



Worker Protection Standard: Application Exclusion Zone Requirements

Revised and Effective December 3, 2024

Updated Question and Answers

NOTICE:

EPA has updated this guidance document.
Do not refer to previous versions of this guidance.

Agricultural Worker Protection Standard (WPS)
Application Exclusion Zone (AEZ) Requirements Fact Sheet
Updated October 2024

Introduction

This fact sheet contains further explanation of the Application Exclusion Zone (AEZ) requirements of the Agricultural [Worker Protection Standard \(WPS\)](#), (WPS; Code of Federal Regulations (CFR), [Title 40, Part 170](#)). The AEZ provision of the WPS regulation was updated on October 4, 2024 (effective on December 3, 2024). As a result, EPA has also updated this guidance document.

This updated document replaces all previous AEZ guidance. Do not refer to or use older versions of this guidance (either 2016 or 2018) at the risk of being non-compliant with the AEZ provisions.

The AEZ is closely related to other WPS requirements, particularly the “Do Not Contact” requirement. All agricultural pesticide product labels include this statement: “Do not apply this product in a way that will contact workers or other persons, either directly or through drift.” Pesticide handlers and their employers must ensure that no pesticide is applied so as to contact, directly or through drift, any workers or other people, other than appropriately trained and equipped handlers involved in the application. **This “Do Not Contact” requirement is not limited by distance or the boundaries of the establishment. It applies whether people are on or off the agricultural establishment and regardless of how far away they are from the application.**

The AEZ requirements are intended to reduce the number of cases where workers or bystanders are contacted by pesticides during agricultural pesticide applications. They do so by establishing specific requirements for an area **around** ongoing pesticide applications. These requirements specify the responsibilities of both agricultural employers and handlers in regard to persons within the AEZ. The requirements are discussed in this document.

In addition, when you use a pesticide product with labeling that refers to the WPS, you must comply with the other requirements of the WPS. If you do not comply with the WPS requirements, you will be in violation of federal law.

1. Q: What is the AEZ?

A: The **application exclusion zone (AEZ)** is an area surrounding the application equipment's point(s) of pesticide discharge (e.g., spray nozzles) that exists only during pesticide applications.¹ It extends horizontally in all directions around the application equipment. The AEZ may have either a 25- or 100-foot radius, depending on the application type and droplet size. The WPS includes specific requirements that establishment owners, agricultural employers, and pesticide handlers must follow for the AEZ.

The AEZ moves with the application equipment like a halo around the application equipment. As the application equipment moves, new areas around the application become part of the AEZ, and areas that were in the AEZ cease to be within the AEZ. Once the application is over, the AEZ ceases to exist.

As previously mentioned, the AEZ requirements supplement the **"Do Not Contact"** requirement on the pesticide label.



2. Q: How is the AEZ different from the treated area?

A: The AEZ is different from the **treated area**, which is the entire area where the pesticide is being directed or has been directed (that is, where the pesticide is being applied or has been applied). In contrast, the AEZ is the area immediately around the application equipment, moves with the equipment, and only exists while the application is ongoing. Once an area is no longer part of the AEZ, the AEZ restrictions no longer apply to that area.

¹ NOTE: There are comparable but different AEZ-type requirements for enclosed space production that are not addressed in this fact sheet. Please see [40 CFR 170.405\(b\)](#) and refer to pp. 39-41 in [Chapter 3 of the WPS How to Comply Manual](#).



Note that in the treated area, there may be post-application entry restrictions. Entry into the treated area is subject to the **restricted-entry interval (REI)** specified on the pesticide product labeling and to the relevant WPS restrictions after applications.

3. Q: What is the agricultural employer’s responsibility for providing AEZ protections on the establishment?

A: Agricultural employers must not allow or instruct any worker or other person (other than appropriately trained and equipped handlers involved in the application) to be in an AEZ *that is within the boundaries of the agricultural establishment* when the application is occurring.

This includes people occupying migrant labor camps or other housing or buildings that are located on the agricultural establishment. (There is, however, an exception for members of the establishment owner’s immediate family. See Question #9.)

The reason that this requirement *only applies within the boundaries of the establishment* is because the agricultural employer only has the legal authority to direct the movement of people on the establishment. Employers are not expected to have control of people off the establishment.

This AEZ requirement is *in addition to* the WPS post-application entry restrictions applicable to treated areas. The agricultural employer must not allow a pesticide to be applied while any worker or other person (other than appropriately trained and equipped handlers involved in the application) on the establishment is in the AEZ or in an area where an REI is in effect.

The agricultural employer must also ensure that no one is contacted by pesticides applied on the establishment. However, unlike the other requirements described above, the employer’s responsibility under the “Do Not Contact” requirement also extends off-establishment.

