is made unavailable for further use by employees or third parties. The contaminated personal protective equipment must be disposed of in accordance with any applicable laws or regulations. Coveralls or other absorbent materials that have been drenched or heavily contaminated with a pesticide that has the signal word ''DANGER'' or ''WARNING'' on the label must not be reused and must be disposed of as specified in this paragraph. Handler employers must ensure that any person who handles contaminated personal protective equipment described in this paragraph wears the gloves specified on the pesticide product labeling for mixing and loading the product(s) comprising the contaminant(s) on the equipment. If two or more pesticides are included in the contaminants, the gloves worn must meet the requirements for mixing and loading all of the pesticide products.

(3) The handler employer must ensure that contaminated personal protective equipment is kept separate from non-contaminated personal protective equipment, other clothing or laundry and washed separately from any other clothing or laundry.

(4) The handler employer must ensure that all washed personal protective equipment is dried thoroughly before being stored or reused.

(5) The handler employer must ensure that all clean personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.

(6) The handler employer must ensure that when filtering facepiece respirators are used, they are replaced when one of the following conditions is met:

(i) When breathing resistance becomes excessive.

(ii) When the filter element has physical damage or tears.

(iii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.

(iv) In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

(7) The handler employer must ensure that when gas- or vapor-removing respirators are used, the gas- or vapor-removing canisters or cartridges are

replaced before further respirator use when one of the following conditions is met:

(i) At the first indication of odor, taste, or irritation.

(ii) When the maximum use time is reached as determined by a change schedule conforming to the provisions of 29 CFR 1910.134(d)(3)(iii)(B)(2).

(iii) When breathing resistance becomes excessive.

(iv) When required according to manufacturer's recommendations or pesticide product labeling instructions, whichever is more frequent.

(v) In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

(8) The handler employer must inform any person who cleans or launders personal protective equipment of all the following:

(i) That such equipment may be contaminated with pesticides and there are potentially harmful effects from exposure to pesticides.

(ii) The correct way(s) to clean personal protective equipment and how to protect themselves when handling such equipment.

(iii) Proper decontamination procedures that should be followed after handling contaminated personal protective equipment.

(9) The handler employer must ensure that handlers have a place(s) away from pesticide storage and pesticide use areas where they may do all of the following:

(i) Store personal clothing not worn during handling activities.

(ii) Put on personal protective equipment at the start of any exposure period.

(iii) Remove personal protective equipment at the end of any exposure period.

(10) The handler employer must not allow or direct any handler to wear home or to take home employer-provided personal protective equipment contaminated with pesticides.

(e) *Heat-related illness.* Where a pesticide's labeling requires the use of personal protective equipment for a handler activity, the handler employer must take appropriate measures to prevent heat-related illness.

§ 170.509 Decontamination and eye flushing supplies for handlers.

(a) *Requirement.* The handler employer must provide decontamination and eye flushing supplies in accordance with this section for any handler that is performing any handler activity or removing personal protective equipment at the place for changing required by § 170.507(d)(9).

(b) *General conditions.* The decontamination supplies required in paragraph (a) of this section must include: at least three gallons of water per handler at the beginning of each handler's work period for routine washing and potential emergency decontamination; soap; single-use towels; and clean clothing for use in an emergency. The decontamination and eye flushing supplies required in paragraph (a) of this section must meet all of the following requirements:

(1) *Water.* At all times when this section requires handler employers to make water available to handlers for routine washing, emergency decontamination or eye flushing, the handler employer must ensure that it is of a quality and temperature that will not cause illness or injury when it contacts the skin or eyes or if it is swallowed. If a water source is used for mixing pesticides, it must not be used for decontamination or eye flushing supplies, unless equipped with properly functioning valves or other mechanisms that prevent contamination of the water with pesticides, such as anti-backflow siphons, one-way or check valves, or an air gap sufficient to prevent contamination.

(2) *Soap and single-use towels.* The handler employer must provide soap and single-use towels for drying in quantities sufficient to meet the handlers' needs. Hand sanitizing gels and liquids or wet towelettes do not meet the requirement for soap. Wet towelettes do not meet the requirement for single-use towels.

