Certification of Applicators of Restricted Use Pesticides

Comparison of 2017 and 1970s Regulatory Text

This document is a word by word comparison of 1974 and 2017 regulatory text of the Certification of Applicators of Restricted Use Pesticides (RUPs) federal regulations at 40 CFR 171. This is meant to serve as a reference document for certifying authorities when making changes to their pesticide applicator certification programs to align with the 2017 revised federal regulation.

The contents of this document are:

I. A comparison of the 1970s and 2017 overall regulatory outlines.

II. A general, overall comparison of the 1970s and 2017 regulations with a summary of the major differences. Hyperlinks go to the applicable detailed comparison section.

III. A detailed comparison of regulatory text in the 1970s and 2017 regulations. The left column is a summary of what changed from the 1970s to the 2017 regulation; the middle column has the 2017 regulatory text; and the right hand column has the 1970s regulatory text. In some instances, regulatory text that is new in the 2017 rule spans across the page to use space more efficiently.

Text in gray-shaded areas is in the 2017 regulation. Text in **bold** is text that was not in the 1970s regulation but is added in the 2017 regulation. Entire sections that are new in the 2017 regulation are marked ***NEW*** at the beginning of the sentence, paragraph or section. Strikethrough shows text that was in the 1970s regulation but omitted from the 2017 regulation. In the section on private applicator standards, text in italics is in the new 2017 standards for private applicators, but not in the commercial applicators standards for the same category. In that same section, text that is crossed out is in the commercial applicator standards, but not the private applicator standards for the same category.

I. Comparison of Outlines of the 2017 and 1970s Regulation for the Certification of Pesticide Applicators of RUPs (40 CFR 171)	
2017 Certification Regulation Outline	**1970s Certification Regulation Outline**
Subpart A—General Provisions	
§171.1 Scope	§171.1 General
§171.3 Definitions	§171.2 Definitions
§171.5 Effective Date	
Subpart B—Certification Requirements for Applicators of RUPs	
§171.101 Commercial applicator certification categories	§171.3 Categorization of commercial applicators of pesticides
§171.103 Standards for certification of commercial applicators	§171.4 Standards for certification of commercial applicators
§171.105 Standards for certification of private applicators	§171.5 Standards for certification of private applicators
§171.107 Standards for recertification of certified applicators	§171.8(a)(2) Maintenance of State Plans
Subpart C—Supervision of Noncertified Applicators	
§171.201 Requirements for direct supervision of noncertified applicators by certified applicators	§171.6 Standards for supervision of noncertified applicators by certified private and commercial applicators
Subpart D—Certification Plans	
§171.301 General	
§171.303 Requirements for State certification plans	§171.7 Submission and approval of state plans for certification of commercial and private applicators of restricted use pesticides
§171.305 Requirements for Federal agency certification plans	§171.9 Submission and approval of Government Agency Plan
§171.307 Certification of applicators in Indian country	§171.10 Certification of applicators on Indian Reservations
§171.309 Modification and withdrawal of approval of certification plans	§171.8 Maintenance of State plans
§171.311 EPA-administered applicator certification programs	§171.11 Federal certification of pesticide applicators in States or on Indian Reservations where there is no approved State or Tribal certification plan in effect

II. General Comparison of 2017 and1970s Certification of Pesticide Applicators of RUPs Regulation (40 CFR 171)	
2017 RULE - SUBPART A – GENERAL PROVISIONS	**1970s RULE**
§171.1 Scope	**§171.1 General**
§171.3 Definitions	**§171.2 Definitions**
Changed the definitions for terms listed in the column on the right.	"practical knowledge", "ornamental", "PPE", "principal place of business", "Restricted Use Pesticide dealer", and "toxicity".
Renamed and replaced definitions of terms listed in the column on the right with these terms: 1. "mishap" 2. "calibration" 3. "competency" 4. "noncertified applicator"	1. "accident" 2. "calibration of equipment" 3. "competent" 4. "uncertified applicator"
(Removed definitions for "certified applicator" and "under the direct supervision" from 40 CFR 171 because they are defined in FIFRA Section 2(e))	"certified applicator" and "under the direct supervision"
NEW: "application and applying", "certifying authority", "compatibility", "fumigant and fumigation", "immediate family", "Indian country, Indian tribe, Tribe", "use" and "use-specific instructions".	(nothing to compare)
§171.4 Effective Date	(nothing to compare)
2017 RULE - SUBPART B—CERTIFICATION REQUIREMENTS FOR APPLICATORS OF RESTRICTED USE PESTICIDES	**1970S RULE**
§171.101 Commercial applicator certification categories	**§171.3 Categories of commercial applicators of pesticides**
(a) Agricultural pest control – Renamed: (1) Crop pest control and (2) Livestock pest control	(b) categories (1) Agricultural pest control – (i) Plant, (ii) Animal
(b) Forest pest control, (c) Ornamental and Turf pest control, (d) Seed treatment, (e) Aquatic pest control, (f) Right-of-way pest control	(2) Forest pest control, (3) Ornamental and Turf pest control, (4) Seed treatment, (5) Aquatic pest control, (6) Right-of-way pest control
(g) "Industrial, institutional, and structural pest control"	(7) Industrial, institutional, structural and ~~health~~ related pest control
(h) Public health pest control, (i) Regulatory pest control; (j) Demonstration and research.	(8) Public health pest control, (9) Regulatory pest control; (10) Demonstration and research pest control.
NEW: (k) Sodium cyanide predator control, (l) Sodium fluoroacetate predator control, (m) Soil fumigation, (n) Non-soil fumigation, (o) Aerial pest control.	
	(c) Other categories and subcategories.

II. General Comparison of 2017 and1970s Certification of Pesticide Applicators of RUPs Regulation (40 CFR 171)	
2017 RULE - SUBPART B—CERTIFICATION REQUIREMENTS FOR APPLICATORS OF RESTRICTED USE PESTICIDES	**1970S RULE**
§171.103 Standards for certification of commercial applicators	**§171.4 Standards for certification of commercial applicators**
(a) Determination of competency. (b) Additional methods of determining competency. (c) Core standards for all categories of certified commercial applicators. (d) Specific standards of competency for each category of commercial applicators. (Note: In general, the "1970s" rule standards had specific examples. The 2017 rule replaced those examples with more general term and added "persistence", "non-target exposure" and "drift" to knowledge required, where appropriate. Includes standards for new categories – Sodium fluoroacetate predator control, Sodium cyanide predator control, Soil fumigation, Non-soil fumigation, Aerial pest control.)	(a) Determination of competency. (b) General standards for all categories of certified commercial applicators. (Renamed "core" standards in 2017 rule.) (c) Specific standards of competency for each category of commercial applicators.
§171.105 Standards for certification of private applicators	**§171.5 Standards for certification of private applicators**
(a) General private applicator certification. Eleven areas: 1. Label and labeling comprehension. 2. Safety. 3. Environment. 4. Pests. 5. Pesticides 6. Equipment 7. Application methods 8. Laws and regulations 9. Responsibilities for supervisors of noncertified applicators 10. Stewardship 11. Agricultural pest control (Note – The new standards for 1 through 10 are nearly identical to the new revised core standards for commercial applicators.) (b) Sodium cyanide predator control. (c) Sodium fluoroacetate predator control. (d) Soil fumigation. (e) Non-soil fumigation. (f) Aerial pest control. (g) Private applicator minimum age. (h) Private applicator competency. (i) Exceptions.	(a) Five areas: 1. Recognize common pests. 2. Read and understand label and labeling. 3. Use according to label. 4. Recognize local environmental conditions. 5. Recognize poisoning symptoms. (b) Competency of private applicators.
§171.107 Standards for recertification of certified applicators	**§171.8 Maintenance of State Plans**
(a) Maintenance of continued competency. *NEW* 5-year max recertification period. (b) Process for recertification. (1) Written examination. Must conform to *NEW* exam standards in §171.303(a)(2). (2) Continuing education programs. (i) *NEW* - Quantity, content, quality of continuing ed programs must ensure competency demonstrated at the level required in private and commercial certification standards. (ii) *NEW* - Requires approval by certifying authority. (iii) *NEW* - Certifying authority must include a process to verify applicator's successful completion of course or event.	(a)(2) Provisions to ensure that certified applicators continue to meet the requirements of changing technology and to assure a continuing level of competency and ability to use pesticides safely and properly.

II. General Comparison of 2017 and1970s Certification of Pesticide Applicators of RUPs Regulation (40 CFR 171)	
2017 RULE – SUBPART C – SUPERVISION OF NONCERTIFIED APPLICATORS	**1970s RULE**
§171.201 Requirements for direct supervision of noncertified applicators by certified applicators	**§171.6 Standards for supervision of noncertified applicators by certified private and commercial applicators**
(a) Applicability (b) General Requirements – *NEW* requirements to be a supervisory certified applicator, and requirements of them to verify noncertified applicator is of 18 years old (or 16 if under supervision of private applicator, immediate family member, and not applying sodium fluoroacetate and sodium cyanide, soil or non-soil fumigation, or aerially), has noncertified applicator qualifications (see below), has instructions on use-specific conditions, pesticides and site, has labeling, has equipment and PPE in proper order, *(SAME:)* has means to immediately communicate. *NEW:* (c) Noncertified applicator qualifications – Options to be trained under noncertified applicator training program or WPS handler training program, or complete certifying authority option, or be certified as an applicator in a category other than for the use. *NEW:* (d) Noncertified applicator training program - SAME content as 2015 revised WPS handler training. *NEW:* (e) Recordkeeping - Commercial applicator must keep records of noncertified applicator qualifications for 2 years from date of RUP application. Content of record depends on whether noncertified applicator received noncertified applicator training, WPS handler training, certifying authority's training or other requirements, or is a certified applicator in a different category or jurisdiction.	(a) Certified applicators with supervisory roles must have knowledge of labeling, give noncertified applicator detailed application guidance and a means to immediately communicate.
Subpart D—CERTIFICATION PLANS	**1970S RULE**
§171.301 General	
§171.303 Requirements for State certification plans (a) Conformance with Federal standards for certification of applicators of RUPs. (b) Contents of an application for EPA approval of a State plan for certification of applicators of RUPS. (c) Requirements to submit reports to EPA.	§171.7 Submission and approval of state plans for certification of commercial and private applicators of restricted use pesticides.
§171.309 Modification and withdrawal of approval of certification plans. (a) Modifications to approved certification plans. (b) Withdrawal of approval.	§171.8 Maintenance of State plans.
§171.311 EPA-administered applicator certification programs. (a) Applicability. (b) Certification requirement. (c) Implementation of EPA-administered plans in States. (d) Implementation of EPA-administered plans in Indian country. (e) Denial, suspension, modification or revocation of a certification. (f) RUP retail dealer reporting and recordkeeping requirements, availability of records and failure to comply. *(NOT IN THIS DOCUMENT)*	§171.11 Federal certification of pesticide applicators in States or on Indian Reservations where there is no approved State or Tribal certification plan in effect. *(NOT IN THIS DOCUMENT)*

Certification of Pesticide Applicators Regulation (40 CFR 171)

III. Detailed Comparison of Regulatory Text and Summary of Changes (A3) Definitions		
SUMMARY OF CHANGES	**2017 RULE - 40 CFR §171.3 Definitions**	**1970S RULE - 40 CFR §171.2 Definitions**
2017 rule REMOVED definition for "Act"	No definition for "Act".	"Act" means "the Federal Insecticide, Fungicide, Rodenticide Act, as amended (86 Stat. 973) other legislation supplementary thereto and amendatory thereof.
2017 rule REMOVED definition for "Administrator"	No definition for "Administrator".	"Administrator" means "the Administrator of the Environmental Protection Agency, or any office or employee of the Agency to whom authority has heretofore been delegated, or to whom authority may hereafter be delegated, to act in his stead.
"Agency" remains the same	"Agency" means "the United States Environmental Protection Agency, unless otherwise specified.	"Agency" unless otherwise specified, means "the United States Environmental Protection Agency."
"Agricultural commodity" 2017 rule ADDED "fungus or algae"	"Agricultural commodity means "any plant, **fungus, or algae**, or part thereof, or **any** animal or animal product, produced by a person (including, **but not limited to,** farmers, ranchers, vineyardists, plant propagators, Christmas tree growers, aquaculturists, floriculturists, orchardists, foresters, or other comparable persons) primarily for sale, consumption, propagation, or use by man or animals."	''Agricultural commodity" means "any plant, or part thereof, or animal, or animal product, produced by a person (including farmers, ranchers, vineyardists, plant propagators, Christmas tree growers, aquaculturists, floriculturists, orchardists, foresters, or other comparable persons) primarily for sale, consumption, propagation, or other use by man or animals.''
2017 rule ADDED definition for "application and applyling"	***NEW* "Application and applying" means "the dispersal of a pesticide on, in, at, or directed toward a target site.''**	
2017 rule ADDED definition for "applicator"	***NEW* "Applicator" means "any individual using a restricted use pesticide. An applicator may be certified as a commercial or private applicator as defined in FIFRA or may be a noncertified applicator as defined in this part."**	
2017 rule -REPLACED definition "Calibration of equipment" with "calibration" -ADDED "specific rate" -REPLACED "dispersed by equipment" with "equalized dispersal pattern"	"Calibration" means ''a measurement of dispersal or output of application equipment and adjustment of such equipment to **establish a specific** rate of dispersal, and, **if applicable,** droplet or particle size of a pesticide, **and/or equalized dispersal pattern**.''	"Calibration of equipment" means "measurement of dispersal or output of application equipment and adjustment of such equipment to ~~control~~ the rate of dispersal, and droplet or particle size of a pesticide ~~dispersed by the equipment~~."
"Certification" -2017 rule REPLACED "recognition by agency" with "Issuance of authorization"	"Certification" means ''a certifying authority's **issuance**, **pursuant to this part**, of authorization to a person to use or supervise the use of restricted use pesticides.''	**''Certification'' means ''the recognition by a certifying agency that a person is competent and thus authorized to use or supervise the use of restricted use pesticides."**
2017 rule REMOVED "certified applicator". Defined in FIFRA Section 2(e)	No definition for "certified applicator".	''Certified applicator'' means "any individual who is certified to use or supervise the use of any restricted use pesticides covered by his certification."

III. Detailed Comparison of Regulatory Text and Summary of Changes (A3) Definitions		
SUMMARY OF CHANGES	**2017 RULE - 40 CFR §171.3 Definitions**	**1970S RULE - 40 CFR §171.2 Definitions**
2017 rule ADDED definition "certifying authority"	***NEW* "Certifying authority''** means ''the Agency, or a State, Tribal, or Federal agency that issues restricted use pesticide applicator certifications pursuant to a certification plan approved by the Agency under this part.''	
2017 rule REMOVED "commercial applicator". Defined in FIFRA Section 2(e).	No definition for "commercial applicator."	"Commercial applicator" means "a certified applicator (whether or not he is a private applicator with respect to some uses) who uses or supervises the use of any pesticide which is classified for restricted use for any purpose or on any property other than as provided by the definition of "private applicator.""
2017 rule simplifies definition for "compatibility" but is essentially the SAME	''Compatibility'' means ''**the extent to which** a pesticide can be combined with other chemicals without causing undesirable results.''	"Compatibility" means "~~property of~~ a pesticide which ~~permits its use~~ with other chemicals without undesirable results being caused by the combination."
2017 rule -REPLACED definition "Competent" with "Competency" - ADDED "restricted use pesticides," "knowledge, skills, experience, judgement," and "without causing unreasonable adverse effects"	''Competency'' means ''**having the practical knowledge, skills, experience, and judgement necessary** to perform functions associated with **restricted use** pesticide application **without causing unreasonable adverse effects**, where the nature and degree of competency required relate directly to the nature of the activity and the degree of **independent** responsibility.''	''Competent" means "~~properly qualified~~ to perform functions associated with pesticide application, the degree of capability required being directly related to the nature of the activity and the ~~associated~~ responsibility."
2017 rule REMOVED definition for "common exposure route"	No definition of "common exposure route."	"Common exposure route" means "likely way (oral, dermal, respiratory) by which a pesticide may reach and/or enter an organism."
"Dealership" in 2017 rule: -Described as an "establishment", not "site" -Emphasizes "distributed or sold", not "available for use". (Note: now applies to <u>all jurisdictions</u>, not only where EPA administers a certification plan.)	''Dealership'' means ''any **establishment** owned or operated by a restricted use pesticide retail dealer where restricted use pesticides are **distributed or sold**." (Note: this applies to all situations, not just in States or Indian country where EPA administers the certification plan.)	"Dealership" means "any ~~site~~ owned or operated by a restricted use pesticide retail dealer where any restricted use pesticide ~~is made available for use, or where the dealer offers to make available for use any such pesticide~~." (Note: this applies only to dealerships in States or in Indian country where EPA administers the certification plan.)
2017 rule REMOVED definition for "environment"	No definition of "environment."	"Environment" means "water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among them."

