

**Draft PR Notice 2009-X: Additional Information
and Questions for Commenters**

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I. Introduction

EPA's purpose in issuing draft Pesticide Registration (PR) Notice 2009-X is to provide guidance to registrants and applicants for registration on labeling statements concerning pesticide drift, and to inform the public of EPA's policies with regard to the prevention of pesticide drift. The draft PR Notice proposes labeling statements and formats intended to improve communication of drift management requirements to pesticide applicators and as a result, to improve protection of people and other non-target organisms and sites from potential adverse effects that may be caused by off-target pesticide drift. The recommended statements should appear on products whose application may result in drift.

The draft PR Notice contains two types of statements: (1) a general drift statement containing a risk-protective standard which varies according to product type, and (2) examples of product-specific drift use restrictions, along with a format for presenting these statements on product labeling. The draft PR Notice also informs registrants about the procedures they should use to amend their registrations to adopt these statements. The Agency believes the use of these statements and formats on labels will provide users consistent, understandable, and enforceable directions about how to protect human health and the environment from harm that might result from pesticide drift.

Along with draft PR Notice 2009-X, EPA is issuing for comment a draft "Pesticide Drift Labeling Interpretation" guidance document, which provides guidance to state and tribal officials about how EPA intends the new drift labeling statements to be interpreted, as well as typical examples of how the labeling could be interpreted in real-world spray drift cases.

This document, entitled "Draft PR Notice 2009-X: Additional Information and Questions for Commenters," contains background information on pesticide drift, and a description of current and planned EPA actions to address drift, including the PR Notice, guidance to state enforcement officials on interpreting the new labeling, information on best management practices to reduce drift, and EPA's drift reduction technology (DRT) project. This document also provides a reader's guide to the draft PR Notice, including a description of key terms and concepts, explanatory rationales, and specific questions on which EPA is seeking input from stakeholders.

II. Background

A. FIFRA and Its Requirements

In general, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) authorizes EPA to register each pesticide product intended for distribution or sale in the United States. To register a pesticide, the Agency must

determine that its use will not cause “unreasonable adverse effects on the environment” (See, e.g., FIFRA sec. 3(c)(5)). FIFRA defines that term to mean “any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide” or “a human dietary risk” that does not meet the safety standard in section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA) (FIFRA sec. 2(bb)). Assuming the pesticide meets the safety standard in section 408 of FFDCA, the “unreasonable adverse effects” standard requires EPA, in effect, to balance the risks of using a pesticide against its benefits. Pesticides are sold and distributed only if EPA determines that the benefits outweigh the risks. In making decisions on whether to register a pesticide, EPA considers the use directions on product labeling and evaluates data on product chemistry, human health, ecological effects, and environmental fate to determine the risks associated with the use(s) proposed by the applicants for registration and expressed on the labeling. Among other things, the Agency evaluates the potential risks posed by potential off-target drift of pesticide dusts and sprays.

EPA also reviews and approves the labeling of the proposed pesticide. Under FIFRA sec. 12(a)(2)(G) (FIFRA’s “misuse” provision), pesticide users are required to comply with the labeling instructions or risk being in violation of FIFRA and subject to enforcement action. Thus the approved pesticide labeling is the means by which EPA implements the risk mitigation measures identified through the risk assessment process, and ensures that the measures meet the statutory standards in FIFRA under actual use circumstances and commonly accepted practices.

Based on its risk assessment, EPA may require that labeling be revised, or that mitigation measures or restrictions be placed on the label to prevent unreasonable adverse effects (FIFRA sec. 2 (bb)). These measures may include, for example, limiting application rates, timing or frequency; extending pre-harvest intervals; restricting the application area to protect non-target species; requiring protection for applicators, workers or users against the hazards of pesticide exposure; or designating the product as a Restricted Use Pesticide (thus requiring training and certification of users).

Because risk minimization depends so fundamentally upon user compliance with pesticide labeling, EPA has the authority under FIFRA sections 12 and 14 to enforce (among other things) violations of the misuse provisions of the Act. Under section 26 of FIFRA, State Lead Agencies that meet certain fundamental program implementation criteria have primary investigation and enforcement authority for pesticide use violations.

B. EPA’s Pesticide Spray Drift Risk Assessment Process

Pesticides provide benefits to society by controlling pests. Those benefits accrue, for example, to the agricultural and industrial sectors for producing food

and feed crops; to those who manage forests, rangeland, and industrial sites; to state and local governments in maintaining recreational and municipal areas; and to homeowners in maintaining lawns and gardens. However, because pesticides are designed to affect pest species, pesticides may also be hazardous to people and other non-target organisms. EPA's Office of Pesticide Programs (OPP) is responsible for balancing the benefits that pesticides can provide with the potential risks that may result from their use.

Many pesticide applications result in at least some small droplets or dust particles that can be carried on air currents during or shortly after application. Because it is not always possible to completely eliminate the off-target drift of pesticide droplets or dust particles, some small amount of the pesticide product may be deposited away from the target application site. OPP as well as state regulatory officials, the pesticide industry, researchers, pesticide safety educators, and pesticide applicators must find ways to manage or minimize spray drift so pesticides can be applied without causing adverse effects, or the potential for adverse effects, to people, other non-target organisms, or the environment.

Many factors affect the amount of drift that occurs during a particular application. As discussed further below, the primary determinants of the amount of drift that will result from a pesticide application are the application method and amount of pesticide being applied, the wind speed, the height of the application equipment above the ground or crop canopy, and the size of the dust particles or spray droplets. The amount of drift that lands in an off-target area varies with the distance of that area from the intended application site. Off-target deposition of spray drift is usually highest immediately downwind and adjacent to the intended target of the application. The amount of spray drift deposition to a given area generally decreases with the distance from the application site.

Pesticide drift, even at low levels, may result in adverse effects on property, people, other non-target organisms, or the environments they inhabit or use. The absence of visible particles moving away from a treated area is not always enough to ensure that potentially harmful levels of spray drift are not occurring. Depending on the toxicity of the pesticide being applied and the sensitivity of the organism(s) being exposed, imperceptible levels of drift can have the potential to cause adverse effects. Some pesticides have the potential of causing adverse effects such as killing fish or other aquatic organisms, stunting plant growth, or disrupting reproduction in aquatic life and wildlife, depending on the level of exposure. Sometimes pesticides can cause adverse effects at concentrations that are too low to be measured with existing methods, or adverse effects which only become apparent after the pesticide has largely degraded or dissipated. The residues or toxic break-down products of pesticides that are slow to degrade may persist long after the time of application, resulting in unintended exposures and possible adverse effects. The characteristics of the site onto which pesticide residues deposit also can affect the nature and magnitude of potential risk. Drift onto residential or school property, endangered

species habitats, water bodies, or sensitive crops or other vegetation can be of concern because of the sensitivity of these types of sites.

As noted above, drift levels are affected by a range of factors related to weather and how the pesticide is applied. EPA relies on numerous existing studies that characterize the mechanisms and factors that cause and affect drift, including the method of application, wind velocity, droplet release height, and droplet or particle size distribution (see Unit II.C.1 for additional information on existing studies). A pesticide's application rate or amount applied also affects the amount of pesticide that may drift. Summary descriptions of the most important factors follow.