(3) *Clean change of clothing.* The handler employer must provide one clean change of clothing, such as coveralls, for use in an emergency.

(c) *Location.* The decontamination supplies must be located together outside any treated area or area subject to a restricted-entry interval, and must be reasonably accessible to each handler during the handler activity. The decontamination supplies must not be more than 1/4 mile from the handler, except that where the handler activity is more than 1/4 mile from the nearest place of vehicular access or more than 1/4 mile from any non-treated area, the decontamination supplies may be at the nearest place of vehicular access outside any treated area or area subject to a restricted-entry interval.

(1) *Mixing sites.* Decontamination supplies must be provided at any mixing site.

(2) *Exception for pilots.* Decontamination supplies for a pilot who is applying pesticides aerially must be in the aircraft or at the aircraft loading site.

(3) *Exception for treated areas.* The decontamination supplies must be outside any treated area or area subject to a restricted-entry interval, unless the soap, single-use towels, water and clean change of clothing are protected from pesticide contamination in closed containers.

(d) *Emergency eye-flushing.* (1) Whenever a handler is mixing or loading a pesticide product whose labeling requires protective eyewear for handlers, or is mixing or loading any pesticide using a closed system operating under pressure, the handler employer must provide at each mixing/loading site immediately available to the handler, at least one system that is capable of delivering gently running water at a rate of least 0.4 gallons per minute for at least 15 minutes, or at least six gallons of water in containers suitable for providing a gentle eye-flush for about 15 minutes.

(2) Whenever a handler is applying a pesticide product whose labeling requires protective eyewear for handlers, the handler employer must provide at least one pint of water per handler in portable containers that are immediately available to each handler.

■ 8. Subpart G is added to part 170 to read as follows:

Subpart G—Exemptions, Exceptions and Equivalency

Sec.

§ 170.601 Exemptions.

(a) *Exemption for owners of agricultural establishments and their immediate families.* (1) On any agricultural establishment where a majority of the establishment is owned by one or more members of the same immediate family, the owner(s) of the establishment are not required to provide the protections of the following provisions to themselves or members of their immediate family when they are performing handling activities or tasks related to the production of agricultural plants that would otherwise be covered by this part on their own agricultural establishment.

(i) Section 170.309(c).

(ii) Section 170.309(f) through (j).

(iii) Section 170.311.

(iv) Section 170.401.
(v) Section 170.403.
(vi) Section 170.409.
(vii) Sections 170.411 and 170.509.
(viii) Section 170.501.
(ix) Section 170.503.
(x) Section 170.505(c) and (d).
(xi) Section 170.507(c) through (e).
(xii) Section 170.605(a) through (c) and (e) through (j).

(2) The owners of agricultural establishments must provide all of the applicable protections required by this part for any employees or other persons on the establishment that are not members of their immediate family.

(b) Exemption for certified crop advisors. Certified crop advisors may make their own determination for the appropriate personal protective equipment for entry into a treated area during a restricted-entry interval and substitute their self-determined set of personal protective equipment for the labeling-required personal protective equipment, and the requirements of §§ 170.309(e), 170.309(f), 170.313(k), 170.503(a), 170.507 and 170.509 of this part do not apply to certified crop advisors provided the application is complete and all of the following conditions are met:

(1) The crop advisor is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or a State or Tribal agency responsible for pesticide enforcement.

(2) The certification or licensing program requires pesticide safety training that includes all the information in § 170.501(c)(2) or § 170.501(c)(3) as applicable depending on the date of training.

(3) The crop advisor who enters a treated area during a restricted-entry interval only performs crop advising tasks while in the treated area.

§ 170.603 Exceptions for entry by workers during restricted-entry intervals.

An agricultural employer may direct workers to enter treated areas where a restricted-entry interval is in effect to perform certain activities as provided in this section, provided that the agricultural employer ensures all of the applicable conditions of this section and § 170.605 of this part are met.