III. Detailed Comparison of Regulatory Text and Summary of Changes (A3) Definitions		
SUMMARY OF CHANGES	**2017 RULE - 40 CFR §171.3 Definitions**	**1970S RULE - 40 CFR §171.2 Definitions**
2017 rule REMOVED definition for "forest"	No definition of "forest."	"Forest" means "concentration of trees and related vegetation in non- urban areas sparsely inhabited by and infrequently used by humans; characterized by natural terrain and drainage patterns."
2017 rule ADDED definition for "fumigant"	***NEW* "Fumigant,''** means ''a restricted use pesticide that bears labeling designating it as a fumigant.'' ''Fumigation'' means "the use of a fumigant."	
2017 rule REMOVED definition for "hazard"	No definition of "hazard."	"Hazard" means "probability that a given pesticide will have an adverse effect on man or the environment in a given situation, the relative likelihood of danger or ill effect being dependent on a number of inter- related factors present at any given time."
2017 rule REMOVED definition for "host"	No definition of "host."	"Host" means "any plant or animal on or in which another lives for nourishment, development, or protection."
2017 rule ADDED definition for "immediate family"	***NEW* "Immediate family''** means "familial relationships limited to the spouse, parents, stepparents, foster parents, father-in-law, mother-in-law, children, stepchildren, foster children, sons-in-law, daughters-in-law, grandparents, grandchildren, brothers, sisters, brothers-in-law, sisters-in-law, aunts, uncles, nieces, nephews, and first cousins. ''First cousin'' means the child of a parent's sibling, *i.e.,* the child of an aunt or uncle."	
2017 rule ADDED definition for "Indian country"	***NEW* "Indian country''** means ''1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. 2. All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State. 3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.'' ''Indian Tribe'' or ''Tribe'' means ''any Indian or Alaska Native Tribe, band, nation, pueblo, village, or community included in the list of Tribes published by the Secretary of the Interior pursuant to the Federally Recognized Indian Tribe List Act.''	

2017 rule REMOVED definition for "make available for use"	No definition for "make available for use."	"Make available for use" means "to distribute, sell, ship, deliver for shipment, or receive and (having so received) deliver, to any person. However, the term excludes transactions solely between persons who are pesticide producers, registrants, wholesalers, or retail sellers, acting only in those capacities." (Note: This definition only applies to dealers, dealerships and transactions in States or on Indian Reservations where EPA directly administers a pesticide applicator certification program.)
2017 rule REPLACED "Accident" with "Mishap" -Emphasis on unexpected or intentional events as opposed to unexpected, undesirable events	"Mishap" means ''an event that adversely affects man or the environment and that is **related to** the use or presence of a pesticide, whether the event was unexpected **or intentional**.'' (Note: REPLACED the definition for "accident".)	"Accident" means "an unexpected, ~~undesirable event,~~ caused by the use or presence of a pesticide, that adversely affects man or the environment."
"Non-target organism" 2017 rule -Changed "a" to "any" plant or animal -ADDED "organism" and "target pests"	"Non-target organism'' means ''**any** plant, animal **or other organism** other than **the target pests** that a pesticide is **intended to affect**.''	"Non-target organism'' means ''a plant or animal other than the one against which the pesticide is ~~applied~~.''
2017 rule: -REPLACED definition for "Uncertified applicator" with "Noncertified applicator" -ADDED "use or supervise the use of", "under the direct supervision of", and that a person may be considered "noncertified" if certified in different category for application in the jurisdiction	''Noncertified applicator'' means ''any person who is not certified in accordance with this part **to use or supervise the use of** restricted use pesticides in the category **appropriate to the type of application being conducted in the pertinent jurisdiction, but who is using restricted use pesticides under the direct supervision of a person certified as a commercial or private applicator in accordance with this part.''** (Note: "Noncertified applicator" REPLACED "Uncertified applicator")	''Uncertified applicator'' means ''any person who is not holding a currently valid certification document indicating that he is certified under section 4 f FIFRA in the category of the restricted use pesticide made available for use.'' (Note: This definition only applies to dealers, dealerships and transactions in States or on Indian Reservations where EPA directly administers a pesticide applicator certification program.)
"Ornamental" 2017 rule : -ADDED "flowers", surrounding grounds" of buildings, and "commercial" buildings. -Emphasizes "aesthetic purposes" -REMOVED "not necessarily located in urban and suburban areas"	''Ornamental'' means ''trees, shrubs, **flowers**, and other plantings **intended primarily for aesthetic purposes** in and around habitations, buildings, **and surrounding grounds**, including residences, parks, streets, and **commercial,** industrial, and institutional buildings.''	"Ornamental" means ''trees, shrubs, and other plantings in and around habitations generally, but ~~not necessarily located in urban and suburban areas~~, including residences, parks, streets, ~~retail outlets~~, industrial and institutional buildings.''
"Personal protective equipment" 2017 rule: -REPLACED "clothing" to shield against exposure with "apparel" -ADDED examples of PPE	"Personal protective equipment'' means ''devices and **apparel** that are worn to protect the body from contact with pesticides **or pesticide residues, including but not limited to, coveralls, chemical- resistant suits, chemical-resistant gloves, chemical-resistant footwear, respirators, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.''**	"Protective equipment" means ''clothing or any other materials or devices that shield against unintended exposure to pesticides.''

"Practical knowledge" 2017 rule: -REPLACED "ability to use" and "dealing with specific problems" with "sufficient to properly perform functions" -ADDED "restricted use pesticides" and "properly responding to reasonable and foreseeable" problems and situations	''Practical knowledge'' means ''the possession of pertinent facts and comprehension **sufficient to properly perform functions associated with the use of restricted use pesticides, including properly responding to reasonable foreseeable** problems and situations.''	"Practical knowledge" means "the possession of pertinent facts and comprehension ~~together with the ability to use them in dealing with specific~~ problems and situations.
"Principal place of business" 2017 rule expanded definition to include Indian country	"Principal place of business" means "the principal location, either residence or office, where **a person conducts a business** that involves the **use of restricted use pesticides. A person who applies restricted use pesticides in more than one State or area of Indian country may designate a location within a State or area of Indian country as its principal place of business for that State or area of Indian country."**	''Principal place of business'' means ''the principal location, either residence or office, in the State in which an individual, ~~partnership, or corporation applies pesticides.~~'' (Note: This definition only applies to dealers, dealerships and transactions in States or on Indian Reservations where EPA directly administers a pesticide applicator certification program.)
2017 rule REMOVED definition for private applicator. Defined in FIFRA Section 2(e)	No definition for "private applicator."	"Private applicator" means "a certified applicator who uses or supervises the use of any pesticide which is classified for restricted use for purposes of producing any agricultural commodity on property owned or rented by him or his employer or (if applied without compensation other than trading of person services between producers of agricultural commodities) on the property of another person."
"Regulated pest" 2017 rule REPLACED "specific organism" with "particular species of pests" and ADDED "Tribal"	''Regulated pest'' means **"a particular species of pest specifically subject to Tribal,** State or Federal regulatory restrictions, regulations, or control procedures intended to protect the hosts, man and/or the environment.''	''Regulated pest'' means ''a ~~specific organism considered by a~~ State or Federal agency to be a pest requiring regulatory restrictions, regulations, or control procedures in order to protect the host, man and/or his environment.''
"Restricted use pesticide" 2017 rule ADDED reference to 40 CFR part 152 (labeling regulations)	''Restricted use pesticide'' means ''a pesticide that is classified for restricted use under the provisions of section 3(d) of FIFRA **and 40 CFR part 152, subpart I.**''	''Restricted use pesticide'' means ''a pesticide that is classified for restricted use under the provisions of section 3(d)(1)(C) of the Act.''
"Restricted use pesticide retail dealer" 2017 rule: -Emphasized "distributes or sells" instead of "available to use" and	''Restricted use pesticide retail dealer'' means "any person who **distributes or sells** restricted use pesticides to any person, **excluding transactions solely between persons who are pesticide producers, registrants, wholesalers, or retail sellers, acting only in those capacities."**	''Restricted use pesticide retail dealer'' means ''any person who ~~makes available for use~~ any restricted use pesticide, or who offers to make available for use any such pesticide.''

III. Detailed Comparison of Regulatory Text and Summary of Changes (A3) Definitions		
SUMMARY OF CHANGES	**2017 RULE - 40 CFR §171.3 Definitions**	**1970S RULE - 40 CFR §171.2 Definitions**
specifically excludes transactions between certain persons.		
2017 rule REMOVED definition for "standard"	No definition for "standard."	"Standard" means "the measure of knowledge and ability which must be demonstrated as a requirement for certification."
2017 rule REMOVED definition for "State"	No definition of "State."	"State" means "a State, the District of Columbia, the Common-wealth of Puerto Rico, the Virgin Islands, Guam, the Trust Territory of the Pacific islands, and American Samoa."
2017 rule REMOVED definition for "susceptibility"	No definition of "susceptibility."	"Susceptibility" means "degree to which an organism is affected by a pesticide at a particular level of exposure."
"Toxicity" 2017 rule -ADDED "degradates and metabolites" of pesticides and emphasized effects on "an organism"	''Toxicity'' means ''the property of a pesticide that **refers to the degree to which the pesticide, and its degradates and metabolites, are able to** cause an adverse physiological effect **on an organism**.''	"Toxicity'' means ''the property of a pesticide to cause any adverse physiological effects.''
2017 rule REMOVED definition for "Under the direct supervision". Defined in FIFRA Section 2(e)(4)	No definitions for "Under the direct supervision" or "Direct supervision." FIFRA section 2(e)(4) says ''unless otherwise prescribed by its labeling, a pesticide shall be considered to be applied under the direct supervision of a certified applicator if it is applied by a competent person acting under the instructions and control of a certified applicator who is available if and when needed, even though such certified applicator is not physically present at the time and place the pesticide is applied.''	~~"Under the direct supervision of" means "the act or process whereby the application of a pesticide is made by a competent person acting under the instructions and control of a certified applicator who is responsible for the actions of that person and who is available if and when needed, even though such certified applicator is not physically present at the time and place the pesticide is applied.~~ (Note: there is no definition for ''Direct supervision'')
2017 rule ADDED definition for "use, as in to use a pesticide"	***NEW* "Use, as in to use a pesticide''** means ''any of the following: (a) Pre-application activities involving mixing and loading the pesticide. (b) Applying the pesticide, including, but not limited to, supervising the use of a pesticide by a noncertified applicator. (c) Other pesticide-related activities, including, but not limited to, transporting or storing pesticide containers that have been opened, cleaning equipment, and disposing of excess pesticides, spray mix, equipment wash waters, pesticide containers, and other pesticide-containing materials.'' (Note: "use" pertains only to the use of restricted use pesticides.)	
2017 rule ADDED definition for "use-specific instructions"	***NEW* "Use-specific instructions''** means ''the information and requirements specific to a particular pesticide product or worksite that a user needs in order to use the pesticide in accordance with applicable requirements and without causing unreasonable adverse effects.''	