Application method: The method an applicator uses to apply a pesticide can affect the amount of pesticide that may drift. For example, the wake of fast moving aircraft has been shown to increase spray drift levels relative to slower ground boom sprayers. The application method can also affect the trajectory of droplets which affect spray drift levels. For instance, "booms" with downward pointing nozzles direct droplets toward the ground and may result in lower spray drift levels relative to application methods that use upward directed sprays, such as airblast sprayers used to spray trees.

Droplet size spectrum: Pesticide spray contains a range or spectrum of droplet sizes. All other factors being equal, the smaller droplets in the droplet size spectrum are more prone to drift, because smaller droplets have comparably smaller masses which allow them to be carried further by air currents. As a result the smaller droplets settle to the ground or drop more slowly than larger droplets. The difference in this settling velocity can be demonstrated by comparing the rate that a fine mist falls relative to larger drops of water such as water dripping from a faucet. A small drop (e.g., with a diameter of <math><50\ \mu\text{m}</math>, or about half the width of a human hair) can take several minutes or longer to fall ten feet in still air. The slower rate of falling allows for wind currents to move the droplet downwind, where it may deposit beyond the limits of the application site as spray drift.

Release height: The vertical distance from the nozzle tip where spray droplets are released to the specific target site (e.g., crop leaf or ground) is the release height. Lower release heights generally result in lower spray drift levels. Releasing droplets closer to the ground or crop increases the probability that a droplet will land in the target area and reduces the possibility that droplets will be moved off-target by air currents.

Wind speed: When pesticide applications occur in faster winds speeds, droplets generally move greater distances before depositing compared to the same application made during a lower speed wind. When droplets travel greater distances before depositing, the probability of droplets being blown off-target, increases.

Other factors: Scientists have identified other factors that affect drift levels, although these factors generally are less significant than those discussed above. Atmospheric stability is characterized by a lack of vertical mixing or turbulence in the air. Temperature inversions are extreme cases of atmospheric stability. The presence of ground-level fog can be used as a visual clue of atmospheric stability. Atmospheric stability at application sites has been linked with spray drift incidents under very slow wind speed, which is typical of a stable atmosphere. This is contrary to the general trend of lower levels of spray drift when applications are made during periods of slow wind speed. When air at an application site is particularly still, very small droplets may stay in a relatively concentrated cloud and slowly move off-target, where they may result in unintended exposures. Atmospheric stability occurs when the air temperature is coolest near the ground, and warms with increasing altitude. This condition prevents near-ground air from mixing with the air above it, and allows small droplets to remain in a concentrated cloud during and after the application. This cloud of droplets can move in unpredictable directions. Periods of low turbulence can occur at any time of day but are most common in the early morning, evening, and nighttime. Periods of stability can end when sunlight warms the ground, causing warm air to rise and mix with the air above it.

There are other factors that can affect spray drift directly or indirectly by affecting the above variables. Temperature, humidity, and the amount of water or other volatile substances in the sprayed material can influence droplet size through affecting evaporation from sprayed droplets. As water or other volatile substances evaporate from droplets suspended in the air, the droplets become smaller and more prone to drift. Crop geometry or the area being treated can affect drift levels. For instance, field studies submitted to EPA have demonstrated that different shapes and sizes of tree canopies can influence the amount of spray drift from orchard airblast applications.

In conducting spray drift risk assessments, EPA estimates the amount of off-target spray drift that may occur from applications of a pesticide, by considering information on the factors that contribute to drift along with the application information from the product's label. EPA generally uses the spray drift computer models AGDISP and AgDRIFT to estimate how much spray drift will occur when a pesticide is applied. Information about the development and review of these models is provided in Unit II.C.1. In general, model estimates are comparable with many hundreds of spray drift measurements collected under a wide range of conditions (see in Unit II.C.1 for a discussion of the FIFRA Scientific Advisory Panels (SAPs) on drift models, and for internet links to those SAP reviews). The spray drift levels predicted by AgDRIFT and AGDISP are used to estimate exposure to non-target organisms. Pesticide exposure estimates coupled with toxicological information for the pesticide, enables the Agency to characterize potential environmental risks for the labeled uses of the pesticide.

OPP routinely assesses spray drift exposure and risk to aquatic organisms and terrestrial plants in ecological risk assessments. OPP's ecological risk assessment methods are available on the internet (<http://www.epa.gov/pesticides/ecosystem/ecorisk.htm>) and describe how risks from spray drift and other routes of exposure are calculated. OPP also routinely estimates spray drift exposure to humans through its drinking water assessments, which include both runoff and spray drift for pesticide loadings to water bodies used as drinking water sources. The methods for these types of assessments are also available on the internet (<http://www.epa.gov/oppefed1/models/water/index.htm>). Ecological and drinking water risk assessments for specific pesticides are available in the individual public dockets for those pesticides (search under the pesticide name at <http://www.regulations.gov>). Bystander exposure to pesticide spray drift is assessed in instances where the Agency identifies a particular concern for people who may contact areas near pesticide applications. See, for example, http://www.epa.gov/pesticides/reregistration/azm/azm_remaining_uses.pdf.

C. EPA and Stakeholder Activities Addressing Drift

EPA recognizes the complexity of the technological, economic, health, and societal issues associated with pesticide drift. EPA, as well as other government agencies and the private sector, have invested substantially during the last two decades in improving the science, risk assessment methods, and understanding of the many technical, application, and enforcement issues relevant to drift. EPA and other public and private stakeholders have advocated the development and use of sound scientific information to evaluate the risks posed by pesticide drift and the use of modern strategies and technologies to enhance drift management. EPA and stakeholders have also emphasized the importance of applicator education, clear and enforceable product labeling, and effective federal and state enforcement to enhance drift management.

EPA collaborates and co-regulates with state pesticide regulatory agencies which are responsible for and perform compliance oversight and enforcement for spray drift incidents. EPA also partners with the United States Department of Agriculture (USDA), the pesticide industry, university researchers, regulatory agencies in other countries, and international organizations on new scientific and technological advances on drift management, and with pesticide educators and applicator organizations on education and training programs for applicators.

1. The Spray Drift Task Force (SDTF): Data Generation and Modeling

Since the 1990s, EPA has been actively engaged with stakeholders in the private and public sectors in efforts to improve the understanding of spray drift and to advance the implementation of sound application practices for drift

management. In 1990, recognizing commonalities in the characteristics of spray drift and the resulting exposures, as well as the efficiencies of encouraging industry-wide collaboration, EPA released PR Notice 90-3, dated April 6, 1990, and entitled "Announcing the Formation of an Industry-Wide Spray Drift Task Force" (http://www.epa.gov/opppmsd1/PR_Notices/pr90-3.htm). The SDTF, a consortia of the major agricultural pesticide manufacturers pooled resources, conducted basic research, and collected data that identified the chemical, physical, meteorological, and application factors affecting spray drift. The Agency uses the data produced by the SDTF, along with other information, to evaluate pesticide products in its registration and reregistration programs.