(a) *Exception for activities with no contact.* A worker may enter a treated area during a restricted-entry interval if the agricultural employer ensures that all of the following conditions are met:

(1) The worker will have no contact with anything that has been treated with the pesticide to which the restricted-entry interval applies, including, but not limited to, soil, water, air, or surfaces of plants. This exception does not allow workers to perform any activities that involve contact with treated surfaces even if workers are wearing personal protective equipment.

(2) No such entry is allowed until any inhalation exposure level listed in the pesticide product labeling has been reached or any ventilation criteria required by § 170.405(b)(3) or the pesticide product labeling have been met.

(b) *Exception for short-term activities.* A worker may enter a treated area during a restricted-entry interval for short-term activities, if the agricultural employer ensures that all of the following requirements are met:

(1) No hand labor activity is performed.

(2) The time in treated areas where a restricted-entry interval is in effect does not exceed one hour in any 24-hour period for any worker.

(3) No such entry is allowed during the first 4 hours after the application ends.

(4) No such entry is allowed until any inhalation exposure level listed in the pesticide product labeling has been reached or any ventilation criteria required by § 170.405(b)(3) or the pesticide product labeling have been met.

(c) *Exception for an agricultural emergency.* (1) An agricultural emergency means a sudden occurrence or set of circumstances that the agricultural employer could not have anticipated and over which the agricultural employer has no control, that requires entry into a treated area during a restricted-entry interval, and when no alternative practices would prevent or mitigate a substantial economic loss. A substantial economic loss means a loss in profitability greater than that which would be expected based on the experience and fluctuations of crop yields in previous years. Only losses caused by the agricultural emergency specific to the affected site and geographic area are considered. Losses resulting from mismanagement cannot be included when determining whether a loss is substantial.

(2) A worker may enter a treated area where a restricted-entry interval is in effect in an agricultural emergency to perform tasks necessary to mitigate the effects of the agricultural emergency, including hand labor tasks, if the agricultural employer ensures that all the following criteria are met:

(i) The State department of agriculture, or the State or Tribal agency responsible for pesticide enforcement declares an agricultural emergency that applies to the treated area, or agricultural employer has determined that the circumstances within the treated area are the same as circumstances the State department of agriculture, or the State or Tribal agency responsible for pesticide enforcement has previously determined would constitute an agricultural emergency.

(ii) The agricultural employer determines that the agricultural establishment is subject to the circumstances that result in an agricultural emergency meeting the criteria of paragraph (c)(1) of this section.

(iii) If the labeling of any pesticide product applied to the treated area requires workers to be notified of the location of treated areas by both posting and oral notification, then the agricultural employer must ensure that no individual worker spends more than four hours out of any 24-hour period in treated areas where such a restricted-entry interval is in effect.

(iv) No such entry is allowed during the first 4 hours after the application ends.

(v) No such entry is allowed until any inhalation exposure level listed in the pesticide product labeling has been reached or any ventilation criteria required by § 170.405(b)(3) or the pesticide product labeling have been met.

(d) *Exceptions for limited contact and irrigation activities.* A worker may enter a treated area during a restricted-entry interval for limited contact or irrigation activities, if the agricultural employer ensures that all of the following requirements are met:

(1) No hand labor activity is performed.

(2) No worker is allowed in the treated area for more than eight hours in a 24-hour period.

(3) No such entry is allowed during the first 4 hours after the application ends.

(4) No such entry is allowed until any inhalation exposure level listed in the pesticide product labeling has been reached or any ventilation criteria required by § 170.405(b)(3) or the pesticide product labeling have been met.

(5) The task is one that, if not performed before the restricted-entry interval expires, would cause substantial economic loss, and there are no alternative tasks that would prevent substantial loss.

(6) With the exception of irrigation tasks, the need for the task could not have been foreseen.

(7) The worker has no contact with pesticide-treated surfaces other than

minimal contact with feet, lower legs, hands, and forearms.

(8) The labeling of the pesticide product that was applied does not require that workers be notified of the location of treated areas by both posting and oral notification.