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B101) Commercial Applicator Certification Categories		
SUMMARY OF CHANGES	**2017 RULE §171.101 Commercial applicator certification categories**	**1970s RULE §171.3 Categorization of commercial applicators of pesticides**
	Certification categories. Categories of commercial applicators using or supervising the use of restricted use pesticides are identified below.	(a) Procedure. Categories of applicators (other than private) using or supervising the use of restricted use pesticides are identified below. State systems of applicator identification shall adopt these categories as needed, along with such appropriate subcategories as are necessary to meet the particular requirements of the State.
2017 rule RENAMED (1) Agricultural pest control – (i) "Plant" to "Crop pest control" -Uses "agricultural "commodities" in place of "crops" and "grains" in place of "feed grains" -REMOVED "soybeans" as an example of a plant but keeps "including but not limited to" (Order of crops changed, but not shown here.)	§171.101(a) Agricultural pest control. (1) Crop pest control. This category applies to commercial applicators who use or supervise the use of restricted use pesticides in production of agricultural **commodities**, including but not limited to **grains**, vegetables, small fruits, tree fruits, peanuts, tree nuts, tobacco, cotton, feed and forage crops including grasslands, and non-crop agricultural lands.	(b) Categories -(1) Agricultural pest control - (i) Plant. This category includes commercial applicators using or supervising the use of restricted use pesticides in production of agricultural ~~crops~~, including without limiting the foregoing, ~~feed~~ grains, vegetables, small fruits, tree fruits and nuts, peanuts, tobacco, cotton, ~~soybeans~~ and forage crops as well as grasslands, and non-crop agricultural lands.
2017 rule RENAMED (1) Agricultural pest control – (ii) "Animal" to "Livestock pest control" -REMOVED types of animals but keeps it limited to "places on or in which animals are confined" -ADDED that the category alone is not sufficient for predator control -REMOVED Doctors of Veterinary Medicine (Note: exception for Doctors of Veterinary Medicine applying RUPs as drugs or medicine is kept in new text at §171.103(e))	§171.101(a) Agricultural pest control. (2) Livestock pest control. This category applies to commercial applicators who use or supervise the use of restricted use pesticides on animals or to places on or in which animals are confined. **Certification in this category alone is not sufficient to authorize the purchase, use, or supervision of use of products for predator control listed in paragraphs (k) and (l) of this section.**	(b)(1) Agricultural pest control - (ii) Animal. This category includes commercial applicators using or supervising the use of restricted use pesticides on animals, ~~including without limiting the foregoing, beef cattle, dairy cattle, swine, sheep, horses, goats, poultry, and livestock, and~~ to places on or in which animals are confined. ~~Doctors of Veterinary Medicine engaged in the business of applying pesticides for hire, publicly holding themselves out as pesticide applicators, or engaged in large-scale use of pesticides are included in this category.~~
"Forest pest control" 2017 rule REPLACED "producing areas" with "production"	§171.101(b) Forest pest control. This category applies to commercial applicators who use or super vise the use of restricted use pesticides in forests, forest nurseries and forest seed production.	(b)(2) Forest pest control. This category includes commercial applicators using or supervising the use of restricted use pesticides in forests, forest nurseries and forest seed producing areas.
"Ornamental and turf pest control" 2017 rule REPLACED examples of plant types with general term "plants"	§171.101(c) Ornamental and turf pest control. This category applies to commercial applicators who use or supervise the use of restricted use pesticides to control pests in the maintenance and production of ornamental **plants** and turf.	(b)(3) Ornamental and turf pest control. This category includes commercial applicators using or supervising the use of restricted use pesticides to control pests in the maintenance and production of ornamental ~~trees, shrubs, flowers~~, and turf.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B101) Commercial Applicator Certification Categories		
SUMMARY OF CHANGES	**2017 RULE §171.101 Commercial applicator certification categories**	**1970s RULE §171.3 Categorization of commercial applicators of pesticides**
"Seed treatment" 2017 rule ADDED "seed treatment facilities"	§171.101(d) Seed treatment. This category applies to commercial applicators using or supervising the use of restricted use pesticides on seeds in **seed treatment facilities.**	(b)(4) Seed treatment. This category includes commercial applicators using or supervising the use of restricted use pesticides on seeds.
"Aquatic pest control" Minor changes in 2017 rule	§171.101(e) Aquatic pest control. This category applies to commercial applicators who use or supervise the use of any restricted use pesticide purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in as specified in paragraph (h) of this section.	(b)(5) Aquatic pest control. This category includes commercial applicators using or supervising the use of any restricted use pesticide purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in ~~category 8~~ below.
"Right-of-way pest control" 2017 rule -REPLACED "public roads" with "roadsides" -REMOVED "electric" from "powerlines"	§171.101(f) Right-of-way pest control. This category applies to commercial applicators who use or supervise the use of restricted use pesticides in the maintenance of **roadsides,** powerlines, pipelines, and railway rights-of-way, and similar areas.	(b)(6) Right-of-way pest control. This category includes commercial applicators using or supervising the use of restricted use pesticides in the maintenance of ~~public roads~~, ~~electric~~ powerlines, pipelines, railway rights-of-way or other similar areas.
"Industrial, institutional, structural and ~~health related~~ pest control" 2017 rule: -REMOVED "health-related" pest control. -ADDED "packing houses, and food-processing facilities", "prisons" and "manufacturing facilities" to examples of establishments.	§171.101(g) Industrial, institutional, and structural pest control. This category applies to commercial applicators who use or supervise the use of restricted use pesticides in, on, or around the following: Food handling establishments, **packing houses, and food-processing facilities**; human dwellings; institutions, such as schools, hospitals **and prisons**; and industrial establishments, including **manufacturing facilities**, warehouses, grain elevators, and any other structures and adjacent areas, public or private, for the protection of stored, processed, or manufactured products.	(b)(7) Industrial, institutional, structural and ~~health related~~ pest control. This category includes commercial applicators using or supervising the use of restricted use pesticides in, on, or around food handling establishments, human dwellings, institutions, such as schools and hospitals, industrial establishments, including, warehouses and grain elevators, and any other structures and adjacent areas, public or private, ~~and~~ for the protection of stored, processed, or manufactured products.
"Public health pest control" 2017 rule ADDED "Tribal" and "government-sponsored" (public health programs) to definition	§171.101(h) Public health pest control. This category applies to State, **Tribal,** Federal or other governmental employees and contractors who use or supervise the use of restricted use pesticides **in government-sponsored** public health programs for the management and control of pests having medical and public health importance.	(b)(8) Public health pest control. This category includes State, Federal or other governmental employees and contractors using or supervising the use of restricted use pesticides in public health programs for the management and control of pests having medical and public health importance.
"Regulatory pest control" 2017 rule ADDED "Tribal" and "local" to governmental employees and "contractors" - ADDED that certification in this category is not sufficient for Predator control	§171.101(i) Regulatory pest control. This category applies to State, Tribal, Federal, or other **local** governmental employees **and contractors** who use or supervise the use of restricted use pesticides in **government-sponsored programs for** the control of regulated pests. **Certification in this category does not authorize the purchase, use, or supervision of use of products for predator control listed in paragraphs (k) and (l)**	(b)(9) Regulatory pest control. This category applies to State, Federal, or other governmental employees who use or supervise the use of restricted use pesticides in the control of regulated pests.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B101) Commercial Applicator Certification Categories		
SUMMARY OF CHANGES	**2017 RULE §171.101 Commercial applicator certification categories**	**1970s RULE §171.3 Categorization of commercial applicators of pesticides**
"Demonstration and research" 2017 rule: -Emphasized research using "restricted use" pesticides and demonstrations with "restricted use" pesticide products" instead of "pesticides" -REPLACED demonstration of "methods" with "application or pest control methods" -ADDED that demonstrations can be public "or private" programs	§171.101(j) Demonstration and research. This category applies to individuals who demonstrate to the public the proper use and techniques of application of restricted use pesticides or supervise such demonstration and to persons conducting field research **with restricted use pesticides**, and in doing so, use or supervise the use of restricted use pesticides. This includes such individuals as extension specialists and county agents, commercial representatives demonstrating **restricted use** pesticide products, individuals demonstrating **application or** pest control methods used in public **or private** programs, and State, Federal, commercial, and other persons conducting field research on or involving restricted use pesticides.	(b)(10) Demonstration and research ~~pest control~~. This category ~~includes~~: (i) individuals who demonstrate to the public the proper use and techniques of application of restricted use pesticides or supervise such demonstration, and (ii) persons conducting field research with pesticides, and in doing so, use or supervise the use of restricted use pesticides. Included in the first group are such persons as extension specialists and county agents, commercial representatives demonstrating pesticide products, and those individuals demonstrating methods used in public programs. The second group includes: State, Federal, commercial, and other persons conducting field research on or utilizing restricted use pesticides.
-ADDED optional commercial applicator certification categories -No concurrent category certification required -Certifying authorities are not required to adopt category if not needed -May combine soil fumigation and nonsoil fumigation categories	***NEW* §171.101(k) Sodium cyanide predator control.** This pest control category applies to commercial applicators who use or supervise the use of sodium cyanide in a mechanical ejection device to control regulated predators.	
	***NEW* §171.101(l) Sodium fluoroacetate predator control.** This pest control category applies to commercial applicators who use or supervise the use of sodium fluoroacetate in a protective collar to control regulated predators.	
	***NEW* §171.101(m) Soil fumigation.** This category applies to commercial applicators who use or supervise the use of a restricted use pesticide to fumigate soil.	
	***NEW* §171.101(n) Non-soil fumigation.** This category applies to commercial applicators who use or supervise the use of a restricted use pesticide to fumigate anything other than soil.	
	***NEW* §171.101(o) Aerial pest control.** This category applies to commercial applicators who use or supervise the use of restricted use pesticides applied by fixed or rotary wing aircraft.	
SAME - A State may designate subcategories within categories, and omit any federal categories not needed	171.303 Requirements for State Certification Plans. (a) *Conformance with Federal standards for certification of applicators of restricted use pesticides.* A State may certify applicators of restricted use pesticides only in accordance with a State certification plan approved by the Agency. The State certification plan must meet all of the following requirements… (2) The State certification plan must specify which of the certification categories listed in § 171.101 will be included in the plan. (i) A State certification plan may omit any unneeded certification categories. (ii) A State certification plan may designate subcategories within the categories described in §§171.101 and 171.105(b) through (f) as it deems necessary. (iii) A State certification plan may include additional certification categories not covered by the existing Federal categories described in §§ 171.101 and 171.105(b)–(f).	171.3(c) Other categories and subcategories. Any State submitting a plan pursuant to this section for the certification of applicators, as provided for below, may designate such subcategories within the above 10 categories as it deems necessary. In addition, a State may delete a category not needed for may request the Administrator's approval of additional major categories.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
2017 RULE – -REPLACED determination of competency in use/handling of "pesticides" with "restricted use pesticides" -REMOVED that States should recognize and reflect on the extent of competency appropriate and necessary when developing detailed standards and exams	§171.103(a) Determination of competency. To be determined to have the necessary competency in the use and handling of **restricted use** pesticides **by a State, Tribe, or Federal agency**, a commercial applicator **must receive a passing score** on a written examination that meets the standards specified in paragraph (a)(2) of this section and any related performance testing that is required by the State, Tribe, or Federal agency. Examinations and any alternate methods employed by the certifying authority to determine applicator competency must include the core standards applicable to all categories (paragraph (c) of this section) and the standards applicable to each category in which an applicator seeks certification (paragraph (d) of this section). Certification processes must meet all of the following criteria:	(a) Determination of competency. Competence in the use and handling of pesticides shall be determined on the basis of written examinations, and, as appropriate, performance testing, based upon standards set forth below and which are approved by the Administrator. Such examination and testing shall include the general standards applicable to all categories (§171.4(b)) and the additional standards specifically identified for each category ~~or subcategory (if any)~~ in which an applicator is to be classified (§171.4(c)). State standards must conform and be at least equal to those prescribed herein. ~~In developing the details of standards at the State level and in structuring examinations, it is important to recognize and reflect the extent of competency appropriate and necessary to a particular category.~~
2017 rule ADDED commercial applicator minimum age requirement of 18	***NEW* §171.103(a)(1) Commercial applicator minimum age.** A commercial applicator must be at least 18 years old.	
Summary of NEW 2017 rule Exam standards: -Candidate must be present to take written exam; provide i.d.; not communicate with others except proctor during exam, not copy or keep exam or reference materials; and may only use reference materials provided by proctor -Certifying authority must provide proctor (who cannot be taking same exam) to give pre-exam instructions; monitor; keep exam secure; provide, collect and review reference materials (if any); report exam problems; follow certifying authority's other requirements for exam administration; and notify candidates of results	***NEW* §171.103(a)(2) Examination standards.** The certifying authority must ensure that examinations conform to all of the following standards: (i) The examination must be presented and answered in writing. (ii) The examination must be proctored by an individual designated by the certifying authority and who is not seeking certification at any examination session that he or she is proctoring. (iii) Each person seeking certification must present at the time of examination valid, government-issued photo identification or other form of similarly reliable identification authorized by the certifying authority as proof of identity and age to be eligible for certification. (iv) Candidates must be monitored throughout the examination period. (v) Candidates must be instructed in examination procedures before beginning the examination. (vi) Examinations must be kept secure before, during, and after the examination period so that only the candidates have access to the examination, and candidates have access only in the presence of the proctor. (vii) Candidates must not have verbal or non-verbal communication with anyone other than the proctor during the examination period. (viii) No portion of the examination or any associated reference materials described in paragraph (a)(2)(ix) of this section may be copied or retained by any person other than a person authorized by the certifying authority to copy or retain the examination or any associated reference materials described in paragraph (a)(2)(ix) of this section. (ix) The only reference materials used during the examination are those that are approved by the certifying authority and provided and collected by the proctor. (x) Reference materials provided to examinees are reviewed after the examination is complete to ensure that no portion of the reference material has been removed, altered, or destroyed. (xi) The proctor reports to the certifying authority any examination administration inconsistencies or irregularities, including but not limited to cheating, use of unauthorized materials, and attempts to copy or retain the examination. (xii) The examination must be conducted in accordance with any other requirements of the certifying authority related to examination administration. (xiii) The certifying authority must notify each candidate of the results of his or her examination.	

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
2017 RULE – -REMOVED determination of competency for private applicator nonreader Other than that, mostly the same whereby the certifying authority may use performance or other testing methods	§171.103(b) Additional methods of determining competency. In addition to written examination requirements for determining competency, a certifying authority may employ additional methods for determining applicator competency, such as performance testing. Any such additional methods must be specified in the certifying authority's Agency- approved certification plan and must comply with the applicable standards in paragraph (a) of this section.	§171.7 Submission and approval of State plans for certification of commercial and private applicators of RUPs. (e) Contains satisfactory assurances that State standards for the certification of applicators of pesticides conform to those standards prescribed by the Administrator under §§171.1 through 171.6. Such assurances should consist of: (1) A detailed description of the State's plan for certifying applicators and a discussion of any special situations, problems, and needs together with an explanation of how the State intends to handle them. The State plan should include the following elements as a minimum:(i) for commercial applicators: (D) For each category or subcategory…a description of any performance testing used to determine competency of applicators. (ii) for private applicators: (C) Types and contents of exams and/or submission of detailed description of methods other than exams used to determine competency of private applicators. ~~(D) A description of any special procedure of testing that a State develops to determine the competency of a private applicator who is unable to read the label as prescribed in §171.5(b)(1).~~
2017 RULE introduction to core standards for commercial applicators emphasizes written exam and proper and effective use of restricted use pesticides, whereas the 1970s RULE focused on testing and the safe use of pesticides (not RUPs)	§171.103(c) Core standards for all categories of certified commercial applicators. Persons seeking certification as commercial applicators must demonstrate practical knowledge of the principles and practices of pest control and **proper and effective use of restricted use pesticides by passing a written exam**. **Written examinations** for all commercial applicators must address all of the following areas of competency:	§171.4 General standards for all categories of certified commercial applicators. (1) All commercial applicators shall demonstrate practical knowledge of the principles and practices of pest control and ~~safe use of~~ pesticides. ~~Testing shall be based on examples of problems and situations appropriate to the particular category or subcategory of the applicator's certification~~ and the following areas of competency:
1970s RULE emphasized label is the law 2017 RULE -ADDED supervisory requirements of noncertified applicators, complying with label- specific requirements and understanding the difference between mandatory and advisory label language	§171.103(c)(1) Label and labeling comprehension. Familiarity with pesticide labels and labeling and their functions, including all of the following: (i) The general format and terminology of pesticide labels and labeling. (ii) Understanding instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels **and labeling**. (iii) **Understanding that it is a violation of Federal law to use any registered pesticide in a manner inconsistent with its labeling.** (iv) **Understanding labeling requirements that a certified applicator must be physically present at the site of the application (v) Understanding labeling requirements for supervising noncertified applicators working under the direct supervision of a certified applicator.**	§171.4(b)(i) Label and labeling comprehension. (a) The general format and terminology of pesticide labels and labeling. (b) The understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels. (c) Classification of the product, general or restricted; and (d) ~~Necessity for~~ use consistent with the label.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
	(vi) Understanding that applicators must comply with all use restrictions and directions for use contained in pesticide labels and labeling, including being certified in the certification category appropriate to the type and site of the application. (vii) Understanding the meaning of product classification as either general or restricted use, and that a product may be unclassified. **(viii) Understanding and complying with product-specific notification requirements. (ix) Recognizing and understanding the difference between mandatory and advisory labeling language.**	
017 RULE -ADDED acute and chronic toxicity, long-term effects, that risk is a function of exposure and toxicity, and routes of entry. Also uses "mishap" in place of "accident"	§171.103(c)(2) Safety. Measures to avoid or minimize adverse health effects, including all of the following: **(i) Understanding the different natures of the risks of acute toxicity and chronic toxicity, as well as the long-term effects of pesticides. (ii)Understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity. (iii) Recognition of likely ways in which dermal, inhalation, and oral exposure may occur.** (iv) Common types and causes of pesticide **mishaps**. (v) Precautions to prevent injury to applicators and other individuals in or near treated areas. (vi) Need for, and proper use of, protective clothing and personal protective equipment. (vii) Symptoms of pesticide poisoning. (viii) First aid and other procedures to be followed in case of a pesticide **mishap**. (ix) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers.	§171.4(b)(ii) Safety. Factors including: (a) Pesticide toxicity and hazard to man and common exposure routes; (b) Common types and causes of pesticide ~~accidents~~. (c) Precautions to prevent injury to applicators and other individuals in or near treated areas. (d) Need for, and proper use of, protective clothing and personal protective equipment. (e) Symptoms of pesticide poisoning. (f) First aid and other procedures to be followed in case of a pesticide ~~accident~~; and (g) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers.
2017 and 1970s RULE core standards for "environment" are the same	§171.103(c)(3) Environment. The potential environmental consequences of the use and misuse of pesticides, including the influence of the following: (i) Weather and other **indoor and outdoor** climatic conditions. (ii) Types of terrain, soil, or other substrate. (iii) Presence of fish, wildlife, and other non-target organisms. (iv) Drainage patterns.	§171.4(a)(iii) Environment. The potential environmental consequences of the use and misuse of pesticides as may be influenced by such factors as: (a) Weather and other climatic conditions; (b) Types of terrain, soil or other substrate; (c) Presence of fish, wildlife and other non-target organisms; and (d) Drainage patterns.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
2017 RULE -Emphasized correct identification of target pest whereas the 1970s RULE had recognition of relevant pests -REMOVED characteristics of damage, pest development and biology (Can be a part of "correctly identifying target pest") -ADDED need to very that the label does not prohibit use on target pests	§171.103(c)(4) Pests. The proper identification and effective control of pests, including all of the following: (i) The **importance of correctly identifying target** pests **and selecting the proper pesticide product(s) for effective pest control.** (ii) **Verifying that the labeling does not prohibit the use of the product to control the target pest(s).**	§171.4(a)(iv) Pests. Factors such as: (a) ~~Common features of pest organisms and characteristics of damage needed for pest recognition;~~ (b) ~~Recognition of relevant~~ pests; ~~and (c) Pest development and biology as it may be relevant to problem identification and control.~~
2017 and 1970s RULE core standards for "pesticides" are the same	§171.103(c)(5) Pesticides. Characteristics of pesticides, including all of the following: (i) Types of pesticides. (ii) Types of formulations. (iii) Compatibility, synergism, persistence, and animal and plant toxicity of the formulations. (iv) Hazards and residues associated with use. (v) Factors that influence effectiveness or lead to problems such as pesticide resistance. (vi) Dilution procedures.	§171.4(a)(v) Pesticides. Factors such as: (a) Types of pesticides; (b) Types of formulations; (c) Compatibility, synergism, persistence and animal and plant toxicity of the formulations; (d) Hazards and residues associated with use; (e) Factors ~~which~~ influence effectiveness or lead to such problems as resistance to pesticides; and (f) Dilution procedures.
2017 and 1970s RULE core standards for "pesticides" are the same	§171.103(c)(6) Equipment. Application equipment, including all of the following: (i) Types of equipment and advantages and limitations of each type. (ii) Uses, maintenance, and calibration **procedures**.	§171.4(a)(vi) Equipment. Factors including: (a) Types of equipment and advantages and limitations of each type; and (b) Uses, maintenance and calibration.
2017 RULE -REPLACED "solutions, and gases", with the more general term "forms" -ADDED certification for new federal categories and that applicators should be aware of when a pesticide is used ineffectively.	§171.103(c)(7) Application methods. Selecting appropriate application methods, including all of the following: (i) Methods used to apply various **forms** and formulations of pesticides. (ii) Knowledge of which application method to use in a given situation **and that use of a fumigant, aerial application, sodium cyanide or sodium fluoroacetate requires additional certification.** (iii) How selection of application method and use of a pesticide may result in proper use, unnecessary or **ineffective** use, and misuse. (iv) Prevention of drift and pesticide loss into the environment.	§171.4(a)(vii) Application techniques. Factors including: (a) Methods ~~of procedure~~ used to apply various formulations of pesticides, ~~solutions, and gases,~~ together with a knowledge of which technique of application to use in a given situation; (b) Relationship of discharge and placement of pesticides to proper use, unnecessary use, and misuse; and (c) Prevention of drift and pesticide loss into the environment.
2017 RULE ADDED "Tribal" to knowledge of laws and regulations	§171.103(c)(8) Laws and regulations. Knowledge of all applicable State, **Tribal,** and Federal laws and regulations.	§171.4(a)(viii) Laws and regulations. Applicable State and Federal laws and regulations.
NEW in 2017 RULE -Core standards for commercial applicators on responsibilities of supervisors of noncertified applicators using RUPs	***NEW* §171.103(c)(9) Responsibilities of supervisors of noncertified applicators.** Knowledge of the responsibilities of certified applicators supervising noncertified applicators, including all of the following: (i) Understanding and complying with requirements in §	