The SDTF, in collaboration with EPA and USDA through a Collaborative Research and Development Agreement (CRADA), also developed a model, AgDRIFT based on the existing AGDISP model (Teske M E, Bird S L, Esterly D M, Curbishly T B, Ray S L, Perry S G. 2002. AgDISP: A model for estimating near-field spray drift from aerial applications. *Environmental Toxicology and Chemistry* 21(3):659-671), to provide reliable estimates of spray drift deposition under different pesticide application and meteorological conditions. The Agency reviewed these new estimates produced by AgDRIFT, and estimates by its predecessor model AGDISP, which was developed by the USDA Forest Service (see <http://www.fs.fed.us/foresthealth/technology/equip.shtml>). EPA also considered scientific reports from the open literature and a data set from Germany. EPA's evaluation of these models, scientific reports and data were peer reviewed in 1997 (http://www.epa.gov/scipoly/sap/meetings/1997/121097_mtg.htm) and 1999 (http://www.epa.gov/scipoly/sap/meetings/1999/072099_mtg.htm) by independent scientific experts, including the FIFRA SAP. These independent scientists generally agreed with the Agency's conclusions regarding the data and the usefulness of AgDRIFT. Since then EPA has reviewed additional scientific studies on spray drift published in the open literature and presented at conferences by a variety of domestic and foreign institutions, including governmental, academic, and industrial organizations. EPA has also collaborated with the pesticide industry and USDA to enhance the predictive models for use in its risk assessments that support pesticide registration programs (see <http://www.epa.gov/pesticides/ecosystem/ecorisk.htm> and <http://www.epa.gov/oppefed1/models/water/index.htm>).

2. The National Coalition on Drift Minimization (NCDM)

In 1996, the National Coalition on Drift Minimization organized with the following unifying vision:

Individuals and organizations involved with the application of pesticides will continually work towards reducing spray drift from pesticide applications and from application sites by making informed, sound decisions. Applicators, manufacturers, dealers, consultants/advisors,

growers, government agencies, universities, and others will promote and/or avail themselves of educational opportunities on drift reduction (minimization) strategies, including the use of new technology, practices, and required use restrictions.

Its membership comprised individuals and representative organizations of product manufacturers and distributors, university agricultural engineers, state lead pesticide regulatory agencies, aerial and ground applicators, and federal agencies, including the USDA and EPA.

This group called for a comprehensive national approach to drift management that would include the most effective technological, regulatory, and educational approaches. For the last two decades, the Agency has sustained a commitment to this comprehensive approach to prevent or minimize pesticide drift.

3. Draft PR Notice 2001-X

In 2001, EPA released draft PR Notice 2001-X (66 FR 44141) to provide comprehensive guidance for pesticide drift labeling, focusing on proposed changes to generic pesticide drift label language statements. Among other elements, the proposed guidance recommended labeling statements that would have established specific limitations on the application of the product to manage drift.

EPA received numerous comments from a wide variety of stakeholders who presented diverse opinions on various aspects of the proposal. For example, many commenters opposed the proposal's recommendation to include in product labeling any specific restrictions on the application, such as limits on wind velocity and boom or release height, or to set specific maximum values for these limits (e.g., 10 mph and 4 feet above the crop canopy). EPA also received comments from stakeholders favoring stronger and more well-defined labeling restrictions, to facilitate the States' capabilities to exercise their enforcement responsibilities. Some of these commenters argued that, in some situations, EPA's proposed labeling statements would not be sufficiently restrictive to prevent adverse effects from pesticide drift.

Draft PR Notice 2001-X was not finalized. EPA considered the public comments on draft PR Notice 2001-X in developing the current draft PR Notice 2009-X. The draft PR Notice 2001-X published before the Agency's electronic internet-based docket system was established. Therefore, the comments concerning the 2001 draft PR Notice are only available in hard copy format through the OPP Public Regulatory Docket, under docket number OPP-00730A (for information on how to access documents in OPP's docket, see <http://www.epa.gov/pesticides/docket/>).

4. The Interplay Between the Clean Water Act and FIFRA

On August 13, 2003, EPA's Office of Water published an Interim Statement presenting the Agency's position on two circumstances in which pesticides applied to waters of the United States are not "pollutants" under the Clean Water Act (CWA) and thus do not require National Pollutant Discharge Elimination System (NPDES) permits. The two circumstances were (1) the application of pesticides directly to water in order to control pests (e.g., aquatic plants, or mosquito larvae); and (2) the application of pesticides to control pests that are present over water that result in a portion of the pesticides being deposited to waters of the United States (e.g., insecticides aerially applied to forest canopies). Collectively, these pesticides were referred to as "aquatic pesticides." On February 1, 2005, the Agency published a final Interpretive Statement and proposed a rule to incorporate the substance of the Interpretive Statement into EPA regulations whereby NPDES permits were not required under two circumstances where (1) the application of pesticides directly to water in order to control pests (e.g., aquatic plants, or mosquito larvae); and (2) the application of pesticides to control pests that are present over, including near water, where a portion of the pesticides will unavoidably be deposited to the water in order to target the pests (e.g., applications to forest canopies, or to control adult mosquitoes). The final Aquatic Pesticides rule was published on November 27, 2006 (71 FR 68483).¹

In the preamble to the final rule EPA stated that the rule does not address drift over and into waters of the United States from pesticide applications to land. EPA also stated that it had established a multi-stakeholder workgroup under the Pesticide Program Dialogue Committee to explore policy issues relating to the terrestrial application of pesticides that may drift into aquatic environments.

5. The Pesticide Program Dialogue Committee (PPDC)

¹ The final rule was challenged and on January 7, 2009, the U.S. Court of Appeals for the 6th Circuit held that the rule was not a reasonable interpretation of the CWA and vacated the final rule. National Cotton Council of America, et al., v. EPA 553 F.3d 927 (6th Cir. 2009). The Court found that the CWA unambiguously includes pesticides within its definition of "pollutant" and that the plain language of "chemical waste" and "biological materials" is unambiguous as to pesticides. The Court reasoned that if there was any excess or residue after performing its intended purpose, a chemical pesticide would be considered a pollutant under the CWA. The Court also found that "biological materials" cannot be read to exclude biological pesticides or their residuals because Congress purposefully included the term "biological materials," rather than a more limited term such as "biological wastes." On April 9, 2009, the government filed a motion asking the Court to stay issuance of its mandate for two years in order to provide time for the Agency to develop, propose and issue a final NPDES general permit for pesticide applications covered under the decision. The Court granted the government's request and stayed its mandate until April 2011. In addition, other parties in the 6th Circuit proceeding filed petitions asking the full Court of Appeals to rehear the case, as well as to stay the issuance of the mandate. On August 3, 2009 the Court denied Petitioners' request for rehearing en banc. The Petitioners' have until November 6, 2009 to file a petition to seek certiorari before the Supreme Court.

The PPDC was established in 1995 under the Federal Advisory Committee Act (FACA). The PPDC provides a forum for a diverse group of stakeholders to provide feedback to EPA's pesticide program on various pesticide regulatory, policy and program implementation issues. The PPDC's members represent environmental and public interest groups, pesticide manufacturers and trade associations, user and commodity groups, public health and academic institutions, Federal, tribal, and State agencies, and the general public. The PPDC has met two to three times a year since 1995, and all meetings are open to the public. Background materials along with a summary of each meeting held to date can be found at <http://www.epa.gov/pesticides/ppdc>.