§ 170.605 Agricultural employer responsibilities to protect workers entering treated areas during a restricted-entry interval.

If an agricultural employer directs a worker to perform activities in a treated area where a restricted-entry interval is in effect, all of the following requirements must be met:

(a) The agricultural employer must ensure that the worker is at least 18 years old.

(b) Prior to early entry, the agricultural employer must provide to each early-entry worker the information described in paragraphs (b)(1) through (8) of this section. The information must be provided orally in a manner that the worker can understand.

(1) Location of early-entry area where work activities are to be performed.

(2) Pesticide(s) applied.

(3) Dates and times that the restricted-entry interval begins and ends.

(4) Which exception in § 170.603 is the basis for the early entry, and a description of tasks that may be performed under the exception.

(5) Whether contact with treated surfaces is permitted under the exception.

(6) Amount of time the worker is allowed to remain in the treated area.

(7) Personal protective equipment required by the pesticide product labeling for early entry.

(8) Location of the pesticide safety information required by § 170.311(a) and the location of the decontamination supplies required by § 170.605(h).

(c) Prior to early entry, the agricultural employer must ensure that each worker either has read the applicable pesticide product labeling or has been informed, in a manner that the worker can understand, of all labeling requirements and statements related to human hazards or precautions, first aid, and user safety.

(d) The agricultural employer must ensure that each worker who enters a treated area during a restricted-entry interval is provided the personal protective equipment specified in the pesticide product labeling for early entry. The agricultural employer must ensure that the worker uses the personal protective equipment as intended according to manufacturer's instructions and follows any other applicable requirements on the pesticide product labeling. Personal protective equipment must conform to the standards in § 170.507(b)(1) through (9).

(e) The agricultural employer must maintain the personal protective equipment in accordance with § 170.507(c) and (d).

(f) The agricultural employer must ensure that no worker is allowed or directed to wear personal protective equipment without implementing measures sufficient to prevent heat-related illness and that each worker is instructed in the prevention, recognition, and first aid treatment of heat-related illness.

(g) The agricultural employer must instruct each worker on the proper use and removal of the personal protective equipment, and as appropriate, on its cleaning, maintenance and disposal. The agricultural employer must not allow or direct any worker to wear home or to take home employer-provided personal protective equipment contaminated with pesticides.

(h) During any early-entry activity, the agricultural employer must provide decontamination supplies in accordance with § 170.509, except the decontamination supplies must be outside any area being treated with pesticides or subject to a restricted-entry interval, unless the decontamination supplies would otherwise not be reasonably accessible to workers performing early-entry tasks.

(i) If the pesticide product labeling of the product applied requires protective eyewear, the agricultural employer must provide at least one pint of water per worker in portable containers for eyeflushing that is immediately available to each worker who is performing early-entry activities.

(j) At the end of any early-entry activities the agricultural employer must provide, at the site where the workers remove personal protective equipment, soap, single-use towels and at least three gallons of water per worker so that the workers may wash thoroughly.

§ 170.607 Exceptions to personal protective equipment requirements specified on pesticide product labeling.

(a) *Body protection.* (1) A chemical-resistant suit may be substituted for coveralls. If a chemical-resistant suit is substituted for coveralls, any labeling requirement for an additional layer of clothing beneath the coveralls is waived.

(2) A chemical-resistant suit may be substituted for coveralls and a chemical-resistant apron.

(b) *Boots.* If chemical-resistant footwear with sufficient durability and a tread appropriate for wear in rough terrain is not obtainable, then leather boots may be worn in such terrain.

(c) *Gloves.* If chemical-resistant gloves with sufficient durability and suppleness are not obtainable, then during activities with plants with sharp thorns, leather gloves may be worn over chemical-resistant glove liners. However, once leather gloves are worn for this use, thereafter they must be worn only with chemical-resistant liners and they must not be worn for any other use.