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
	171.201 of this part for commercial applicators who supervise noncertified applicators using restricted use pesticides. (ii) The recordkeeping requirements of pesticide safety training for noncertified applicators who use restricted use pesticides under the direct supervision of a certified applicator. (iii) Providing use-specific instructions to noncertified applicators using restricted use pesticides under the direct supervision of a certified applicator. (iv) Explaining pertinent State, Tribal, and Federal laws and regulations to noncertified applicators who use restricted use pesticides under the direct supervision of a certified applicator.	
NEW in 2017 RULE -Core standards for commercial applicators on professionalism, including understanding security of RUPs, communicating risks and stewardship	***NEW* §171.103(c)(10) Professionalism.** Understanding the importance of all of the following: (i) Maintaining chemical security for restricted use pesticides. (ii) How to communicate information about pesticide exposures and risks with customers and the public. (iii) Appropriate product stewardship for certified applicators.	
	§171.103(d) Specific standards of competency for each category of commercial applicators. **In addition to satisfying the requirements of paragraph (c) of this section, to be certified as commercial applicators, persons must demonstrate through written examinations practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticides for each category for which they intend to apply restricted use pesticides, except as provided at 171.303(a)(4) *(State limited use category for commercial applicators)* and 171.305(a)(5) *(Federal agency limited use category for commercial applicators)*. The minimum competency standards for each category are listed in paragraph (d)(1) through (15) of each section. Examinations for each category of certification listed in 171.101 *(commercial applicator certification categories)* must be based on the standards of competency specified in paragraphs (d)(1) through (15) of this section and examples of problems and situations appropriate to the particular category in which the applicator is seeking certification.**	§171.4(c) Specific standards of competency for each category of commercial applicators. ~~Some of the factors referenced in paragraph(b) of this section are of particular importance because of the different types of activities carried out by applicators in each category. Such factors must be especially stressed and specifically reflected in State certification standards, as appropriate. For example, practical knowledge of drift problems should be required of agricultural applicators but not of seed treatment applicators. The latter, however, should be particularly knowledgeable of the hazards of the misuse of treated seed and the necessary precautionary techniques. Many applicators in 171.3(b)(8), (9), and (10) will have had considerable formal education, training and experience in preparation for their positions. Their competency with respect to the use and handling of pesticides will have been determined by examining boards of their professional scientific societies utilizing standards which equal or exceed those prescribed herein. Such standards should be consulted by States in developing their State standards for certification of such applicators under these regulations.~~ Commercial applicators in each category shall be particularly qualified with respect to the practical knowledge standards elaborated below:

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
Agricultural pest control. (i) Plants Crop pest control 2017 rule: -ADDED grasslands and non-crop agricultural lands; "other problems" to "non-target injury", etc.; required knowledge of the potential of phytotoxicity due to "a wide variety of plants", "drift", "persistence" and "non-target exposures" -REPLACED "re-entry intervals" with "Restricted entry intervals"	§171.103(d)(1) Agricultural pest control. (i) Crop pest control. Applicators must demonstrate practical knowledge of crops, **grasslands, and non-crop agricultural lands** and the specific pests of those areas on which they may be using restricted use pesticides. The importance of such competency is amplified by the extensive areas involved, the quantities of pesticides needed, and the ultimate use of many commodities as food and feed. The required knowledge includes pre-harvest intervals, restricted entry intervals, phytotoxicity, potential for environmental contamination such as soil and water problems, non-target injury, and other problems resulting from the use of restricted use pesticides in agricultural areas. **The required knowledge also includes the potential for phytotoxicity due to a wide variety of plants to be protected, for drift, for persistence beyond the intended period of pest control, and for non-target exposures.**	§§171.4(c)(1) Agricultural pest control. (i) ~~Plants.~~ Applicators must demonstrate practical knowledge of crops grown and the specific pests of those crops on which they may be using restricted use pesticides. The importance of such competency is amplified by the extensive areas involved, the quantities of pesticides needed, and the ultimate use of many commodities as food and feed. Practical knowledge is required concerning soil and water problems, pre-harvest intervals, ~~re-entry~~ intervals, phytotoxicity, and potential for environmental contamination, non-target injury, and ~~community problems~~ resulting from the use of restricted use pesticides in agricultural areas.
cultural pest control. (ii) ~~Animals~~ Livestock pest control 2017 rule – RENAMED Agricultural pest control, "Animals" as "Livestock pest control" -REMOVED the point that "host animals will frequently be used for food"	**2017 RULE** §171.103(d)(1) Agricultural pest control. (ii) **Livestock pest control**. Applicators must demonstrate practical knowledge of such animals and their associated pests. The required knowledge includes specific pesticide toxicity and residue potential, and the hazards associated with such factors as formulation, application techniques, age of animals, stress, and extent of treatment.	§171.4(c)(1) Agricultural pest control. (ii) ~~Animals~~. Applicators ~~applying pesticides directly to animals~~ must demonstrate practical knowledge of such animals and their associated pests. A practical knowledge is also required concerning specific pesticide toxicity and residue potential~~, since host animals will frequently be used for food~~. Further, the applicator must know the relative hazards associated with such factors as formulation, application techniques, age of animals, stress, and extent of treatment.
Forest pest control 2017 rule -EXPANDED from "States" to all "certifying authorities" - REPLACED "biotic agents" with "organisms causing harm" -ADDED determining when to use pesticides, and selecting method and equipment to minimize "non-target exposures", and knowledge of causes of "phytotoxicity" such as drift, persistence and non-target exposures	§171.103(d)(2) Forest pest control. Applicators must demonstrate practical knowledge of types of forests, forest nurseries, and seed production **within the jurisdiction of the certifying authority** and the pests involved. The required knowledge includes the cyclic occurrence of certain pests and specific population dynamics as a basis for programming pesticide applications, the relevant **organisms causing harm** and their vulnerability to the pesticides to be applied, **how to determine when pesticide use is proper, selection of application method** and proper use of **application** equipment to minimize **non-target exposures, and appropriate responses** to meteorological factors and adjacent land use.**The required knowledge also includes**	§171.4(c)(2) Forest pest control. Applicators shall demonstrate practical knowledge of types of forests, forest nurseries, and seed production in their State and the pests involved. They should possess practical knowledge of the cyclic occurrence of certain pests and specific population dynamics as a basis for programming pesticide applications. A practical knowledge is required of relative ~~biotic agents~~ and their vulnerability to the pesticides to be applied.~~Because forest stands may be large and frequently include natural aquatic habitats and harbor wildlife, the consequences of pesticide use may be difficult to assess.~~ The applicator must therefore demonstrate practical knowledge of control methods which will minimize ~~the possibility of secondary problems such as unintended effects on wildlife.~~ Proper use of ~~specialized~~ equipment ~~must be demonstrated, especially as it may relate~~ to meteorological factors and adjacent land

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
	the potential for phytotoxicity due to a wide variety of plants to be protected, for drift, for persistence beyond the intended period of pest control, and for non-target exposures.	use.
Ornamental and turf pest control 2017 rule -REPLACED "trees and shrubs" with generic term "plants and turf"; and knowledge of hazards to humans, pets, etc. with "non-target exposures"	§171.103(d)(3) Ornamental and turf pest control. Applicators must demonstrate practical knowledge of pesticide problems associated with the production and maintenance of ornamental plants and turf. The required knowledge includes the potential for phytotoxicity due to a wide variety of plants to be protected, for drift, for persistence beyond the intended period of pest control, and for non-target exposures. Because of the frequent proximity of human habitations to application activities, applicators in this category must demonstrate practical knowledge of application methods that will minimize or prevent hazards to humans, pets, and other domestic animals.	§171.4(c)(3) Ornamental and turf pest control. Applicators shall demonstrate practical knowledge of pesticide problems associated with the production and maintenance of ornamental ~~trees, shrubs,~~ plantings and turf, including ~~cognizance of~~ potential phytotoxicity due to a wide variety of plant ~~material~~, drift, and persistence beyond the intended period of pest control. Because of the frequent proximity of human habitations to application activities, applicators in this category must demonstrate practical knowledge of application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
Seed treatment 2017 rule: -ADDED standard to "recognize" types of seeds to be treated and "proper application techniques" so as not to harm "non- target organisms" -REMOVED specific mention of "seed coloration" as a reason for pesticide use; and example of "introduction of treated seed into food and feed" as an example of "treated seed misuse"	§171.103(d)(4) Seed treatment. Applicators must demonstrate practical knowledge including **recognizing** types of seeds **to be treated**, the effects of carriers and surface active agents on pesticide binding and germination, the hazards associated with handling, sorting and mixing, and misuse of treated seed, **the importance of proper application techniques to avoid harm to non-target organisms**, and the proper disposal of unused treated seeds.	§171.4(c)(4) Seed treatment. Applicators shall demonstrate practical knowledge of types of seeds that require chemical protection against pests and factors such as ~~seed coloration~~, carriers, and surface active agents which influence pesticide binding and may affect germination. They must demonstrate practical knowledge of hazards associated with handling, sorting and mixing, and misuse of treated seed ~~such as introduction of treated seed into food and feed channels,~~ as well as proper disposal of unused treated seeds.
Aquatic pest control 2017 rule -REPLACED "water use" with "aquatic use" -REMOVED list of causes of "secondary effects" (i.e., faulty application) -Specifies adverse effects in "immediate" aquatic environment and ADDED "downstream"	§171.103(d)(5) Aquatic pest control. Applicators must demonstrate practical knowledge of the characteristics of various **aquatic use** situations, the potential for **adverse effects** on non-target plants, fish, birds, beneficial insects and other organisms in the **immediate** aquatic environment **and downstream**, and the principles of limited area application.	§171.4(c)(5) Aquatic pest control. Applicators shall demonstrate practical knowledge of the ~~secondary effects which can be caused by improper application rates, incorrect formulations, and faulty application of restricted use pesticides used in this category.~~ They shall demonstrate practical knowledge of various water use situations and the potential of downstream effects. Further, they must have practical knowledge concerning potential pesticide effects on plants, fish, birds, beneficial insects and other organisms which may be present in the aquatic environments. These applicators shall demonstrate practical knowledge of the principles of limited area application.

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SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
Right-of-way pest control 2017 rule -REPLACED "wide variety" with "types" (of environments) and "different terrains" and "waterways" with "terrestrial and aquatic" -Emphasizes "persistence" instead of impact on "adjacent areas and communities"	§171.103(d)(6) Right-of-way pest control. Applicators must demonstrate practical knowledge of the **types of environments (terrestrial and aquatic)** traversed by rights-of- way, recognition **of target pests**, and **techniques to minimize non-target exposure**, runoff, drift, and excessive foliage destruction. The required knowledge also includes the potential for **phytotoxicity due to a wide variety of plants and pests to be controlled, and for persistence beyond the intended period of pest control.**	§171.4(c)(6) Right-of-way pest control. Applicators shall demonstrate practical knowledge of a wide variety of environments, since rights-of-way can traverse many different terrains, including waterways. They shall demonstrate practical knowledge of problems on runoff, drift, excessive foliage destruction, and the ability to recognize ~~target organisms~~. ~~They shall also demonstrate~~ practical knowledge of ~~the nature of herbicides and the need for containment of these pesticides within the right-of-way area, and the impact of their application activities in the adjacent areas and communities.~~
Industrial, institutional, structural, and ~~health~~ pest control 2017 rule -REMOVED "health" pest control and practical knowledge of exposure to sensitive populations. - REPLACED "wide variety of pests" with "industrial, institutional and structural pests"; "human exposure…" with "minimize acute and chronic exposure of people and pets"; and "practical knowledge of environmental conditions" with minimizing "environmental impacts of outdoor applications"	**2017 RULE** §171.103(d)(7) Industrial, institutional, and structural pest control. Applicators must demonstrate a practical knowledge of **industrial, institutional, and structural pests**, including recognizing those pests **and signs of their presence**, their habitats, their life cycles, biology, and behavior as it may be relevant to problem identification and control. Applicators must demonstrate practical knowledge of types of formulations appropriate for control of **industrial, institutional and structural** pests, and methods of application that avoid contamination of food, minimize damage to and contamination of areas treated, **minimize acute and chronic exposure of people and pets, and minimize environmental impacts of outdoor applications.**	§171.4(c)(7) Industrial, institutional, structural, and ~~health~~ pest control. Applicators must demonstrate a practical knowledge of ~~a wide variety of pests~~, including their life cycles, types of formulations appropriate for their control, and methods of application that avoid contamination of food, damage and contamination of habitat and exposure of people and pets. ~~Since human exposure, including babies, children, pregnant women, and elderly people is frequently a potential problem, applicators must demonstrate practical knowledge of the specific factors which may lead to hazardous conditions, including continuous exposure in the various situations encountered in this category. Because health related pest control may involve outdoor applications, applicators must also demonstrate practical knowledge of environmental conditions, particularly related to this activity.~~
8) Public health pest control 2017 rule -ADDED knowledge of biology and behavior to pest habitats and life cycles; and knowledge of minimizing damage and contamination, exposure to people and pets, and non-target exposures	§171.103(d)(8) Public health pest control. Applicators **must** demonstrate practical knowledge of pests that are important vectors of disease, including recognizing the pests and signs of their presence, their habitats, their life cycles, **biology and behavior** as it may be relevant to problem identification and control. The required knowledge also includes how to **minimize damage to and contamination of areas treated, acute and chronic exposure of people and pets, and non- target exposures.**	§171.4(c)(8) Public health pest control. Applicators ~~shall~~ demonstrate practical knowledge of vector-disease transmission ~~as it relates to and influences application programs~~. A wide variety of pests is involved, and it is essential that they may be known and recognized, and appropriate life cycles and habitats be understood ~~as a basis for control strategy.~~ These applicators shall have practical knowledge of a ~~great variety of environments ranging from streams to those conditions found in buildings.~~ They should also have practical knowledge of ~~the importance and employment of such non-chemical control methods as sanitation, waste disposal and drainage.~~
(9) Regulatory pest control 2017 rule -REPLACED knowledge of population dynamics of "relevant pests" with "regulated pests". -REMOVED knowledge beyond	§171.103(d)(9) Regulatory pest control. Applicators **must** demonstrate practical knowledge of regulated pests, applicable laws relating to quarantine and other regulation of regulated pests, and the potential impact on the environment of restricted use pesticides used in	§171.4(c)(9) Regulatory pest control. Applicators ~~shall~~ demonstrate practical knowledge of regulated pests, applicable laws relating to quarantine and other regulation of pests, and the potential impact on the environment of restricted use pesticides used in suppression and eradication programs. They ~~shall~~ demonstrate knowledge of factors