As stated in the NPDES final rule, the Agency in March 2006 convened a workgroup of the PPDC to provide recommendations to EPA on mitigating risks to water from pesticide spray drift. The workgroup included representation from a wide array of groups with interest in agriculture and pesticide use, including pesticide manufacturers and distributors, pesticide applicators, academia, advocacy organizations, and state government. The Agency envisioned that the PPDC spray drift workgroup would provide advice to EPA through the PPDC regarding pesticides that are applied in accordance with relevant FIFRA requirements that may reach and enter waters of the United States, including drift of pesticides applied aerially over land.

The goals of the spray drift workgroup were to: (1) improve understanding of the perspectives of all stakeholders regarding pesticide spray drift; (2) find common ground for further work toward minimizing both the occurrence and potential adverse effects of pesticide spray drift; (3) develop options for undertaking work where common ground exists; and (4) explore the extent of drift, even with proper usage, and the range and effectiveness of potential responses to unacceptable levels of off-target drift.

The spray drift workgroup met five times in 2006 and focused on labeling to mitigate spray drift; the role of education, training and stewardship; and practices and equipment to reduce drift and prevent potential adverse effects. The workgroup presented its final report on May 8, 2007 (<http://www.epa.gov/oppfead1/cb/ppdc/2007/may2007/session1-spraydrift.pdf>). The report recommended that EPA (1) standardize pesticide drift labeling across products using concise, clear, enforceable statements; (2) continue and expand applicator education and training, and community outreach programs; (3) explore establishing performance standards for pesticide application equipment and practices to minimize drift, including continuing support for its Drift Reduction Technology project (see Unit III.C); (4) work with states to tailor regulatory restrictions to local conditions; and (5) strengthen the collection, use, and public availability of information on real-world outcomes of drift labeling, to evaluate its effectiveness in preventing harm from spray drift.

To address the PPDC's recommendations, OPP developed an action plan that includes developing a suite of new documents with the goal of improving spray drift mitigation, communication, and understanding. The development of the current draft PR Notice 2009-X on pesticide drift labeling directly responds to one of the spray drift workgroup's recommendations to develop standardized guidance to users on how to manage drift. In addition to the draft PR Notice, OPP has also developed, with EPA's Office of Enforcement and Compliance Assurance (OECA) and state pesticide regulatory lead agencies (SLAs), a proposed companion document that provides enforcement guidance to States. OPP will also draft one or more Standard Operating Procedures (SOPs) for conducting risk assessments for spray drift. A completion date for the SOPs is still under consideration by EPA.

D. State Enforcement Concerns and Actions

Under sections 26 and 27 of FIFRA, States, tribes, and territories have primary enforcement responsibility for pesticide label use violations. EPA Regional Offices enter into cooperative agreements with the States and tribes, in order to provide EPA guidance to ensure consistency of a national program. The Association of American Pesticide Control Officials (AAPCO), which represents SLAs, has conducted and shared results from state drift incident investigations and national surveys of drift-related enforcement actions taken by SLAs. These surveys suggest that drift is a national issue and that responding to drift incidents has constituted a significant portion of many States' pesticide complaint investigation activities every year. Survey results indicate that drift complaints and violations occur not from just one type of application method, but from ground, aerial, and other types of applications. Additionally, the surveys suggest that unacceptable illegal drift occurs as often in urban/suburban settings as in rural locations.

Of particular note is the survey (<http://aapco.ceris.purdue.edu/htm/survey.htm>) finding that pesticide enforcement actions are taken by SLAs for only about one-third of the total SLA investigation cases, and that States have steadily been adopting State-specific drift regulations and prohibitions over the 10 years of the survey period. SLAs have pointed to the lack of clear and enforceable pesticide product label language as a primary reason for being unable or unwilling to take an enforcement action even when drift is well-documented. States also cite the inadequacy (or total lack) of drift prohibition language on some labels as the reason for passage of state drift regulations. In addition, overly restrictive drift language on some labels has on occasion caused SLAs to respond to situations where drift did not and could not have caused an adverse effect.

Over 20 years of experience responding to drift complaints has demonstrated to the SLAs that trying to write a standard set of pesticide application specifications for all product labels may not be appropriate or practical for the range of application situations that exist nationwide. However,

SLAs unanimously recognized the real need for clearer, more concise, consistent, and understandable pesticide labeling that is protective of non-target environments, while also being sufficiently clear, flexible and practical so that applications can be performed by pesticide applicators. Ultimately, the labeling must be enforceable by a pesticide regulator. SLA representatives as co-regulators have participated in the development of draft PR Notice 2009-X to provide state perspectives on how to improve drift labeling.

E. International Context: How Other Countries Have Addressed Drift

Pesticide drift management is an important and active issue in most developed countries. EPA collaborates with foreign governments on spray drift and many other pesticide-related issues as many countries have similar technical information, interests, challenges, and goals. The collaboration facilitates sharing of new technical information, drift assessment and management practices, and regulatory approaches between EPA and foreign regulatory agencies. Many countries, including the United States, use the same or similar spray drift data bases, models for estimating spray drift deposition, and approaches to risk assessment and management.

Like EPA, a number of other developed countries have drafted or instituted spray drift management guidance or requirements for pesticide applicators. Canada's Pest Management Regulatory Agency issued an Agricultural Buffer Zone Strategy Proposal in 2005 and the Australian Pesticides and Veterinary Medicines Authority issued draft labeling guidance in 2008. Both of these countries' documents recognize the importance of and include limits on wind velocity, boom height, and spray quality (droplet size). They also use buffer zones for drift management. In the European Community, a number of countries, such as the United Kingdom, Germany, and the Netherlands, have similar requirements for drift management and testing of application equipment.

Several international fora are devoted to technical and regulatory approaches to drift management. Member countries of the Organization for Economic Cooperation and Development's (OECD) Working Group on Pesticides, including the United States, are considering options for working together on aspects of drift management.

III. Current and Planned EPA Actions

A. Draft PR Notice 2009-X on Pesticide Drift Labeling

Draft PR Notice 2009-X provides EPA's guidance on revising pesticide labeling for spray and dust drift to minimize off-target movement and deposition and to protect people, other non-target organisms, and the environment from adverse effects that may be caused by pesticide drift. The development of a new

spray drift PR Notice was one of the main recommendations provided to the Agency by the PPDC. Implementation of the proposed guidance by pesticide product registrants will improve the consistency, clarity, and enforceability of pesticide drift labeling.

B. EPA Guidance to Help Enforcement Officials Interpret the Labeling in the Draft PR Notice

EPA, in collaboration with SLAs, has developed, and is making available for public comment, a draft document entitled “Pesticide Drift Labeling Interpretation.” This document explains how EPA intends the general drift statements contained in draft PR Notice 2009-X to be interpreted. The document is intended primarily as an aid to officials in the state and tribal pesticide regulatory agencies responsible for enforcing compliance by users with the requirements in pesticide labeling. The document therefore provides over a dozen examples of typical scenarios in which enforcement staff respond to a complaint alleging pesticide drift. These scenarios illustrate how the new labeling statements may be implemented for different kinds of pesticides used in different application situations, such as herbicide drift onto an adjacent crop field, or insecticide drift onto an adjacent backyard or nearby water body. For each example, the document discusses the kinds of evidence collected, how the evidence should be evaluated against the proposed general drift statement, and whether or not the evidence could show a violation of that labeling statement. The labeling interpretation should result in increased consistency across States and regions in regard to regulatory compliance.