(d) *Closed systems.*(1) When pesticides are being mixed or loaded using a closed system that meets all of the requirements in paragraph (d)(2) of this section, and the handler employer meets the requirements of paragraph (d)(3) of this section, the following exceptions to labeling-specified personal protective equipment are permitted:

(i) Handlers using a closed system to mix or load pesticides with a signal word of ''DANGER'' or ''WARNING'' may substitute a long-sleeved shirt, long pants, shoes and socks, chemical-resistant apron, protective eyewear, and any protective gloves specified on the labeling for handlers for the labeling-specified personal protective equipment.

(ii) Handlers using a closed system to mix or load pesticides other than those specified in paragraph (d)(1)(i) of this section may substitute protective eyewear, long-sleeved shirt, long pants, and shoes and socks for the labeling-specified personal protective equipment.

(2) The exceptions of paragraph (d)(1) of this section apply only in the following situations:

(i) Where the closed system removes the pesticide from its original container and transfers the pesticide product through connecting hoses, pipes and couplings that are sufficiently tight to prevent exposure of handlers to the pesticide product, except for the negligible escape associated with normal operation of the system.

(ii) When loading intact, sealed, water soluble packaging into a mixing tank or system. If the integrity of a water soluble packaging is compromised (for example, if the packaging is dissolved, broken, punctured, torn, or in any way allows its contents to escape), it is no longer a closed system and the labeling-specified personal protective equipment must be worn.

(3) The exceptions of paragraph (d)(1) of this section apply only where the handler employer has satisfied the requirements of § 170.313 and all of the following conditions:

(i) Each closed system must have written operating instructions that are clearly legible and include: Operating procedures for use, including the safe removal of a probe; maintenance, cleaning and repair; known restrictions or limitations relating to the system, such as incompatible pesticides, sizes (or types) of containers or closures that cannot be handled by the system; any limits on the ability to measure a pesticide; and special procedures or limitations regarding partially-filled containers.

(ii) The written operating instructions for the closed system must be available at the mixing or loading site and must be made available to any handlers who use the system.

(iii) Any handler operating the closed system must be trained in its use and operate the closed system in accordance with its written operating instructions.

(iv) The closed system must be cleaned and maintained as specified in the written operating instructions and as needed to make sure the system functions properly.

(v) All personal protective equipment specified in the pesticide product labeling is immediately available to the handler for use in an emergency.

(vi) Protective eyewear must be worn when using closed systems operating under pressure.

(e) *Enclosed cabs.* (1) If a handler applies a pesticide from inside a vehicle's enclosed cab, and if the conditions listed in paragraph (e)(2) of this section are met, exceptions to the personal protective equipment requirements specified on the product labeling for applicators are permitted as provided in paragraph (e)(3) of this section.

(2) All of the personal protective equipment required by the pesticide product labeling for applicators must be immediately available and stored in a sealed container to prevent contamination. Handlers must wear the applicator personal protective equipment required by the pesticide product labeling if they exit the cab within a treated area during application or when a restricted-entry interval is in effect. Once personal protective equipment is worn in a treated area, it must be removed before reentering the cab to prevent contamination of the cab.

(3) Handlers may substitute a long-sleeved shirt, long pants, shoes and socks for the labeling-specified personal protective equipment for skin and eye protection. If a filtering facepiece respirator (NIOSH approval number prefix TC–84A) or dust/mist filtering respirator is required by the pesticide product labeling for applicators, then that respirator need not be worn inside the enclosed cab if the enclosed cab has a properly functioning air ventilation system which is used and maintained in accordance with the manufacture's written operating instructions. If any other type of respirator is required by the pesticide labeling for applicators, then that respirator must be worn.

(f) *Aerial applications*—(1) *Use of gloves.* The wearing of chemical-resistant gloves when entering or leaving an aircraft used to apply pesticides is optional, unless such gloves are required on the pesticide product labeling. If gloves are brought into the cockpit of an aircraft that has been used to apply pesticides, the gloves shall be kept in an enclosed container to prevent contamination of the inside of the cockpit.