4. Q: What is the pesticide handler's (in this case, the applicator's) responsibility for the AEZ?

A: Pesticide handlers are individuals who are usually in direct contact with pesticides and are employed by agricultural establishments and commercial pesticide handling establishments. Handlers under the WPS means any person, including a self-employed person, who is employed by an agricultural employer or commercial pesticide handler employer and performs any number of pesticide related activities, including but not limited to mixing, loading, or applying pesticides (see [40 CFR 170.305 "Handler"](#) for the complete definition). When discussing the AEZ, the handler may also be referred to as the "applicator," since the particular handler task to which the AEZ provisions apply is the application of pesticides, and not the other handler tasks described in the regulation.

Handlers making a pesticide application must temporarily suspend the application if workers or other people (other than appropriately trained and equipped handlers involved with the application) are in the AEZ.

Handlers must not resume the application until no people are present within the AEZ. The requirement for handlers to suspend the application applies both on and off the agricultural establishment. Note that this is parallel to the "Do Not Contact" requirement – handlers must not apply pesticides to contact any worker or other person, whether that person is on or off the agricultural establishment.

Under the WPS, the handler is responsible for suspending the application. However, responsibility is not *limited* to the handler. The owner of the establishment, agricultural employer, and/or the commercial pesticide handler employer must also ensure that handlers understand and implement the suspension requirement.

As previously noted, there is an exemption for the establishment owner's family to remain in an AEZ, but only if certain conditions are met as discussed in Question #9.

5. Q: Who is responsible or liable for implementing AEZs off the establishment?

A: Both handlers (including certified applicators) and employers have a responsibility to ensure that the AEZ requirements are implemented correctly when people off the establishment may be within an AEZ. While handlers are required to suspend the application until people leave the AEZ, the AEZ requirements do not limit responsibility to the handler alone.

Not all pesticide handlers are certified applicators; they may not have had the same level of training or technical skills associated with those licenses and certifications. Moreover, handlers who are not licensed applicators may not be empowered to make certain decisions about a pesticide application—for example, changing the path or type of application.

In general, the responsibility to ensure the WPS including the AEZ protections are provided and complied with is primarily on the employer (either the agricultural

employer or the commercial pesticide handler employer). For that reason, the decision to hold liable the employer or the applicator who is applying or directly supervising the application for an AEZ violation is made on a case-by-case basis.

6. Q: How can someone implement AEZs off-establishment that include houses or roads?

A: A handler must immediately suspend an application if someone enters the AEZ during an application, whether the AEZ is on or off the establishment. *This includes people in nearby houses and on roadways.* It is important to note that AEZs are not buffer zones or permanent setbacks. Handlers may apply pesticides near houses, roads, egress points, right-of-way easements, and other trafficked areas both on and off the establishment, so long as they comply with the AEZ requirements and pesticide product label requirements. Once the application equipment has moved on from an area, the AEZ requirements do not apply to that area. And once the application is complete, the AEZ no longer exists. The only restrictions that remain are the entry restrictions for the treated area on the establishment.

In order to avoid violations, employers and handlers can implement a number of strategies when applying pesticides near the boundaries of the establishment:

- Before an application, owners/employers should instruct handlers where the boundaries of the agricultural establishment are.
- When planning a pesticide application, owners/employers or handlers should identify the boundaries of the establishment and areas off the establishment that may fall within the AEZ and/or where people will be present (for example, knowing how far a neighbor's house or road will be from the application equipment during the application).
- If applying pesticides near a house, road, ingress/egress point, right-of-way easement, or other trafficked area off the establishment, the handler can survey the path of the application and the areas that will become part of the AEZ. They can do this both before and during the application.
- Employers and applicators can consider having multiple handlers participate in the application to serve as lookouts or to stop traffic (if possible) until the application equipment has either passed or the application has been suspended.
- If the employer or applicator anticipates that someone will enter the AEZ (for example, if people are driving in a car toward the location of the application), and if the applicator will be unable to suspend the application once people enter the AEZ, the applicator should suspend the application proactively to ensure that there is no contact.
- If the employer or applicator anticipates that people are more likely to enter an off-establishment AEZ at certain times (for example, if cars are more likely to pass along a road during rush hour), the employer or applicator can consider

performing applications at different times, to minimize disruptions to the application and to reduce the risk to bystanders.

- If the establishment owner or agricultural employer has planned an application near a residential area or neighbor's property for a certain time, they can consider notifying neighbors (via phone call, a warning sign on their own property, or other means) to limit attempts to access the area during that time.
- If the establishment owner or agricultural employer has planned an application near an easement to which another party has access (for example, a utility easement), they can consider calling that party in advance of the application so that there are fewer attempts to access the area during that time.

It is also important to remember that the AEZ is temporary and moves with the application equipment during an active application. It is not defined relative to the property boundary. If a handler has had to suspend the application in one location because there are people in the AEZ, they may move the equipment elsewhere, where no people are in the AEZ, and continue the application there (provided they abide by all AEZ requirements and the "Do Not Contact" requirement). This includes moving the equipment to another area along the boundary of the establishment.