The Agency notes that it intends to review public comments on the proposed draft PR Notice and Drift Labeling Interpretation; as appropriate, to revise both documents; and to re-issue both documents.

Finally, with drift labeling, as with all pesticide labeling, the opportunity for SLAs to discuss issues and enforcement responses with EPA will continue to be available through the State FIFRA Issues Research and Evaluation Group (SFIREG) (<http://aapco.ceris.purdue.edu/htm/sfireg.htm>).

C. EPA’s Drift Reduction Technology Project

OPP and the Agency’s Office of Research and Development are currently developing a new voluntary program, the Drift Reduction Technology (DRT) Program, which encourages the development, marketing, and use of application technologies verified to significantly reduce spray drift. The Agency expects the DRT Program to be operative by 2010. The DRT Program will enable manufacturers of pesticide application technologies (e.g., spray nozzles) to voluntarily test their technologies to verify drift reduction potential. EPA intends to encourage pesticide registrants to include use of these technologies, along with standard drift reduction techniques, in product label use directions. More

information about EPA's development of the DRT Program, including the draft generic test protocol for the verification of pesticide spray drift reduction technologies is found at <http://www.epa.gov/etv/este.html>. Additionally, OPP is developing a website that will describe the DRT Program process.

D. EPA's Plan to Develop Guidance for Applicators Describing Best Management Practices

The Agency encourages pesticide applicators to use all feasible means available to them to minimize off-target drift. To support this goal, EPA intends to work with applicators, agricultural extension agents, registrants, environmental groups, and other interested stakeholders to collect and develop information on best management practices (BMPs) to reduce off-target drift for specific application methods and crop sector combinations (such as airblast application to orchard crops). These guidance documents would be consolidated by EPA and made available online. EPA encourages readers of this Notice to submit any available information to the docket, and to contact the Agency if you are interested in participating in the development or improvement of sector-specific BMPs.

E. Current EPA Applicator Training and Education Projects

For many years EPA has contributed funding to support education and training programs on drift management. EPA provides annual funds to states to support pesticide applicator training programs, many of which include educational material on drift management. In addition, EPA contributed to the development of the National Coalition on Drift Minimization educational video and CD-Rom, and supported the development of the National Pesticide Applicator Certification Core Manual, which contains a module on minimizing spray drift. EPA also has provided funds for the past five years to the National Agricultural Aviation Association's Professional Aerial Applicator Support System (PAASS) to support their training and education programs to reduce drift incidents. The PAASS has developed specific educational programs that enhance the commercial aerial applicator profession by improving the understanding of human factors, enhancing critical aeronautical decision-making skills, and inducing positive behavioral change.

IV. Draft PR Notice 2009-X on Pesticide Drift Labeling

The labeling statements and labeling organization principles EPA recommends in draft PR Notice 2009-X are intended to improve labeling of current and future pesticide registrations by proposing a clear, concise, generic drift statement for most outdoor-use pesticide products, and by providing recommendations on specific use directions for pesticide applicators. The Agency believes that adoption of these recommendations will help both pesticide

users and pesticide enforcement officials ensure that use of pesticide products will not result in adverse effects on human health and the environment.

Units A-E are intended to serve as a reader's guide to the draft PR Notice. They explain the intent of each major section of the Notice and of key terms. In addition, they present questions on which EPA would like to receive specific input from commenters.

A. Pesticide Products and Uses Addressed in the Draft PR Notice (Draft PR Notice Unit II)

As a general matter, EPA intends to consult the guidance in the draft PR Notice with regard to products, including both solid and liquid formulations, which are applied in a manner that may result in spray or dust drift. This would include most products labeled for outdoor use, including most agricultural, commercial, and non-commercial applications and sites.

For the purposes of the draft PR Notice, EPA considers non-agricultural "commercial" application to include, but not be limited to, application to rights-of-way, golf courses, athletic fields, residential turf, landscapes, parks, grounds, and other similar sites, commonly (but not always) performed by hired applicators.

Products intended for "non-commercial" application include, but are not be limited to, products with directions for use on residential lawns and gardens, to be applied by the general consumer. These products are generally (but not always) sold in smaller size packages, in retail establishments such as hardware stores, lumber yards, and garden shops.

EPA does not intend to apply the guidance in the draft PR Notice with regard to products labeled solely for indoor use; products labeled solely for use in fully-enclosed greenhouses; products labeled solely for animal treatments; products labeled for direct application to people, such as skin-applied mosquito repellents; fumigant products; or mosquito adulticide products labeled for wide-area application by ground or aerial equipment, such as Ultra Low Volume (ULV) sprays or fogs. However, the guidance does apply to home and garden use products which may list mosquitoes on the label, and/or to coarse non-ULV sprays intended for residual treatment of vegetation or other surfaces.

The Agency is not addressing drift from fumigant and mosquito adulticide products through draft PR Notice 2009-X because it has been addressed through other means. For more information on how the Agency is addressing offsite movement of fumigant products, see http://www.epa.gov/pesticides/reregistration/soil_fumigants/. For more information on how the Agency has addressed drift from mosquito adulticide products, see PR Notice 2005-1 http://www.epa.gov/PR_Notices/pr2005-1.pdf

and the associated informational webpage
http://www.epa.gov/PR_Notices/pr2005-1qa.htm.

Questions for commenters:

- (1) *Are there other products or classes of products that draft PR Notice 2009-X should cover or specifically exclude?*

B. Pesticide Drift (Draft PR Notice Unit III)

For the purposes of draft PR Notice 2009-X, EPA considers "pesticide spray and dust drift" to be the physical movement of pesticide droplets or particles through the air from the target site to any non-target site. Pesticide spray and dust drift generally occurs during application or soon thereafter. Under stable atmospheric conditions (such as a near-ground temperature inversion), drift can also occur after the application has been completed. Pesticide drift, as described in draft PR Notice 2009-X, does not include the movement of pesticide caused by other types of migration such as windblown soil particles or volatilization from the application site after application. This definition recognizes that drift can result from products applied in dry forms, such as dusts or granular products that may include small particles or fine dusts.

Questions for commenters:

- (1) *The draft PR Notice describes pesticide drift as the physical movement of pesticide droplets or particles through the air from the target site to any non-target site, "during application or soon thereafter." Please comment on the Agency's use of the phrase, "or soon thereafter", and whether it clearly covers spray and dust drift resulting from application during stable atmospheric conditions, such as a near-ground inversion. If not, what alternate wording would be more appropriate?*

C. General Drift Labeling Statements (Draft PR Notice Unit IV)

The Agency is recommending that products which may drift (See Unit IV.A) contain a general drift labeling statement. The statement, which would take one of three forms depending on the type of product, would contain two elements: a prohibition against application of the pesticide in a manner that will contact people either directly or through drift and (2) a prohibition against applying the product in a manner that results in drift that could cause adverse effects.

EPA considers exposure to pesticide handlers as part of its risk assessment process, and develops appropriate mitigation measures to address risks associated with occupational exposure to pesticides. The Agency thinks, as a general matter, that exposure of humans – other than pesticide handlers – to a pesticide either directly (at the application site) or from contact with off-target drift is potentially dangerous. Accordingly, this draft guidance proposes labeling language requiring pesticide users to take every step necessary to ensure that products be applied in a manner such that direct exposure to pesticide drift does not occur. In the past, this principle led to labeling prohibiting drift exposure to workers or other persons for products subject to the Worker Protection Standards (WPS) in 40 CFR Part 156 and 170. The Agency believes that such a labeling statement is also appropriate for all non-WPS products that may drift (See Unit IV.A).