(2) *Open cockpit.* Handlers applying pesticides from an open cockpit aircraft must use the personal protective equipment specified in the pesticide product labeling for use during application, except that chemical-resistant footwear need not be worn. A helmet may be substituted for chemical-resistant headgear. A helmet with a face shield lowered to cover the face may be substituted for protective eyewear.

(3) *Enclosed cockpit.* Persons occupying an enclosed cockpit may substitute a long-sleeved shirt, long pants, shoes, and socks for labeling-specified personal protective equipment.

(g) *Crop advisors.* (1) Provided the conditions of paragraphs (g)(2) through (g)(4) of this section are met, crop advisors and their employees entering treated areas to perform crop advising tasks while a restricted-entry interval is in effect may substitute either of the following sets of personal protective equipment for the personal protective equipment specified on the pesticide labeling for handler activities:

(i) The personal protective equipment specified on the pesticide product labeling for early entry.

(ii) Coveralls, shoes plus socks and chemical-resistant gloves made of any waterproof material, and eye protection if the pesticide product labeling applied requires protective eyewear for handlers.

(2) The application has been complete for at least four hours.

(3) No such entry is allowed until any inhalation exposure level listed in the pesticide product labeling has been reached or any ventilation criteria required by § 170.405(b)(3) or the pesticide product labeling have been met.

(4) The crop advisor or crop advisor employee who enters a treated area during a restricted-entry interval only performs crop advising tasks while in the treated area.

§ 170.609 Equivalency requests.

(a) States and Tribes that have promulgated worker protection regulations to protect agricultural workers and pesticide handlers from occupational pesticide exposure effective prior to January 1, 2016, have the option of requesting authority to continue implementing any provision(s) of the State's or Tribe's existing regulations that provides equivalent or greater protection in lieu of implementing any similar provision(s) in this part.

(b) States or Tribes must submit requests for the authority to continue implementing State or Tribal regulation provision(s) in lieu of any similar provision(s) in this part by *June 29, 2016.* The request must be in the form of a letter from the State or Tribe to EPA that includes all of the following:

(1) Identification of the provision(s) of this part for which the State or Tribe is requesting regulatory equivalency.

(2) Appropriate documentation establishing that the pertinent State or Tribal worker protection provision(s) provides environmental and human health protection that meets or exceeds the protections provided by the identified provision(s) in this part.

(3) Identification of any additional modifications to existing State or Tribal regulations that would be necessary in order to provide environmental and human health protection that meets or exceeds the similar provisions of this part, and an estimated timetable for the State or Tribe to effect these changes.

(4) The expected economic impact of requiring compliance with the requirement(s) of this part in comparison with compliance with the State or Tribal requirement(s), and an explanation of why it is important that employers subject to the State or Tribal authority comply with the State or Tribal requirement(s) in lieu of similar provision(s) in this part.

(5) The signature of the designated representative of the State or Tribal agency responsible for pesticide enforcement.

(c) EPA's Office of Pesticide Programs will review the State's or Tribe's letter and supporting materials and determine whether the State or Tribal provision(s) provide environmental and human health protection that meets or exceeds the comparable provision(s) of this part.

(d) EPA's Office of Pesticide Programs will inform the State or Tribe of its determination through a letter. The letter will either:

(1) Authorize the State or Tribe to continue implementing its worker protection regulatory provision(s) in lieu of the comparable provision(s) of this part; or

(2) Deny the State or Tribe authorization to continue implementing its worker protection regulatory provision(s) in lieu of the comparable provision(s) of this part and detail any reasons for declining authorization.

(e) *Subsequent revisions.* Any State or Tribe that has received authorization from EPA through the process outlined in this section to continue implementing its State or Tribal worker protection regulatory provision(s) must inform EPA by letter within six months of any revision to the State or Tribal worker protection laws or regulations. The letter must contain the same information outlined in paragraph (b) of this section. The State or Tribe may continue implementing provisions of its worker protection regulations identified under paragraph (b) of this section unless and until EPA informs the State or Tribe through a letter that EPA has determined that the State's or Tribe's worker protection regulations no longer provide environmental and human health protection that meets or exceeds the comparable provision(s) of this part based on the revisions.

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