7. Q: How would someone performing a pesticide application determine whether their application requires an AEZ distance of 25 feet as opposed to 100 feet?

A: To determine the size of an AEZ, you measure outward from the farthest end nozzles on the application equipment horizontally in all directions. In the regulation, the size of the AEZ is determined by the application method and spray quality (i.e., droplet sizes). Droplet sizes (defined by American Society of Agricultural and Biological Engineers (ASABE) Standard 572 (S572) and subsequent versions²) are based on several factors including the nozzle design, system pressure, and speed of the application equipment. The eight ASABE droplet size categories (which are also referenced in most nozzle charts) include:

- *Smaller than medium:*
 - o Extra fine (XF)
 - o Very fine (VF)
 - o Fine (F)
- *Medium or larger:*
 - o Medium (M)
 - o Coarse (C)

² ASABE standards, engineering practices, and data initially approved prior to the society name change from the American Society of Agricultural Engineers (ASAE) to "ASABE" in July 2005 are designated as "ASAE" (i.e., ASAE S572), regardless of the revision approval date. For the purposes of this guidance, EPA is referring to the standards using "ASABE" for clarity and consistency purposes.

- o Very coarse (VC)
- o Extra coarse (XC)
- o Ultra coarse (UC)

Under this rule, the AEZ must be a minimum of 100 feet horizontally in all directions when the pesticide is applied:

- By air (fixed wing or helicopter),
- By an air blast or air-propelled application method,
- As a fumigant, smoke, mist, or fog,
- As a spray using a spray quality *smaller than medium* as defined by ASABE (i.e., F, VF, or XF).

The AEZ in this rule must be a minimum of 25 feet horizontally in all directions when the pesticide is:

- NOT applied in a manner that would require a 100-foot AEZ, and
- Sprayed from a height of greater than 12 inches from the soil surface or planting medium using a *spray quality of medium or larger* as defined by ASABE (i.e., M, C, VC, XC, and UC).

No AEZ is required when the pesticide is applied in a manner other than those covered above (i.e., equal to or less than 12 inches from the soil with medium or larger spray quality).

- Situations where no AEZ is required include applications of granular pesticides, soil incorporated pesticides (not fumigants); pre-plant, at-plant, and spot-spray pesticide applications as long as they are equal to or less than 12 inches from the soil or planting mediums and use a medium or larger droplet size.

8. Q: Why does EPA use the ASABE standards to determine droplet sizes? How would owners/handlers use those standards to determine an appropriate AEZ for an application?

A: For the purposes of determining an AEZ size, EPA defines droplet sizes based on the ASABE classifications and categories, which the Agency believes are generally well understood by the regulated community and are commonly referenced in several places, including on some EPA pesticide labels as labels are revised during EPA's Registration Review process.

Droplet classifications from the ASABE standards are often referenced in nozzle manufacturers' selection guides, which describe how nozzles and spray characteristics will produce various droplet sizes in terms of the ASABE classifications. EPA believes that using ASABE's droplet size of "medium" can be determined quickly and simply when

referring to these guides and manuals, and that many applicators and handlers in the field already use these standards to determine droplet size.

EPA is considering developing additional guidance as needed to clarify how to use the ASABE standards and nozzle selection guides to implement the AEZ requirements.

9. The WPS includes an immediate family exemption for owners and their family members to remain in their closed houses that fall within an AEZ. How does it work?

A: The *immediate family exemption* provides flexibility to owners by allowing the establishment owners' immediate family members to remain inside closed buildings, housing, or shelters (such as their houses) in the AEZ during pesticide applications where the establishment owner is the applicator.

This exemption also permits establishment owners to instruct handlers to proceed with an application when the establishment owner or owner's immediate family members remain inside closed buildings, housing, or shelters in an AEZ, ***provided the following conditions are met:***

1. The establishment owner informs the handler that *only* the owner and/or the owner's immediate family members remain inside the closed building, house, or shelter;
2. The establishment owner instructs the handler that the application can proceed despite the owner and their immediate family members' presence; and
3. Handlers receive this information from the owner of the establishment prior to the application. They cannot assume that only the owner's family are inside without that assurance.

Anyone within the building, house, or shelter who is not an immediate family member is not exempt from AEZ requirements. Therefore, if non-family members are within the structure in addition to family members, the application would need to be adjusted.

10. Is there an exemption for farmworkers to remain inside farmworker housing that may fall within an AEZ during an application?

A: There are no exemptions that apply to farmworker housing under the WPS – farmworker housing is subject to AEZ protections. That is, workers (and their families) must never be present within an AEZ. Establishment owners should either have individuals within the housing leave during the application or adjust the application (i.e., apply at a different time) to avoid people being present in the housing as the application equipment passes.