The Agency is also concerned about immediate and long-term adverse effects of direct contact with drift to other non-target organisms, property, and the environment, as well as the potential adverse effects of exposure to deposited pesticide drift residues after the application is completed. When addressing the potential for adverse effects, the Agency is concerned about situations where immediate adverse effects may not have occurred, been discovered, or determined, but where there is a potential for adverse effects to occur (for example, if pesticide drifts onto a school yard when children are not present). The general drift statements are intended to address these concerns.

In developing the general drift statements, the Agency's goal was to provide applicators with the flexibility to adjust application parameters according to their best judgment of local conditions, so long as they apply pesticides in a manner that prevents potential adverse effects. Many stakeholders, particularly those representing the interests of pesticide users, stressed that applicators need flexibility to adjust the manner of application to fit the particular conditions under which the application is being made. These stakeholders have also indicated that with such flexibility, applicators should be able to apply a pesticide in a manner that prevents pesticide drift from causing any adverse effect.

The Agency notes that, while the proposed general drift statement gives applicators flexibility, it also imposes a separate, legally enforceable duty — the obligation to apply a pesticide in a manner so that it does not cause potential adverse effects — that goes beyond compliance with any product-specific restrictions. In other words, complying with any product-specific requirements regarding droplet size, release height, wind speed, buffer zones, or other conditions of application may not be sufficient to comply with the general drift labeling statement. When the recommended general drift labeling statement appears on a pesticide product, applicators must meet the standard set by the general drift statement, in addition to complying with any product-specific restrictions.

In addition to ensuring that the application of a pesticide does not result in drift that could cause an adverse effect, EPA believes that applicators should also strive to reduce pesticide drift to the greatest extent possible, whenever it is feasible to do so. Consistent with this policy goal, the Agency encourages the use of the best available application equipment and practices to minimize off-target exposure, through its DRT project, the development and dissemination of information on sector-specific best management practices, and applicator training and education projects. EPA considered, but decided not to recommend, an additional labeling statement that would have required pesticide applicators to use all reasonable measures to reduce drift. However, EPA concluded that such an additional labeling statement based on the reasonableness of applicator behavior might be considered vague and unenforceable, or could be perceived to conflict with other proposed labeling and thus undermine the enforceability of the proposed general statements.

The Agency is recommending three different forms of the general drift statement, depending on the type pesticide product. One version (described in sub-unit IV.A of the draft PR Notice) is designed for products subject to the WPS regulations. The second version (sub-unit IV.B) is designed for non-WPS products that may be applied commercially. The third version (sub-unit IV.C) is designed for products intended solely for non-commercial use.

1. Products That Currently Bear Worker Protection Standard Statements (Draft PR Notice Unit IV.A)

The draft PR Notice recommends that all products currently subject to WPS requirements and that bear the statement “Do not apply this product in a way that will contact workers or other persons, either directly or through drift,” should add the following statement to their labeling, without removing or altering the existing statement:

“In addition, do not apply this product in a manner that results in spray [or dust] drift that could cause an adverse effect to people or any other non-target organism or site.”

The statement should be modified to be specific to the form of the applied product (either spray or dust).

The Agency believes that basing the statement on a drift event that could cause adverse effects is consistent with FIFRA’s regulatory approach to mitigating adverse effects and balancing relative risks and benefits of pesticide use. Stakeholders from the user community expressed the view that there are many ways in which a user could alter the manner in which a pesticide is applied to minimize the amount of drift resulting from an application. EPA therefore expects that users should always be able to control drift in such a way that it does not have the potential to cause an adverse effect. Discussion earlier in this

document indicates some ways that users could reduce drift — by making adjustments to the droplet size of a spray, reducing the release height, changing the equipment configuration, or adjusting the location of the application to take the wind speed and wind direction into account so that any wind-borne movement of spray or dust will still land on the target application site. Since most pesticide drift (other than for mosquito adulticide control) does not provide any pest control benefit, and since users can reduce drift to low levels, EPA thinks that any drift which could result in an adverse effect would not be consistent with FIFRA. Accordingly, EPA thinks that the labeling of products intended to be sprayed outdoors should contain a general statement prohibiting application that could result in adverse effects, in addition to the WPS statement.

The new labeling statement contains a performance standard for drift management based on a drift event that could cause adverse effects. This would include drift that causes actual adverse effects and drift that has the potential to cause adverse effects. A performance-based, adverse effects standard is consistent with the approach a number of states have adopted in regulations addressing off-target deposition of spray drift. The states that have adopted such a standard report that it allows them to pursue those cases where adverse effects have occurred while providing the applicator with a clear understanding of the behavior that is expected.

The Agency believes that drift reduction or prevention is the result of a systematic approach using verified available drift reduction technology and practices. Applicators are legally required to follow the directions for use and restrictions on labeling. In addition, EPA expects applicators to use drift reduction tools, as well as best management practices to minimize off-target spray drift. Applicators applying pesticides in a manner that is inconsistent with use directions and restrictions identified on product labeling increase their probability of producing off-target drift that could contact people or cause adverse effects.

(a.) Examples of Adverse Effects

The following are examples of adverse effects:

Adverse effects on humans

- Any negative physical impact, health symptom or illness, regardless of whether it requires medical treatment or is temporary in nature or term;

Adverse effects on wildlife

- Any negative effects on the viability of beneficial insects (e.g. pollinators), fish, birds, or other wildlife, including but not limited to death;

Adverse effects on property

- Damage to agricultural commodities or ornamental plantings, including but not limited to the death, injury, stunting, deformation, or discoloration of plants;
- Any negative effects on the viability of domestic animals, including but not limited to death;
- Drift residues that result in exceedence of a food commodity tolerance, or drift residues on a food commodity for which there is no established tolerance;
- Drift residues on organic food commodities, or certified or otherwise designated organic production land;
- Structural or cosmetic damage to inanimate objects (e.g. corrosion, discoloration);

Adverse effects on the environment

- Exceedence of an established state water quality standard, or any other regulatory limitation;
- Damage to aquatic or wildlife habitat, including but not limited to the death, injury, stunting, deformation, or discoloration of plants, or the contamination of water or soils at levels that would cause adverse effects on wildlife.

The examples listed above are not intended to be comprehensive. Adverse effects are determined on a case-by-case basis, depending on specific circumstances.

(b.) Examples of Pesticide Drift That “Could Cause” an Adverse Effect

In order to prevent adverse effects of off-target drift, EPA believes that the drift label language should address not only drift that actually causes adverse effects but drift that could cause adverse effects under the circumstances of the application. Therefore, EPA is recommending a general drift labeling statement that prohibits application of pesticides in a manner that results in spray or dust drift that contacts people or “could cause” an adverse effect. EPA intends this prohibition to extend to situations in which an adverse effect from pesticide drift may not have occurred at the time of application, but the quantity or type of drift was reasonably capable of causing an adverse effect or could still cause an adverse effect through exposure to drift residues.