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B103) Commercial applicator certification standards of competency		
SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
immediate duties	suppression and eradication programs. They **must** demonstrate knowledge of factors influencing introduction, spread, and population dynamics of **regulated** pests.	influencing introduction, spread, and population dynamics of ~~relevant~~ pests. ~~Their knowledge shall extend beyond that required by their immediate duties, since their services are frequently required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgments must be made in new situations.~~
(10) Demonstration and research ~~pest control~~ 2017 rule - applicators must "demonstrate competency" of other categories applicable to demonstrations, as opposed to having "practical knowledge" of other categories. -does not say the same for "research" -REMOVED practical knowledge of general standards	§171.103(d)(10) Demonstration and research. Applicators must demonstrate practical knowledge of the **potential** problems, pests, and population levels **reasonably expected to occur** in a demonstration situation and the **effects of restricted use pesticides on target and non-target organisms**. In addition, they must **demonstrate competency** in each pest control category applicable to their demonstrations.	§171.4(c)(10) Demonstration and research ~~pest control~~. Persons demonstrating the safe and effective use of pesticides to other applicators and the public will be ~~expected to meet comprehensive standards reflecting a broad spectrum of pesticide uses. Many different pest problems situations will be encountered in the course of activities associated with demonstration, and~~ practical knowledge of problems, pests and population levels occurring in each demonstration situations is required. ~~Further, they should demonstrate and understanding of~~ a ~~**pesticide-organism interactions**~~ and ~~the importance of integrating pesticide use with other control methods~~. In general, it would be expected that applicators doing demonstration pest control work possess a ~~practical knowledge of all standards detailed in §171.4(b) [General standards for all categories of certified commercial applicators].~~ In addition, they shall meet the specific standards required for paragraphs (c)(1) through (7) [Agricultural-animal, Agricultural-plant, Forest, Ornamental and turf, Seed treatment, Aquatic, Right-of-way, and Industrial, institutional, structural and health related pest control] of this section as may be applicable to their particular activity. Persons conducting field research or method improvement work with RUPs [Note: paraphrased here – not actual text…] also expected to know ~~general standards in §171.4(b) and~~ specific standards for the categories that apply to their situation (listed above plus public health and regulatory pest control), ~~or alternatively to meet the more inclusive requirements listed under "Demonstration".~~
***NEW* §171.103(d)(11) Sodium cyanide predator control**. Applicators must demonstrate practical knowledge of mammalian predator pests, including recognizing those pests and signs of their presence, their habitats, their life cycles, biology, and behavior as it may be relevant to pest identification and control. Applicators must demonstrate comprehension of all laws and regulations applicable to the use of mechanical ejection devices for sodium cyanide, including the restrictions on the use of sodium cyanide products ordered by the EPA Administrator. Applicators must also demonstrate practical knowledge and understanding of all of the specific use restrictions for sodium cyanide devices, including safe handling and proper placement of the capsules and device, proper use of the antidote kit, notification to medical personnel before use of the device, conditions of and restrictions on when and where devices can be used, requirements to consult U.S. Fish and Wildlife Service maps before use to avoid affecting endangered species, maximum density of devices, provisions for supervising and monitoring applicators, required information exchange in locations where more than one agency is authorized to place devices, and specific requirements for recordkeeping, monitoring, field posting, proper storage, and disposal of damaged or used sodium cyanide capsules.		

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SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
***NEW* §171.103(d)(12) Sodium fluoroacetate predator control.** Applicators must demonstrate practical knowledge of mammalian predator pests, including recognizing those pests and signs of their presence, their habitats, their life cycles, biology, and behavior as it may be relevant to pest identification and control. Applicators must demonstrate comprehension of all laws and regulations applicable to the use of sodium fluoroacetate products, including the restrictions on the use of sodium fluoroacetate products ordered by the EPA Administrator. Applicators must also demonstrate practical knowledge and understanding of the specific use restrictions for sodium fluoroacetate in the livestock protection collar, including where and when sodium fluoroacetate products can be used, safe handling and placement of collars, and practical treatment of sodium fluoroacetate poisoning in humans and domestic animals. Applicators must also demonstrate practical knowledge and understanding of specific requirements for field posting, monitoring, recordkeeping, proper storage of collars, disposal of punctured or leaking collars, disposal of contaminated animal remains, vegetation, soil, and clothing, and reporting of suspected and actual poisoning, mishap, or injury to threatened or endangered species, humans, domestic animals, or non-target wild animals.		
***NEW* §171.103(d)(13) Soil fumigation.** Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigation applications, including all the following: (i) Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following: (A) Labeling requirements specific to soil fumigants. (B) Requirements for certified applicators of fumigants, fumigant handlers and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision. (C) Entry-restricted periods for tarped and untarped field application scenarios. (D) Recordkeeping requirements. (E) Labeling provisions unique to fumigant products containing certain active ingredients. (ii) Safety. Measures to minimize adverse health effects, including all of the following: (A) Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants. (B) Common problems and mistakes that can result in direct exposure to fumigants. (C) Signs and symptoms of human exposure to fumigants. (D) Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely. (E) Steps to take if a fumigant applicator experiences sensory irritation. (F) Understanding air monitoring, when it is required, and where and when to take samples. (G) Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone. (H) First aid measures to take in the event of exposure to a soil fumigant. (I) Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers. (iii) Soil fumigant chemical characteristics. Characteristics of soil fumigants, including all of the following: (A) Chemical characteristics of soil fumigants. (B) Specific human exposure concerns for soil fumigants. (C) How soil fumigants change from a liquid or solid to a gas. (D) How soil fumigants disperse in the application zone. (E) Compatibility concerns for tanks, hoses, tubing, and other equipment. (iv) Application. Selecting appropriate application methods and timing, including all of the following: (A) Application methods, including but not limited to water-run and non-water- run applications, and equipment commonly used for each soil fumigant. (B) Site characteristics that influence fumigant exposure. (C) Understanding temperature inversions and their impact on soil fumigant application. (D) Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions. (E) Conducting pre-application inspection of application equipment. (F) Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use. (G) Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair. (H) Calculating the amount of product required for a specific treatment area. (I) Understanding the basic techniques for calibrating soil fumigant application equipment. (v) Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following: (A) Influence of soil factors on fumigant volatility and movement within the soil profile. (B) Factors that influence gaseous movement through the soil profile and into the air. (C) Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application. (D) Identifying pests causing the damage and verifying they can be controlled with soil fumigation. (E) Understanding the relationship between pest density and application rate. (F)The importance of proper application depth and timing. (vi) Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following: (A)Following labeling directions for required personal protective equipment. (B) Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment. (C) Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters. (D) Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping. (vii) Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following: (A) When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it. (B) The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan. (C) The person responsible for verifying that a fumigant management plan is accurate. (D) The elements, purpose and content of a post-application summary, who must prepare it, and when it must be completed. (viii) Buffer zones and posting requirements.		

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SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
Understanding buffer zones and posting requirements, including all of the following: (A) Buffer zones and the buffer zone period. (B) Identifying who is allowed in a buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period. (C) Using the buffer zone table from the labeling to determine the size of the buffer zone. (D) Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits. (E) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each. (F) Proper choice and placement of warning signs.		
***NEW* §171.103(d)(14) Non-soil fumigation.** Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation applications of restricted use pesticides to sites other than soil, including all of the following: (i) Label & Labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants. (ii) Safety. Measures to minimize adverse health effects, including all of the following: (A) Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, and bystanders can become exposed to fumigants. (B) Common problems and mistakes that can result in direct exposure to fumigants. (C) Signs and symptoms of human exposure to fumigants. (D) Air concentrations of a fumigant that require applicators to wear respirators or exit the work area entirely. (E) Steps to take if a fumigant applicator experiences sensory irritation. (F) Understanding air monitoring, when it is required, and where and when to take samples. (G) Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone. (H) First aid measures to take in the event of exposure to a fumigant. (I) Labeling requirements for transportation, storage, spill cleanup, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers. (iii) Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants, including all of the following: (A) Chemical characteristics of non-soil fumigants. (B) Specific human exposure concerns for non-soil fumigants. (C) How fumigants change from a liquid or solid to a gas. (D) How fumigants disperse in the application zone. (E) Compatibility concerns for tanks, hoses, tubing, and other equipment. (iv) Application. Selecting appropriate application methods and timing, including all of the following: (A) Application methods and equipment commonly used for non-soil fumigation. (B) Site characteristics that influence fumigant exposure. (C) Conditions that could impact timing of non-soil fumigant application such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions. (D) Conducting pre-application inspection of application equipment and the site to be fumigated. (E) Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use. (F) Calculating the amount of product required for a specific treatment area. (G) Understanding the basic techniques for calibrating non-soil fumigant application equipment. (H) Understanding when and how to conduct air monitoring and when it is required. (v) Pest factors. Pest factors that influence fumigant activity, including all of the following: (A) Influence of pest factors on fumigant volatility. (B) Factors that influence gaseous movement through the area being fumigated and into the air. (C) Identifying pests causing the damage and verifying they can be controlled with fumigation. (D) Understanding the relationship between pest density and application rate. (E) The importance of proper application rate and timing. (vi) Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following: (A) Following labeling directions for required personal protective equipment. (B) Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment. (C) Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters. (D) Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping. (vii) Fumigant management plans and post-application summaries. Information about fumigant management plans, and when they are required, including all of the following: (A) When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it. (B) The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan. (C) The person responsible for verifying that a fumigant management plan is accurate. (D) The elements, purpose and content of a post-application summary, who must prepare it, and when it must be completed. (viii) Posting requirements. Understanding posting requirements, including all of the following: (A) Understanding who is allowed in an area being fumigated or after fumigation, and who is prohibited from being in such areas. (B) Distinguishing fumigant-labeling required posting and treated area posting, including the pre-application and post-application posting timeframes for each. (C) Proper choice and placement of warning signs.		

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SUMMARY OF CHANGES	**2017 RULE - §171.103 Standards for certification of commercial applicators**	**1970s RULE - §171.4 Standards for certification of commercial applicators**
***NEW* §171.103(d)(15) Aerial pest control.** Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing aerial application of restricted use pesticides, including all the following: (i) Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including: (A) Spray volumes. (B) Buffers and no-spray zones. (C) Weather conditions specific to wind and inversions. (Labeling-mandated recordkeeping requirements for aerial pesticide applications including application conditions if applicable.) (ii) Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following: (A) The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application. (B) Selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift. (C) Knowledge of the components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles. (D) Interpreting a nozzle flow rate chart. (E) Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width. (F) How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence. (G) Where to place nozzles to produce the appropriate droplet size. (H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear. (I) How to calculate required and actual flow rates. (J) How to verify flow rate using fixed timing, open timing, known distance, or a flow meter. (K) When to adjust and calibrate application equipment. (iii) Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following: (A) Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation. (B) How to determine wind velocity, direction, and air density at the application site. (C) The potential impact of thermals and temperature inversions on aerial pesticide application. (iv) Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following: (A) How to determine drift potential of a product using a smoke generator. (B) How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration. (C) Selecting techniques that minimize pesticide movement out of the area to be treated. (D) Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift. (v) Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following: (A) Selecting a flight altitude that minimizes streaking and off-target pesticide drift. (B) Choosing a flight pattern that ensures applicator and bystander safety and proper application. (C) The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern. (D) Tools available to mark swaths, such as global positioning systems and flags. (E) Recordkeeping requirements for aerial applications including application conditions if applicable. (Note: (E) is not required for private applicators.)		
Comparison: The 1970s and 2017 RULE exceptions to commercial applicator core and specific standards of competency are the same	2017 RULE §171.103(e) Exceptions. The requirements in §171.103(a)-(d) *(commercial applicator core and specific standards of competency)* of this part do not apply to the following persons: (1) Persons conducting laboratory research involving restricted use pesticides; and (2) Doctors of Medicine and Doctors of Veterinary Medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.	1970s RULE §171.4(e) The above standards do not apply to the following persons for purposes of these regulations. (1) Persons conducting laboratory type research involving restricted use pesticides; and (2) Doctors of Medicine and Doctors of Veterinary Medicine applying pesticides as drugs or medication during the course of their normal practice.