An example of such a situation is drift onto a schoolyard when no children were present at the time drift occurred, but where children would be present at some time thereafter and could be exposed to pesticide residues that remain from the drift event. In this example, although there would be no immediate

exposure to the children (and thus no potential for immediate adverse effects), the potential for adverse effects could be high when children subsequently return to the schoolyard. Similarly, if spray drifted onto a non-target water body in an amount capable of killing fish, the applicator could be found in violation of the labeling, even if no dead fish were found.

In evaluating whether drift could cause an adverse effect, EPA intends SLAs to consider the quantity and type of pesticide that drifted and whether, based on product labeling, the site onto which the pesticide drifted is likely to contain humans, animals (including beneficial insects), plants, or property that is likely to be harmed by the pesticide.

In developing pesticide risk assessments and labeling statements, EPA considers whether humans or animal or plant species may be especially sensitive to the pesticide under examination. A risk assessment for a particular pesticide depends on many factors, particularly the toxicity of the pesticide active ingredient and formulated product to different types of non-target plants or organisms, its mode of action, and how it is applied. Risk concerns identified through such a risk assessment are addressed in product labeling, often through specific warning statements such as, "This pesticide is extremely toxic to fish and wildlife."

Pesticide product labeling, however, cannot identify all the places where persons or animal or plant species potentially harmed by drift or drift residues from a particular product might be found. In determining whether drift could cause an adverse effect, SLAs should not narrowly construe the warnings and statements provided on labels as only applying to the actual application site but should consider whether the warnings and statements provide an applicator with relevant information as to potential impacts from any pesticide drift that might occur.

For example, in terms of protecting people from adverse effects labeling statements indicating that use of a pesticide requires personal protective equipment should be taken into account by applicators in situations in which direct or indirect residues of spray drift might reach:

- homes, hotels and other housing;
- offices, places of business;
- schools and childcare facilities;
- hospitals, nursing homes, and other healthcare facilities;
- prisons;
- parks, playgrounds, and recreation areas;
- swimming areas;
- reservoirs and sources of drinking water.

Labeling statements indicating that a pesticide is harmful to non-target plants should be taken into account by applicators in situations in which spray drift might reach:

- protected areas or wildlife habitat containing terrestrial or aquatic plants;
- landscaped areas such as home lawns and gardens;
- home vegetable gardens;
- agricultural commodities being grown adjacent or close to the application site;
- organic production areas.

Labeling statements indicating that a pesticide is harmful to wildlife should be taken into account by applicators in situations in which spray drift might reach:

- terrestrial wildlife habitat, such as meadows or forests;
- beehives and areas with pollinators;
- habitat that supports aquatic plants and associated wildlife, such as rivers and streams and their associated riparian zones, ponds, wetlands, and coastal areas;
- wildlife refuges and protected areas.

Labeling statements indicating that a pesticide is corrosive to machinery should be taken into account by applicators in situations in which spray drift might reach:

- parking lots;
- automobile dealerships;
- construction sites with heavy machinery.

This list is intended to be illustrative, and not comprehensive.

Working with State regulatory officials, the Agency has developed draft guidance for enforcement staff on how to interpret the general drift labeling statements contained in the draft PR Notice (see Unit III.B). The draft “Pesticide Drift Labeling Interpretation” document includes additional discussion of the general drift labeling statements, and examples of typical drift scenarios illustrating how the new labeling statements may be implemented for different kinds of pesticides used in different application situations. This draft guidance is available for comment in the docket with the draft PR Notice.

2. Products Used in Commercial Application That DO NOT Bear Worker Protection Standard Statements (Draft PR Notice Unit IV.B)

The draft PR Notice recommends that all products that currently DO NOT bear a WPS statement, but which may be used in commercial application, regardless of application site, add the following statements to the labeling:

“Do not apply this product in a manner that will contact workers or other persons, either directly or through drift. In addition, do not apply this product in a manner that results in spray [or dust] drift that could cause an adverse effect to people or any other non-target organism or site.”

The statement should be modified to be specific to the form of the applied product (either spray or dust).

3. Products Intended for Non-Commercial Application (Draft PR Notice Unit IV.C)

The draft PR Notice recommends that products intended solely for non-commercial application, such as residential use on lawns and gardens, should add the following statements to the labeling:

“Do not apply this product in a way that could contact people, or that results in spray [or dust] drift that could cause harm to people, pets, property, aquatic life, wildlife, or wildlife habitat.”

The statement should be modified to be specific to the form of the applied product (either spray or dust).

The consumer use of non-commercial pesticide products differs significantly from the use of pesticides in agricultural production or for commercial use, because residential products are generally marketed in small packages, and applied in small volumes to small areas, and are intended for use by people with little or no training in pesticide application. Many of the statements on labels of residential use products, however, were originally developed for agricultural users or commercial applicators and may be confusing to the general public.

In an effort to make consumer labels easier to read and to understand, EPA, along with industry, undertook the Consumer Labeling Initiative (CLI) in March 1996. The CLI was a multi-phased pilot project focusing on various types of consumer products including pesticide products. Of the labels on which the CLI focused, outdoor pesticide labels were found to be confusing because they are complex. Such products are less frequently used and therefore less familiar. The CLI also found that consumers want clear, concise, easy-to-read information that connects consequences with actions.

The drift statement for products intended for non-commercial application is based on the findings of the CLI and the experience of the Agency in labeling of products for residential, consumer use.

Questions for commenters:

- (1) *The draft PR Notice divides affected pesticide products into several categories of use. Has the Agency adequately described the range of products such that registrants can determine whether this Notice covers their products? If not, what aspect of the description is unclear? What alternative description would clarify differences in categories?*
- (2) *Please comment on whether the terms "commercial" and "non-commercial" clearly distinguish products that can be applied to non-WPS sites, often (though not always) by commercial applicators, from products intended solely for residential use by general consumers?*
- (3) *Please comment on the portion of the general drift statement prohibiting drift that "could cause" adverse effects.*
- (4) *The PPDC's spray drift Work Group discussed at length, but did not reach general consensus on, what constitutes "harm" or "adverse effects" from spray drift. The views of various members of the PPDC Work Group appear in their final spray drift report. The Agency has explained in this Notice how it intends to interpret "harm" and "adverse effects" in the context of the general drift statement. Please comment on EPA's proposed approach and alternative approaches suggested by the PPDC Work Group.*

D. Product-Specific Drift Statements (Draft PR Notice Unit V), and Examples of Product-Specific Statements/Tables (Draft PR Notice Appendix A)

1. Application Parameters

Available scientific data (see Unit II.C.1) on drift indicate that application method, wind speed at the time of application, the application release height above the ground or crop canopy, and the droplet or particle size spectrum used

during application are critical determinants of pesticide drift. In general, applications conducted during low wind speeds, with low release heights, and using large droplet or particle sizes result in substantially lower levels of drift. Based on EPA's risk assessment and risk management decision-making process, additional labeling statements for these parameters may be required to reduce pesticide drift and to protect people and other non-target organisms and sites from potential adverse effects. These statements are generally not appropriate or needed for products intended solely for residential/non-commercial application.

EPA has developed a standardized format for presenting product-specific restrictions. While the specific restrictions will vary from product to product, the Agency thinks that a consistent format for presentation of such labeling statements will improve the users' ability to find and to understand the additional restrictions that apply to the use of a product. Consistent with the feedback from stakeholders in the user community, the format presents restrictions in a manner that allows users flexibility in how to apply the pesticide, such as varying the size of buffer zones depending on the droplet size of the applied sprays and wind speed. The new format also illustrates how the labeling would incorporate the use of drift-reducing technologies.

For products with specified application restrictions, complying with these restrictions may not be sufficient to comply with the general drift labeling statement. Pesticide users have a responsibility to consider equipment and weather-related factors at the time of application, and the proximity of people and other potentially sensitive non-target organisms and sites, and to employ all the techniques available to them to prevent potential adverse effects from pesticide drift. To comply with the general drift labeling statement, applicators may need to take additional measures, such as using ground rather than aerial equipment, postponing the application until local weather conditions are more favorable, increasing the buffer zone distance between the application area and the habitat of a sensitive species identified on the labeling, or switching to a different product that is less toxic to those sensitive species.

2. Drift Reducing Technologies

Through its DRT project, the Agency is supporting the development of a test protocol to verify the effectiveness of DRTs (<http://www.epa.gov/etv/este.html>). Tested technologies that are proven to significantly reduce drift could eventually be considered by EPA in risk assessment and risk management decisions for the registration of pesticides. Pesticide product labeling could allow for reduced application restrictions (such as smaller no-spray buffer zones) with the use of verified DRTs, thus providing applicators with greater flexibility while still reducing off-target pesticide drift. The drift labeling and tabular formats in the draft PR Notice could help to promote the

adoption of DRTs by allowing applicators who use DRTs more flexibility to modify other application parameters.

Questions for commenters:

- (1) The draft PR Notice suggests and provides examples of a table presentation of product-specific drift statements as a concise and clear means of conveying critical information to users. Is a table the preferable format to convey this information to users? Are there other formats in which product-specific drift information could be presented on labels that would be more readily-understood by users?*
- (2) The draft PR Notice establishes the need to protect sensitive sites from adverse effects that could be caused by drift. Is the concept of “sensitive site” clear? If not, what alternative descriptions could be considered to describe sensitive sites?*
- (3) Please comment on how the Agency should identify or describe sensitive sites, and under what circumstances EPA should include additional restrictions in labeling to protect sensitive sites.*

E. Implementation Process and Timeframes (Draft PR Notice Units VI, VII, and IX)

1. Applications for New Products

After the release of the final PR Notice, EPA recommends that applicants for registration of new products addressed by the Notice include the appropriate general drift statement as part of the proposed labeling for their product.

EPA also recommends that applicants for registration of new products refer to Appendix A of the final PR Notice and include the applicable product-specific drift statements and formats to product labeling. In doing so, applicants may propose values for the specified application parameters. In reviewing the application, EPA may determine that different product-specific drift parameters and/or values are needed. In such cases, the Agency would not register the product until the appropriate statements are added to the labeling.

2. Registered Products With No Existing Drift Labeling Statements

EPA recommends that registrants of existing products addressed by the final PR Notice add the appropriate general drift statements to the labeling for their products within six (6) months from the date of release of the final Notice.

For products with no existing drift statements (other than the WPS-required statement “Do not apply this product in a way that will contact workers or other persons, either directly or through drift.”), registrants who adopt the exact wording of the appropriate general drift statements and make no other revision to the labeling may submit a notification for each product registration being amended.

EPA intends to assess the need for product-specific drift statements on a case-by-case basis. EPA anticipates that, in most cases, the need for product-specific drift statements will be evaluated through the Agency’s registration review program. If review indicates that current product labeling does not adequately address potential risks from drift and that additional or different drift mitigation is needed, EPA will require the addition of product-specific drift statements, as appropriate to address potential risks.

In addition to adding the general drift statement in the specified 6-month timeframe, for existing products that have no existing drift statements, and for which registrants would like to add product-specific drift statements prior to registration review, registrants may submit amendments proposing to add product-specific drift statements to product labeling, in the format provided in Appendix A of the PR Notice.

3. Registered Products With Existing Drift Labeling Statements

Registrants of products with existing drift labeling statements of any kind must submit all drift labeling changes through an application to amend their registrations, not through notification.

EPA recommends that registrants of existing products addressed by the final PR Notice submit an application to amend their registrations to add the appropriate general drift statements to the labeling for their products within twelve (12) months from the date of release of the final Notice. As part of their application to amend their registrations, registrants of products with existing drift statements must remove any conflicting general drift statements from product labeling.

Registrants of products covered by the WPS **may not** change or remove the WPS-required statement “Do not apply this product in a way that will contact workers or other persons, either directly or through drift.”

EPA intends to assess the need to revise the substance of product-specific drift statements on a case-by-case basis. EPA anticipates that, in most cases, the substance of product-specific drift statements will be evaluated through the Agency’s registration review program. If review indicates that current product labeling does not adequately address potential risks from drift and that

additional or different drift mitigation is needed, EPA will require the addition of product-specific drift statements, as appropriate to address potential risks.

Pending EPA's case-by-case reviews of the need for new or revised product-specific drift statements, EPA encourages registrants to submit an application to amend their registrations to reformat existing product-specific drift statements according to the examples provided in Appendix A of the final PR Notice.

Registrants of products that currently bear product-specific drift statements **may not** change or remove those statements without Agency approval. If a registrant, on his or her own initiative, would like to add or substantively modify existing product-specific drift statements, the registrant may submit an amendment proposing to add or modify product-specific drift statements to product labeling. Such amendment should follow the format provided in Appendix A of the final PR Notice.

4. Specific Products Identified by EPA

In Appendix B of the PR Notice, EPA will list products that are going through product reregistration or registration review at the time of the final PR Notice. Registrants of these products may use either the processes described above, or they may use the product reregistration / registration review process to add the appropriate general drift statement and to reformat existing product-specific drift labeling statements.

5. Timeframe for Releasing Products for Shipment With New Drift Labeling

Products released for shipment after notification or approval of an amendment must bear the approved drift statements when new labels are printed, or twelve (12) months following the label's approval, whichever is earlier.

Questions for commenters

(1) Are the timeframes outlined above adequate? Are there time considerations that EPA should take into account in determining when new labeling should be submitted, or when products bearing new labeling should be released for shipment?

V. Additional Questions for Commenters

In addition to the questions listed in the Unit IV, above, the Agency is interested in stakeholder input on the following:

Questions for commenters

- (1) The Agency is particularly concerned that language, criteria, examples, and recommendations contained within the draft PR Notice are compatible with and not in contradiction to, to the fullest extent possible, existing state statutes, regulations, rules and policies in regard to prohibitions or lawful standards involving pesticide drift. The Agency requests that individual state lead pesticide regulatory agencies offer comments in this regard.*
- (2) What is the right balance among the tools available to the Agency to motivate pesticide applicators to use all reasonable measures to reduce drift: product labeling, incentives to use drift-reducing technologies, self-implemented educational materials on best management practices, certification training, or other? Why?*
- (3) EPA has limited spray drift labeling statements to those the Agency regards as enforceable. What are the pros and cons of including advisory statements on labels that may provide useful information to users about how to prevent or minimize drift? Would the pros and cons of advisory statements differ for agricultural or commercially-applied products, versus products intended for small-area, residential use by the general public?*