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B105) Standards of Certification for Private Applicators		
SUMMARY OF CHANGES	**2017 RULE - §171.105 Standards for certification of private applicators.**	**1970S RULE - §171.105 Standards for certification of private applicators.**
2017 RULE -REMOVED option for nonreaders to be given oral testing -ADDED requirement to be able to read and understand the label. -ADDED that any private applicator certified in a category must also show competence in the core private applicator standards	§171.105(a) General private applicator certification. Before using or supervising the use of a restricted use pesticide as a private applicator, a person must be certified by an appropriate certifying authority as having the necessary competency to use restricted use pesticides for pest control in the production of agricultural commodities, **which includes the ability to read and understand pesticide labeling. Certification in this general private applicator certification category alone is not sufficient to authorize the purchase, use, or supervision of use of the restricted use pesticide products in the categories listed in paragraphs (b) through (f) of this section.** Persons seeking certification as private applicators must demonstrate practical knowledge of the principles and practices of pest control associated with the production of agricultural commodities and effective use of restricted use pesticides, including all of the following:	§171.5(a) Competence in the use and handling of pesticides by a private applicator will be determined by procedures set forth below. State standards must conform and be at least equal to those prescribed herein. As a minimum requirement for certification, a private applicator must show that he possesses a practical knowledge of the pest problems and pest control practices associated with his agricultural operations; proper storage, use, handling and disposal of the pesticides and containers; and his related legal responsibility. §171.5(b) Such competence of each private applicator shall be verified by the responsible State agency through the administration of a private applicator certification system which ensures that the private applicator is competent, based upon the standards set forth above, to use the restricted use pesticides under limitation of applicable State and Federal laws and regulations. A certification system shall employ a written ~~or oral testing procedure~~, or such other equivalent system as may be approved as part of a State plan. ~~(1) In any case where a person, at the time of testing for certification, is unable to read a label, the responsible State agency may employ a testing procedure, previously approved by the Administrator, which can adequately assess the competence of such person with regard to all of the above standards. Certification must be related and limited to the use and handling of each individual pesticide for which he desires certification at any time.~~ ~~Therefore, the applicator will be authorized to use only the pesticide(s) for which he has demonstrated competence. A specific procedure is required for §171.5(a)(2) relating to label comprehension, with testing designed to ensure his knowledge of the following: (i) Understanding of the label and labeling information including those items indicated in that subsection. (ii) Sources of advice and guidance necessary for the safe and proper use of each pesticide related to his certification.~~

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B105) Standards of Certification for Private Applicators		
SUMMARY OF CHANGES	**2017 RULE - §171.105 Standards for certification of private applicators.**	**1970S RULE - §171.105 Standards for certification of private applicators.**
2017 rule: -EXPANDED significantly the core standards of competency for both private and commercial applicators (Almost identical for private and commercial applicators) -Differences between the new revised standards of competency for private and commercial applicators are: -Private applicator standards do not have recordkeeping of pesticide safety training for noncertified applicators of RUPs -Private applicator standards have (10) Stewardship whereas commercial applicator standards have (10) Professionalism (There are minor differences between the two) -NEW standards of competency for new categories for private applicators in: Sodium cyanide predator control, Sodium fluoroacetate predator control, Soil fumigation, Non-soil fumigation, and Aerial pest control	§171.105 (a)(1) Label and labeling comprehension. Familiarity with pesticide labels and labeling and their functions, including all of the following: (i) The general format and terminology of pesticide labels and labeling. (ii) Understanding instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels and labeling. (iii) Understanding that it is a violation of Federal law to use any registered pesticide in a manner inconsistent with its labeling. (iv) Understanding when a certified applicator must be physically present at the site of the application based on labeling requirements. (v) Understanding labeling requirements for supervising noncertified applicators working under the direct supervision of a certified applicator. (vi) Understanding that applicators must comply with all use restrictions and directions for use contained in pesticide labels and labeling, including being certified in the appropriate category to use restricted use pesticides for fumigation or aerial application, or predator control devices containing sodium cyanide or sodium fluoroacetate, if applicable. (vii) Understanding the meaning of product classification as either general or restricted use, and that a product may be unclassified. (viii) Understanding and complying with product-specific notification requirements. (ix) Recognizing and understanding the difference between mandatory and advisory labeling language. (2) Safety. Measures to avoid or minimize adverse health effects, including all of the following: (i) Understanding the different natures of the risks of acute toxicity and chronic toxicity, as well as the long-term effects of pesticides. (ii)Understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity. (iii) Recognition of likely ways in which dermal, inhalation, and oral exposure may occur. (iv) Common types and causes of pesticide mishaps. (v) Precautions to prevent injury to applicators and other individuals in or near treated areas. (vi) Need for, and proper use of, protective clothing and personal protective equipment. (vii) Symptoms of pesticide poisoning. (viii) First aid and other procedures to be followed in case of a pesticide mishap. (ix) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers. (3) Environment. The potential environmental consequences of the use and misuse of pesticides, including the influence of the following: (i) Weather and other climatic conditions. (ii) Types of terrain, soil, or other substrate. (iii) Presence of fish, wildlife, and other non-target organisms. (iv) Drainage patterns.	§171.5(a) Standards for certification of private applicators (1) Recognize common pests to be controlled and damage caused by them. (2) Read and understand label and labeling information – including the common name of pesticides he applied; pest(s) to be controlled, timing and methods of application; safety precautions; any pre-harvest or re-entry restrictions and any specific disposal procedures. (3) Apply pesticides in accordance with label instructions and warnings, including the ability to prepare the proper concentrations of pesticide to be used under particular circumstances taking into account such factors as area to be covered, speed at which application equipment will be driven, and the quantity dispersed in a given period of operation. (4) Recognize local environmental situations that must be considered during application to avoid contamination. (5) Recognize poisoning symptoms and procedures to follow in case of a pesticide accident.

(4) Pests. The proper identification and effective control of pests, including all of the following: (i) The importance of correctly identifying target pests and selecting the proper pesticide product(s). (ii) Verifying that the labeling does not prohibit the use of the product to control the target pest(s).
(5) Pesticides. Characteristics of pesticides, including all of the following: (i) Types of pesticides. (ii) Types of formulations. (iii) Compatibility, synergism, persistence, and animal and plant toxicity of the formulations. (iv) Hazards and residues associated with use. (v) Factors that influence effectiveness or lead to problems such as pesticide resistance. (vi) Dilution procedures.
(6) Equipment. Application equipment, including all of the following: (i) Types of equipment and advantages and limitations of each type. (ii) Uses, maintenance, and calibration procedures.
(7) Application methods. Selecting appropriate application methods, including all of the following: (i) Methods used to apply various forms and formulations of pesticides. (ii) Knowledge of which application method to use in a given situation and that use of a fumigant, aerial application, or predator control device containing sodium cyanide or sodium fluoroacetate requires additional certification. (iii) How selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse. (iv) Prevention of drift and pesticide loss into the environment.
(8) Laws and regulations. Knowledge of all applicable State, Tribal, and Federal laws and regulations, including understanding the Worker Protection Standard in 40 CFR part 170 and the circumstances where compliance is required.
(9) Responsibilities for supervisors of noncertified applicators. Certified applicator responsibilities related to supervision of noncertified applicators, including all of the following: (i) Understanding and complying with requirements in § 171.201 of this part for private applicators who supervise noncertified applicators using restricted use pesticides. (ii) Providing use-specific instructions to noncertified applicators using restricted use pesticides under the direct supervision of a certified applicator. (iii) Explaining appropriate State, Tribal, and Federal laws and regulations to noncertified applicators working under the direct supervision of a certified applicator.
(10) Stewardship. Understanding the importance of all of the following: (i) Maintaining chemical security for restricted use pesticides. (ii) How to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons.
(11) Agricultural pest control. Practical knowledge of pest control applications to agricultural commodities including all of the

following: (i) Specific pests of relevant agricultural commodities. (ii) How to avoid contamination of ground and surface waters. (iii) Understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas. (iv) Understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities. (v) Relative hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

NEW* §171.105 (b) Sodium cyanide predator control. *In addition to satisfying the requirements in paragraph (a) of this section, in order to use sodium cyanide in a mechanical ejection device, private* applicators must demonstrate comprehension of all laws and regulations applicable to the use of mechanical ejection devices for sodium cyanide, including the restrictions on the use of sodium cyanide products ordered by the EPA Administrator. Applicators must also demonstrate practical knowledge and understanding of all of the specific use restrictions for sodium cyanide devices, including safe handling and proper placement of the capsules and device, proper use of the antidote kit, notification to medical personnel before use of the device, conditions of and restrictions on where devices can be used, requirements to consult U.S. Fish and Wildlife Service maps before use to avoid affecting endangered species, maximum density of devices, provisions for supervising and monitoring applicators, required information exchange in locations where more than one agency is authorized to place devices, and specific requirements for recordkeeping, monitoring, field posting, proper storage, and disposal of damaged or used sodium cyanide capsules.

(*Text in italics is in the new private applicator standards, but not in the new commercial applicator standards for this category.)

NEW* §171.105 (c) Sodium fluoroacetate predator control. *In addition to satisfying the requirements in paragraph (a) of this section, in order to use sodium fluoroacetate, private* applicators must demonstrate ~~practical knowledge of mammalian predator pests, including recognizing those pests and signs of their presence, their habitats, their life cycles, biology, and behavior as it may be relevant to pest identification and control. Applicators must demonstrate~~ comprehension of all laws and regulations applicable to the use of sodium fluoroacetate products, including the restrictions on the use of sodium fluoroacetate products ordered by the EPA Administrator. Applicators must also demonstrate practical knowledge and understanding of the specific use restrictions for sodium fluoroacetate in the livestock protection collar, including where and when sodium fluoroacetate products can be used, safe handling and placement of collars, and practical treatment of sodium fluoroacetate poisoning in humans and domestic animals. Applicators must also demonstrate practical knowledge and understanding of specific requirements for field posting, monitoring, recordkeeping, proper storage of collars, disposal of punctured or leaking collars, disposal of contaminated animal remains, vegetation, soil, and clothing, and reporting of suspected and actual poisoning, mishap, or injury to threatened or endangered species, humans, domestic animals, or non-target wild animals.

(*Text in italics is in the new private applicator standards, but not in the new commercial applicator standards for this category.)

NEW* §171.105 (d) Soil fumigation. *In addition to satisfying the requirements in paragraph (a) of this section, private applicators that use or supervise the use of a restricted use pesticide to fumigate soil* must demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigation applications, including all the following: (1) Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following: (i) Labeling requirements specific to soil fumigants. (ii) Requirements for certified applicators of fumigants, fumigant handlers and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators. (iii) Entry-restricted period for different tarped and untarped field application scenarios. (iv) Recordkeeping requirements *imposed by product labels and labeling*. (v) Labeling provisions unique to products containing certain active ingredients. *(vi) Labeling requirements for fumigant management plans, such as when a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it; the elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan; the person responsible for verifying that a fumigant management plan is accurate; and the elements, purpose and content of a post-application summary, who must prepare it and when it must be completed.* (2) Safety. Measures to minimize adverse health effects, including all of the following: (i) Understanding how certified applicators, noncertified applicators using fumigants under the direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants. (ii) Common problems and mistakes that can result in direct exposure to fumigants. (iii) Signs and symptoms of human exposure to fumigants. (iv) Air concentrations of a fumigant that require that applicators wear respirators or to exit the work area entirely. (v) Steps to take if a

fumigant applicator experiences sensory irritation. (vi) Understanding air monitoring, when it is required, and where and when to take samples. (vii) Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone. (viii) First aid measures to take in the event of exposure to a soil fumigant. (ix) Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers. (3) Soil fumigant chemical characteristics. Characteristics of soil fumigants, including all of the following: (i) Chemical characteristics of soil fumigants. (ii) Specific human exposure concerns for soil fumigants. (iii) How soil fumigants change from a liquid or solid to a gas. (iv) How soil fumigants disperse in the application zone. (v) Compatibility concerns for tanks, hoses, tubing, and other equipment. (4) Application. Selecting appropriate application methods and timing, including all of the following: (i) Application methods and equipment commonly used for non-soil fumigation. (ii) Site characteristics that influence fumigant exposure. (iii) Conditions that could impact timing of non-soil fumigat application such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications when specific conditions are present. (iv) Conducting pre-application inspection of application equipment and the site to be fumigated. (v) Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use. (vi). Calculating the amount of product required for a specific treatment area. (vii) Understanding the basic techniques for calibrating non-soil fumigant application equipment. (viii) Understanding when and how to conduct air monitoring and when it is required. (5) Pest factors. Pest factors that influence fumigant activity, including all of the following: (i) Influence of pest factors on fumigant volatility. (ii) Factors that influence gaseous movement through the area being fumigated and into the air. (iii) Identifying pests causing the damage and verifying they can be controlled with fumigation. (iv) Understanding the relationship between pest density and application rate. (v) The importance of proper application rate and timing. (6) Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following: (i) Following labeling directions for required personal protective equipment. (ii) Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment. (iii) Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters. (iv) Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping. (7) Fumigant management plans and post-application summaries. Information about fumigant management plans, and when they are required, including all of the following: (i) When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it. (ii) The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan. (iii) The person responsible for verifying that a fumigant management plan is accurate. (iv) The elements, purpose and content of a post-application summary, who must prepare it, and when it must be completed. (8) Posting requirements. Understanding posting requirements, including all of the following: (i) Understanding who is allowed in an area being fumigated or after fumigation, and who is prohibited from being in such areas. (ii) Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each. (iii) Proper choice and placement of warning signs.

(*Text in italics is in the new private applicator standards, but not in the new commercial applicator standards for this category.)

NEW* §171.105 (e) Non-soil fumigation. *In addition to satisfying the requirements in paragraph (a) of this section private applicators that use or supervise the use of a restricted use pesticide to fumigate anything other than soil* must demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation applications -to sites other than soil, including all of the following:
(1) Label & Labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants. (2) Safety. Measures to minimize adverse health effects, including all of the following: (i) Understanding how certified applicators, handlers and bystanders can become exposed to fumigants. (ii) Common problems and mistakes that can result in direct exposure to fumigants. (iii) Signs and symptoms of human exposure to fumigants. (iv) *When* air concentrations of a fumigant triggers handlers to wear respirators or to exit the work area entirely. (v) Steps to take if a *person using a* fumigant experiences sensory irritation. (vi) Understanding air monitoring, when it is required, and where and when to take samples. (vii) Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone. (viii) First aid measures to take in the event of exposure to a fumigant. (ix) Labeling requirements for transportation, storage, spill cleanup, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers. (3) Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants, including all of the following: (i) Chemical characteristics of non-soil fumigants. (ii) Specific human exposure concerns for non-soil fumigants. (iii) How fumigants change from a liquid or solid to a gas. (iv) How fumigants disperse in the application zone. (v) Compatibility concerns for tanks, hoses, tubing, and other equipment. (4) Application. Selecting appropriate application methods and timing, including all of the following: (i) Application methods and equipment commonly used for non-soil fumigation. (ii) Site characteristics that influence fumigant exposure. (iii) Conditions that could impact timing of non-soil fumigat application such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications when specific conditions are present. (iv) Conducting pre-application inspection of application equipment and the site to be fumigated. (v) Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use. (vi). Calculating the amount of product required for a specific

treatment area. (vii) Understanding the basic techniques for calibrating non-soil fumigant application equipment. (viii) Understanding when and how to conduct air monitoring and when it is required. (5) Pest factors. Pest factors that influence fumigant activity, including all of the following: (i) Influence of pest factors on fumigant volatility. (ii) Factors that influence gaseous movement through the area being fumigated and into the air. (iii) Identifying pests causing the damage and verifying they can be controlled with fumigation. (iv) Understanding the relationship between pest density and application rate. (v) The importance of proper application rate and timing. (6) Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following: (i) Following labeling directions for required personal protective equipment. (ii) Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment. (iii) Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters. (iv) Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping. (7) Fumigant management plans and post-application summaries. Information about fumigant management plans, and when they are required, including all of the following: (i) When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it. (ii) The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan. (iii) The person responsible for verifying that a fumigant management plan is accurate. (iv) The elements, purpose and content of a post-application summary, who must prepare it, and when it must be completed. (8) Posting requirements. Understanding posting requirements, including all of the following: (i) Understanding who is allowed in an area being fumigated or after fumigation, and who is prohibited from being in such areas. (ii) Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each. (iii) Proper choice and placement of warning signs.

(*Text in italics is in the new private applicator standards, but not in the new commercial applicator standards for this category.)

NEW* §171.105(f) Aerial pest control. In addition to satisfying the requirements in paragraph (a) of this section, private applicators that use or supervise the use of restricted use pesticides applied by fixed or rotary wing aircraft must demonstrate practical knowledge of the pest problems and pest control practices associated with performing aerial application, including all the following: (1) Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including: (i) Spray volumes. (ii) Buffers and no-spray zones. (iii) Weather conditions specific to wind and inversions. *(iv) Labeling-mandated recordkeeping requirements for aerial pesticide applications including application conditions if applicable.* (2) Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following: (i) The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application. (ii) Selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift. (iii) Knowledge of the components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles. (iv) Interpreting a nozzle flow rate chart. (v) Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width. (vi) How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence. (vii) Where to place nozzles to produce the appropriate droplet size. (viii) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear. (ix) How to calculate required and actual flow rates. (x) How to verify flow rate using fixed timing, open timing, known distance, or a flow meter. (xi) When to adjust and calibrate application equipment. (3) Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following: (i) Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation. (ii) How to determine wind velocity, direction, and air density at the application site. (iii) The potential impact of thermals and temperature inversions on aerial pesticide application. (4) Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following: (i) How to determine drift potential of a product using a smoke generator. (ii) How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration. (iii) Selecting techniques that minimize pesticide movement out of the area to be treated. (iv) Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift. (5) Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following: (i) Selecting a flight altitude that minimizes streaking and off-target pesticide drift. (ii) Choosing a flight pattern that ensures applicator and bystander safety and proper application. (iii) The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern. (iv) Tools available to mark swaths, such as global positioning systems and flags.

(**Text in italics is in the new private applicator standards, but not in the commercial applicator standards for this category.* Crossed out text is not in the new private applicator standards, but are in the new commercial applicator standards for this category.)

III. Detailed Comparison of Regulatory Text and Summary of Changes - (B105) Standards of Certification for Private Applicators		
2017 RULE ADDED private applicator minimum age requirement of 18	***NEW* §171.105(g) Private applicator minimum age.** A private applicator must be at least 18 years old.	
2017 RULE -ADDED private certified applicator supervision of restricted use pesticides by noncertified private applicator -SIMILAR - 1970s rule, 2017 RULE allows other non-exam procedures to determine competency (training), but not oral testing -SIMILAR – 1970s rule spells out what practical knowledge includes, while 2017 RULE refers to the core and category standards	§171.105(h) Private applicator competency. The competency of each candidate for private applicator certification must be established by the certifying authority based upon the certification standards set forth in paragraphs (a) through (g) *(core and category specific competency standards, and minimum age requirement)* of this section in order to assure that private applicators have the competency **to use and supervise the use of restricted use pesticides in accordance with applicable State, Tribal and Federal laws and regulations. The certifying authority must use either a written examination process as described in paragraph (h)(1) of this section or a non-examination training process as described** in paragraph (h)(2) of this section to assure the competency of private applicators in regard to the general certification standards applicable to all private applicators outlined in paragraph (a) of this section, and, if applicable, the specific standards for the each of the categories outlined in paragraphs (b) through (f) of this section in which a private applicator is to be certified.	§171.5(a) Competence in the use and handling of pesticides by a private applicator will be determined by procedures set forth below. State standards must conform and be at least equal to those prescribed herein. As a minimum requirement for certification, a private applicator must show that he possesses a practical knowledge of the pest problems and pest control practices associated with his agricultural operations; proper storage, use, handling and disposal of the pesticides and containers; and his related legal responsibility. The practical knowledge includes ability to: (1) Recognize common pests to be controlled and damage caused by them. (2) Read and understand the label and labeling information – including the common name of pesticides he applied; pest(s) to be controlled, timing and methods of application; safety precautions; any pre-harvest or re-entry restrictions; and any specific disposal procedures. (3) Apply pesticides in accordance with label instructions and warnings, including the ability to prepare the proper concentration of pesticide to be used under particular circumstances taking into account such factors as area to be covered, speed at which application equipment will be driven, and the quantity dispersed in a given period of operation. (4) Recognize local environmental situations that must be considered during application to avoid contamination. (5) Recognize poisoning symptoms and procedures to follow in case of a pesticide accident.
2017 RULE -REMOVED oral testing procedure as an option for determination of competency -ADDED requirement for applicator to show identification -ADDED private applicators must show competency in the core standards in addition to any category standards	***NEW* §171.105(h)(1) Determination of competency by examination.** If the certifying authority uses an examination process to determine the competency of private applicators, the examination process must meet all of the requirements of §171.103(a)(2). ***NEW* §171.105(h)(2) Training for competency without examination.** Any candidate for certification as a private applicator may complete a training program approved by the certifying authority to establish competency. A training program to establish private applicator competency must conform to all of the following criteria: (i) Identification. Each person seeking certification must present a valid, government-issued photo identification, or other form of similarly reliable identification authorized by the certifying authority, to the certifying authority or designated representative as proof of identity and age at the time of the training program to be	§171.5(b) Such competence of each private applicator shall be verified by the responsible State agency through the administration of a private applicator certification system which ensures that the private applicator is competent, based upon the standards set forth above, to use the restricted use pesticides under limitation of applicable State and Federal laws and regulations. A certification system shall employ a written ~~or oral testing procedure~~, or such other equivalent system as may be approved as part of a State plan.

	eligible for certification. (ii) Training programs for private applicator general certification and category certification. (A) The training program for private applicator certification must cover the competency standards outlined in paragraph (a) of this section in sufficient detail to allow the private applicator to demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticides. (B) The training program for each relevant category for private applicator certification must cover competency standards outlined in paragraphs (b) through (f) of this section in sufficient detail to allow the private applicator to demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticides for each category in which he or she intends to apply restricted use pesticides, **and must be in addition to the training program required for general private applicator certification.**	
2017 RULE -Added exception for laboratory research, Doctors of Medicine and Veterinary Medicine to private applicator certification standards	§171.105(h)(2)(i) Exceptions. The requirements in §171.105(a) – (h) of this part do not apply to the following person: (1) Persons conducting laboratory research involving restricted use pesticides. (2) Doctors of Medicine and Doctors of Veterinary Medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.	

III. Detailed Comparison of Regulatory Text and Summary of Changes (B107) Standards for Recertification of Certified Applicators	
SUMMARY OF ADDITIONS– (Recertification only mentioned in Certification Plan section of 1970s rule. These standards are NEW.)	***NEW* § 171.107 Standards for recertification of certified applicators.**
-Maximum 5-year certification/recertification period.	***NEW* § 171.107(a) Maintenance of continued competency.** Each commercial and private applicator certification shall expire five years after issuance, unless the applicator is recertified in accordance with this section. A certifying authority may establish a shorter certification period. In order for a certified applicator's certification to continue without interruption, the certified applicator must be recertified under this section before the expiration of his or her current certification.
-Minimum recertification standards by written exam or continuing education:	***NEW* § 171.107(b) Process for recertification.** Minimum standards for recertification by written examination, or through continuing education programs, are as follows:
-Pass exam approved by certifying authority. -Exam must evaluate competency of commercial or private applicator standards, as appropriate, and follow standards for exam administration.	***NEW* § 171.107(b)(1) Written examination**. A certified applicator may be found eligible for recertification upon passing a written examination approved by the certifying authority and that is designed to evaluate whether the certified applicator demonstrates the level of competency required by § 171.103 for commercial applicators or § 171.105 for private applicators. The examination shall conform to the applicable standards for examinations set forth in § 171.103(a)(2) of this part.
Continuing Education -Successfully complete continuing education program as outlined in the certifying authority's EPA-approved certification plan. -Quantity, content and quality of continuing education must ensure level of competency on commercial or private applicator standards as appropriate. -Certifying authority must approve continuing education course/event. -Certifying authority must ensure process exists to verify applicator's successful completion of continuing education course/event.	***NEW* § 171.107 (b)(2) Continuing education programs.** A certified applicator may be found eligible for recertification upon successfully completing a continuing education program pursuant to the certifying authority's EPA-approved certification plan. § 171.107 (b)(2)(i) The quantity, content, and quality of a continuing education program to maintain applicator certification must be sufficient to ensure the applicator continues to demonstrate the level of competency required by § 171.103 for commercial applicators or § 171.105 for private applicators. § 171.107(b)(2)(ii) Any continuing education course or event relied upon for applicator recertification must be approved by the certifying authority as being suitable for its purpose in the certifying authority's recertification process. § 171.107(b)(2)(iii) A certifying authority must ensure that any continuing education course or event, including an online or other distance education course or event, relied upon for applicator recertification includes a process to verify the applicator's successful completion of the course or event.

III. Detailed Comparison of Regulatory Text and Summary of Changes (C201) Standards for Supervision of Noncertified Applicator by Certified Applicator		
SUMMARY OF CHANGES from 1970S RULE §171.6 to 2017 RULE §171.201	**2017 RULE §171.201 Requirements for direct supervision of noncertified applicators by certified applicators**	**1970S RULE §171.6 Standards for supervision of noncertified applicators by certified private and commercial applicators**
All standards in §171.6 are generally covered in §171.201. 2017 RULE -REMOVED "verifiable" instruction, and the "availability of the certified applicator must be directly related to the hazard of the situation." -ADDED that certified applicator supervising noncertified applicator must be certified in category applicable to use being supervised.	§171.201 (a) Applicability. This section applies to any certified applicator who allows or relies on a noncertified applicator to use a restricted use pesticide under the certified applicator's direct supervision. §171.201 (b) General requirements. (1) Requirements for the certified applicator. (i)The certified applicator must have a practical knowledge of applicable Federal, State and Tribal supervisory requirements, including any requirements on the product label and labeling, regarding the use of restricted use pesticides by noncertified applicators. **(ii) The certified applicator must be certified in each category as set forth in §§ 171.101 and 171.105(a) through (f) applicable to the supervised pesticide use.**	§171.6 (a) Certified applicators whose activities indicate a supervisory role must demonstrate a practical knowledge of Federal and State supervisory requirements, including labeling, regarding the application of restricted use pesticides by noncertified applicators. ~~The availability of the certified applicator must be directly related to the hazard of the situation~~. In many situations, where the certified applicator is not required to be physically present, "direct supervision" shall include ~~verifiable~~ instruction to the competent person as follows: (1) Detailed guidance for applying the pesticide properly and (2) provisions for contacting the certified applicator in the event he is needed. In other situations and as required by the label, the actual physical presence of a certified applicator may be required when application is made by a noncertified applicator.
***NEW* in 2017 rule**: -Supervisory certified applicator must be certified in category applicable to supervision. -Noncertified applicator must meet qualifications – noncertified applicator training, WPS handler training, certifying authority requirement, certified as applicator (in other category). -Noncertified applicator must: be trained in	***NEW* §171.201(b)(2) Requirements for the noncertified applicator.** The certified applicator must ensure that each noncertified applicator using a restricted use pesticide under his or her direct supervision meets all of the following requirements before using a restricted use pesticide: (i) The noncertified applicator has satisfied the qualification requirements under paragraph (c) of this section. (ii) The noncertified applicator has been instructed within the last 12 months in the safe operation of any equipment he or she will use for mixing, loading, transferring, or applying pesticides. (iii) The noncertified applicator has met the minimum age required to use restricted use pesticides under the supervision of a certified applicator. A noncertified applicator must be at least 18 years old, except that a noncertified applicator must be at least 16 years old if all of the following requirements are met: (A) The noncertified applicator is using the restricted use pesticide under the direct supervision of a private applicator who is an immediate family member. (B) The restricted use pesticide is not a fumigant, sodium cyanide, or sodium fluoroacetate. (C) The noncertified applicator is not applying the restricted use pesticide aerially.	

safe operation of equipment, be at least 18 years old, or 16 if under private applicator supervision by "immediate family" member and product is not a fumigant, sodium cyanide or fluoroacetate or applied aerially. -Supervisory certified applicator must ensure: noncertified applicator has access to labeling, PPE (and know correct use), received site-specific instructions in a manner they can understand, instructions specific to pesticides and site; equipment is in proper operating condition, a means to immediately communicate is available, they (certified applicator) is physically present when required by label, and create or verify existence of "qualification" records of noncertified applicator (training or certification, etc.) and keep record for 2 years from date of RUP use. -Noncertified applicator training content similar to 2015 WPS handler training content. -Content of noncertified applicator training or certification record depends on "qualification" method. -Persons using RUP for laboratory research, or for medical practice as Doctor of Medicine or Veterinary medicine are exempt from all noncertified applicator requirements of this section.	***NEW*** **§171.201(b)(3) Use-specific conditions** that must be met in order for a noncertified applicator to use a restricted use pesticide. The certified applicator must ensure that all of the following requirements are met before allowing a noncertified applicator to use a restricted use pesticide under his or her direct supervision: (i) The certified applicator must ensure that the noncertified applicator has access to the applicable product labeling at all times during its use. (ii) Where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, the certified applicator must ensure that any noncertified applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose. (iii) The certified applicator must provide to each noncertified applicator before use of a restricted use pesticide instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population) and the conditions of application (e.g., equipment, method of application, formulation) might increase or decrease the risk of adverse effects. The certified applicator must provide this information in a manner that the noncertified applicator can understand. (iv)The certified applicator must ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment. (v) The certified applicator must ensure that a means to immediately communicate with the certified applicator is available to each noncertified applicator using restricted use pesticides under his or her direct supervision. (vi) The certified applicator must be physically present at the site of the use being supervised when required by the product labeling. (vii) If the certified applicator is a commercial applicator, the certified applicator must create or verify the existence of the records required by paragraph (e) of this section.

III. Detailed Comparison of Regulatory Text and Summary of Changes (C201) Standards for Supervision of Noncertified Applicator by Certified Applicator
***NEW* §171.201 (c) Noncertified applicator qualifications.** Before any noncertified applicator uses a restricted use pesticide under the direct supervision of the certified applicator, the supervising certified applicator must ensure that the noncertified applicator has met at least one of the following qualifications: (1) The noncertified applicator has been trained in accordance with paragraph (d) [the "noncertified applicator training program" explained below] of this section within the last 12 months. (2) The noncertified applicator has met the training requirements for an agricultural handler under (Worker Protection Standard -WPS regulations) 40 CFR 170.501 of this title within the last 12 months. (3) The noncertified applicator has met the requirements established by a certifying authority that meet or exceed the standards in §171.201(c)(1) [The "noncertified applicator training program" explained below in (d)]. (4) The noncertified applicator is currently a certified applicator but is not certified to perform the type of application being conducted or is not certified in the jurisdiction where the use will take place.
***NEW* §171.201 (d) Noncertified applicator training program.** (1) General noncertified applicator training must be presented to noncertified applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified applicators can understand, such as through a translator. The person conducting the training must be present during the entire training program and must respond to the noncertified applicators' questions. (2) The person who conducts the training must meet one of the following criteria: (i) Be currently certified as an applicator of restricted use pesticides under this part. (ii) Be currently designated as a trainer of certified applicators or pesticide handlers by EPA, the certifying authority, or a State, Tribal, or Federal agency having jurisdiction. (iii) Have completed an EPA-approved pesticide safety train-the-trainer program for trainers of handlers under [WPS] 40 CFR part 170. (3) The noncertified applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the environment before, during, and after making a restricted use pesticide application. The noncertified applicator training materials must include, at a minimum, the following: (i) Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization. (ii) Routes through which pesticides can enter the body. (iii) Signs and symptoms of common types of pesticide poisoning. (iv) Emergency first aid for pesticide injuries or poisonings. (v) Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible. (vi) How and when to obtain emergency medical care. (vii) After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet. (viii) Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides. (ix) Potential hazards from pesticide residues on clothing. (x) Wash work clothes before wearing them again and wash them separately from other clothes. (xi) Do not take pesticides or pesticide containers used at work to your home. (xii) Potential hazards to children and pregnant women from pesticide exposure. (xiii) After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members. (xiv) How to report suspected pesticide use violations to the appropriate State or Tribal agency responsible for pesticide enforcement. (xv) Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment. (xvi) Need for, and appropriate use and removal of, personal protective equipment. (xvii) How to recognize, prevent, and provide first aid treatment for heat- related illness. (xviii) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup. (xix) Environmental concerns such as drift, runoff, and wildlife hazards. (xx) Restricted use pesticides may be used only by a certified applicator or by a noncertified applicator working under the direct supervision of a certified applicator. (xxi) The certified applicator's responsibility to provide to each noncertified applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified applicator can understand. (xxii) The certified applicator's responsibility to ensure that each noncertified applicator has access to the applicable product labeling at all times during its use. (xxiii) The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and use correctly for its intended purpose. (xxiv) The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment. (xxv) The certified applicator's responsibility

to ensure that a means to immediately communicate with the certified applicator is available to each noncertified applicator using restricted use pesticides under his or her direct supervision.
***NEW* §171.201 (e) Recordkeeping.** (1) Commercial applicators must create or verify the existence of records documenting that each noncertified applicator has the qualifications required in paragraph (c) [Training for noncertified applicators or WPS handler training within last 12 months, requirements of certifying authority, or certified applicator] of this section. For each noncertified applicator, the records must contain the information appropriate to the method of qualification as provided in paragraphs (e)(1)(i) through (e)(1)(iv). (i) If the noncertified applicator was trained in accordance with paragraph (c)(1) of this section, the record must contain all of the following information: (A) The noncertified applicator's printed name and signature. (B) The date the training requirement in paragraph (c) of this section was met. (C) The name of the person who provided the training. (D) The title or a description of the training provided. (ii) If the noncertified applicator was trained as an agricultural handler under 40 CFR 170.501 in accordance with paragraph (c)(2) of this section, the record must contain all of the information required at 40 CFR 170.501(d)(1). (iii) If the noncertified applicator qualified by satisfying the requirements established by the certifying authority, as described in paragraph (c)(3) of this section, the record must contain the information required by the certifying authority. (iv) If the noncertified applicator is a certified applicator who is not certified to perform the type of application being conducted or not certified in the jurisdiction where the use will take place, as described in paragraph (c)(4) of this section, the record must include all of the following information: (A) The noncertified applicator's name. (B) The noncertified applicator's certification number. (C) The expiration date of the noncertified applicator's certification. (D) The certifying authority that issued the certification. (2) The commercial applicator must create or verify the existence of the record containing the information in paragraph (e)(1) [method of qualification, etc.] of this section before allowing the noncertified applicator to use restricted use pesticides under his or her direct supervision. (3) The commercial applicator supervising any noncertified applicator must have access to records documenting the information required in paragraph (e)(1) of this section at the commercial applicator's principal place of business for two years from the date the noncertified applicator used the restricted use pesticide.
§171.201 (f) Exceptions. The requirements in § 171.201(a) through (e) of this part do not apply to the following persons: (1) Persons conducting laboratory research involving restricted use pesticides. (2) Doctors of Medicine and Doctors of Veterinary Medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.

III. Detailed Comparison of Regulatory Text and Summary of Changes (D301) Certification Plans - General		
SUMMARY OF CHANGES from 1970S RULE §171.7 to 2017 RULE §171.301	2017 RULE	1970S RULE
COMPARISON, CERTIFICATION PLAN **2017 RULE ADDED** that the certification Plan is valid in geographical area of certifying authority	§171.301 GENERAL. (In 2017 rule revisions) (a) Jurisdiction. A certification issued under a particular certifying authority's certification plan is only valid within the geographical area specified in the certification plan approved by the Agency.	(Nothing comparable)

III. Detailed Comparison of Regulatory Text and Summary of Changes (D303) Conformance with Federal Standards (Contents of State Certification Plans, Applications, and Reporting)		
COMPARISON, CERTIFICATION PLAN Slightly CHANGED–in the 2017 RULE the Governor of the State does not have to submit the plan, but the EPA has to review and approve it, and the contents of the plan are Slightly CHANGED	2017 PLANS, GENERAL §171.303(a) Conformance with Federal standards for certification of applicators of restricted use pesticides. A State may certify applicators of restricted use pesticides only in accordance with a State certification plan approved by the Agency. The State certification plan must meet all of the following requirements:	1970s PLAN § 171.7 ~~Submission and approval of State plans for certification of commercial and private applicators of restricted use pesticides. If any~~ State, at any time, desires to certify applicators of restricted use pesticides~~, the Governor of that State shall submit a State plan for that purpose~~. The ~~Administrator~~ shall approve the plan submitted by any State, or any modification thereof, if the plan in ~~his~~ judgment—
COMPARISON, CERTIFICATION PLAN, PROCESS – In the 2017 RULE, the plan must describe the process to assess applicator competency. REMOVED, NOT IN 2017 RULE – Competency for private applicator nonreaders -Estimate of number commercial applicators to be certified	2017 PLANS, PROCESS §171.303(a)(1) The State certification plan must include a full description of the proposed process the State will use to assess applicator competency to use or supervise the use of restricted use pesticides in the State.	1970s, PLAN §171.7(e)(1) A detailed description of the State's plan for certifying applicators ~~and a discussion of any special situations, problems, and needs together with an explanation of how the State intends to handle them. (ii) For private applicators: (D) A description of any special procedure of testing that a State develops to determine the competency of a private applicator who is unable to read the label as prescribed in §171.5(b)(1).~~
COMPARISON, CERTIFICATION PLAN, CATEGORIES -SAME – both rules allow the State to designate subcategories and omit unneeded federal categories -ADDED to 2017 RULE, a State may add categories, and combine certain federal categories	2017 PLANS, CATEGORIES §171.303(a)(2) The State certification plan must specify which of the certification categories listed in § 171.101 [commercial applicator categories] will be included in the plan. (i) A State certification plan may omit any unneeded certification categories. (ii) A State certification plan may designate subcategories within the categories described in §§ 171.101 and 171.105(b) through (f) [new federal categories for private applicators] as it deems necessary. ***NEW* §171.303(a)(2)(iii) A State certification plan may include additional certification categories not covered by the existing Federal categories described in §§ 171.101 and 171.105(b)–(f). (iv) A State certification plan may combine the categories described in § 171.101(m) through (n) into a single general fumigation category for commercial applicators. (v) A State certification plan may combine the categories described in § 171.105(d) through (e) into a single general fumigation category for private applicators.**	1970s, PLAN COMMERCIAL APPLICATOR CATEGORIES/SUBCATEGORIES §171.7(e)(1)(i) For commercial applicators: (A) A list and description of categories and subcategories to be used in the State, such categories to be consistent with those defined in §171.3. 171.3(c) Other categories and subcategories. Any State submitting a plan pursuant to this section for the certification of applicators, as provided for below, may designate such subcategories within the above 10 categories as it deems necessary. In addition, a State may delete a category not needed for may request the Administrator's approval of additional major categories.

	2017 PLANS, STANDARDS §171.303(a)(3) For each of the categories adopted pursuant to paragraph (b)(1) of this section, the State certification plan must include standards for the certification of applicators of restricted use pesticides that meet or exceed those standards prescribed by the Agency under §§ 171.101 through 171.105, except as provided in paragraph (a)(4) of this section.	1970s PLAN, STANDARDS §171.7(e)(1)(i)(C) The standards of competency elaborated by the State. These shall conform and be at least equal to those prescribed in §171.4 for the various categories of applicators utilized by the State. The standards shall also cover each of the points listed in the general standards in §171.4(b) and the points covered in the appropriate specific standards set forth in §171.4(c).
***NEW in PLANS,* §171.303(a)(4) A State may adopt a limited use category for commercial applicators.** A limited use category covers a small number of commercial applicators engaged in a use that does not clearly fit within any of the commercial applicator categories specified pursuant to paragraph (b)(2) of this section, and allows only the use of a limited set of restricted use pesticides by specific application methods. A State adopting a limited use category must include all of the following in its certification plan: (i) A definition of the limited use category, specifying the restricted use pesticide(s), use sites, and specific application methods permitted. (ii) An explanation of why it is not practical to include the limited use within any of the commercial applicator categories specified pursuant to paragraph (b)(2) of this section. (iii) A requirement that candidates for certification in a limited use category pass the written examination covering the core standards at § 171.103(c) and demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticide(s) covered by the limited use category. (iv) Specific competency standards for the limited use category. (v) The process by which applicators must demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of the restricted use pesticides authorized under the limited use category based on the competency standards identified in paragraph (a)(4)(iv) of this section. This does not have to be accomplished by a written examination. (vi) A description of the recertification standards for the limited use category and how those standards meet or exceed the standards prescribed by the Agency under § 171.107. (vii) A description of the limited use certification credential. The credential must clearly state that the applicator is only authorized to purchase and use the specific restricted use pesticide(s) identified in that credential.		
***NEW in PLANS,* EXAM ADMININISTRATION STANDARDS §171.303(a)(5)** The State certification plan must include standards for certification examinations that meet or exceed the standards prescribed by the Agency under § 171.103(a)(2), including a description of any alternative identification that a State will authorize in addition to a valid, government- issued photo identification. ***NEW* in PLANS, RECERTIFICATION STANDARDS §171.303(a)(6)** The State certification plan must include standards for the recertification of applicators of restricted use pesticides that meet or exceed those standards prescribed by the Agency under §171.107. ***NEW in PLANS,* SUPERVISION STANDARDS §171.303(a)(7)** The State certification plan must include standards for the direct supervision of noncertified applicators by certified private and commercial applicators of restricted use pesticides that meet or exceed those standards prescribed by the Agency under §171.201, or must state that use by noncertified applicators is not permitted.		
***NEW in PLANS,* DESCRIPTION OF CREDENTIALS §171.303(a)(8)** The State certification plan must describe the credentials or documents the State certifying authority will issue to each certified applicator verifying certification.		
SUMMARY OF CHANGES from 1970S RULE §171.7 to 2017 RULE §171.303	**2017 PLANS - §171.303 Conformance with Federal Standards (Contents of Certification Plan)**	1970S PLAN - §171.7 Submission and approval of State plans for certification of commercial and private applicators of restricted use pesticides.

Contents of Certification Plan on RECIPROCITY -SAME -Explain whether the State certifies based in whole/part on the other certification -ADDED -The other certification must have been issued by a certifying authority with an EPA-approved Certification Plan -SAME -The State must have found the standards of competency of the other certifying authority comparable to theirs -The State must be able to terminate a certification if notified that the original certification has been terminated ADDED – because the certified applicator was convicted under FIFRA Section 14(b) or incurred a civil penalty under FIFRA Section 14(a) -The State must issue an appropriate credential/document to the applicator	2017 PLANS, RECIPROCITY §171.303(a)(9) A State may waive any or all of the procedures specified in § 171.103, § 171.105, and § 171.107 of this part when certifying applicators in reliance on valid current certifications issued by another State, Tribal, or Federal agency under an EPA-approved certification plan. The State certification plan must explain whether, and if so, under what circumstances, the State will certify applicators based in whole or in part on their holding a valid current certification issued by another State, Tribe or Federal agency. Such certifications are subject to all of the following conditions: **(i) A State may rely only on valid current certifications that are issued under an approved State, Tribal or Federal agency certification plan.** **(ii)** The State has examined the standards of competency used by the State, Tribe, or Federal agency that originally certified the applicator and has determined that, for each category of certification that will be accepted, they are comparable to its own standards. **(iii)** Any State that chooses to certify applicators based, in whole or in part, on the applicator having been certified by another State, Tribe, or Federal agency, must include in its plan a mechanism that allows the State to terminate an applicator's certification upon notification that the applicator's original certification terminates because the certificate holder has been convicted under section 14(b) of FIFRA or has been subject to a final order imposing a civil penalty under section 14(a) of FIFRA. **(iv)** The State issuing a certification based in whole or in part on the applicator holding a valid current certification issued by another State, Tribe or Federal agency must issue an appropriate State credential or document to the applicator.	§171.7(e)(6) A description of any arrangements that a State has made or plans to make relating to reciprocity with other States or jurisdictions for the acceptance of certified applicators from those States or jurisdictions. However, those arrangements should meet these conditions: (iii) The detailed State or jurisdiction standards of competency, for each category identified in the reciprocity arrangement should be sufficiently comparable to justify waiving an additional determination of competency by the State granting reciprocity. (ii) The State according reciprocity should have enforcement procedures that cover out-of-State applicators determined to be competent and certified within the State or jurisdiction. 1970S PLAN, RECIPROCITY (i) The State according reciprocity should provide for issuance of an appropriate document verifying certification based upon the certifying document issued by the other States or jurisdictions.
NEW *in* 2017 RULE, an **APPLICATION** must accompany a Certification Plan. However, much of the content in the 2017 application is the same as in the 1970s Plan	***NEW* 2017 APPLICATIONS -** §171.303(b) Contents of an application for EPA approval of a State plan for certification of applicators of restricted use pesticides.	1970s PLAN §171.7 Submission and approval of State plans for certification of commercial and private applicators of restricted use pesticides.

III. Detailed Comparison of Regulatory Text and Summary of Changes (D303) Conformance with Federal Standards (Contents of State Certification Plans, Applications, and Reporting)		
CATEGORIES SAME: -State must list and describe certification categories (May still have subcategories even though it isn't mentioned in this part of the 2017 RULE)	2017 APPLICATIONS, CATEGORIES - §171.303(b)(1) The application for Agency approval of a State certification plan must list and describe the categories of certification.	1970S PLAN CATEGORIES §171.7(e)(1)(i) For commercial applicators: (A) A list and description of categories ~~and subcategories~~ to be used in the State, such categories to be consistent with those defined in §171.3.
APPLICATIONS STANDARDS SAME: -State must show documentation that their standards for commercial applicators meet federal standards -ADDED in 2017 RULE: Such documentation can be (i) a statement it has adopted the federal standards (at §171.101 - Commercial applicator categories and §171.103 - Exam standards) and law/reg citations; *OR* (ii) a statement it has adopted its own standards that meet or exceed §171.101 (Commercial applicator categories) and §171.103 (Exam standards), and a list and description of the categories/subcategories and associated standards along with law/reg citations (for all categories/subcategories, even those unique to the State). Also describe exam standards and how they meet or exceed federal exam standards at §171.103	2017 APPLICATIONS, COMMERCIAL APPLICATOR STANDARDS - §171.303(b)(2) The application for Agency approval of a State certification plan must contain satisfactory documentation that the State standards for the certification of commercial applicators meet or exceed those standards prescribed by the Agency under §§ §171.101 and §171.103. Such documentation must include **one of** the following: ***NEW* §171.303(b)(2)(i) A statement that the State has adopted the same standards for certification of commercial applicators prescribed by the Agency under §§ 171.101 and 171.103 and a citation of the specific State laws and/or regulations demonstrating that the State has adopted such standards.** ***NEW* §171.303(b)(2)(ii) A statement that the State has adopted its own standards that meet or exceed the standards for certification of commercial applicators prescribed by the Agency under §§ 171.101 and 171.103. If the State selects this option, the application for Agency approval of a State certification plan must include all of the following:** §171.303(b)(2)(ii)(A) A list and detailed description of all the categories and subcategories to be used for certification of commercial applicators in the State and a **citation to the specific State laws and/or regulations demonstrating that the State has adopted such categories and subcategories.** §171.303(b)(2)(ii)(B) A **list and detailed description** of all of the standards for certification of commercial applicators adopted by the State and **a citation to the specific State laws and/or regulations** demonstrating that the State has adopted such standards**. Any additional categories or subcategories established by a State must be included in the application for Agency approval of a State plan and must clearly describe the standards the State will use to determine if the applicator has the necessary competency.**	1970S PLAN, STANDARDS §171.7(e)(1)(i) For commercial applicators (C) The standards ~~of competency~~ elaborated by the State. These shall conform and be at least equal to those prescribed in §171.4 for the various categories of applicators utilized by the State. The standards shall also cover each of the points listed in the general standards in §171.4(b) and the points covered in the appropriate specific standards set forth in §171.4(c).

	§171.303(b)(2)(ii)(C) A description of the State's commercial applicator certification examination standards and an explanation of how they meet or exceed the standards prescribed by the Agency under § 171.103(a)(2) [Standards for certification of commercial applicators].	
APPLICATIONS, STANDARDS AND CATEGORIES ADDED: -States must show documentation that their private applicator certification standards meet or exceed federal standards, including a statement that it has adopted its own standards that meet or exceed §171.105 -Provide a list and detailed description of categories/subcategories (regardless of whether they are federal or unique to the State), and citation of laws/regs showing adoption	2017 APPLICATIONS, PRIVATE APPLICATOR STANDARDS AND CATEGORIES §171.303(b)(3) The application for Agency approval of a State certification plan must **contain satisfactory documentation** that the State standards for the certification of private applicators meet or exceed those standards prescribed by the Agency under §171.105 [Private applicator certification standards]. **Such documentation must include a statement that the State has adopted its own standards that meet or exceed the standards for certification of private applicators of restricted use pesticides prescribed by the Agency under** §171.105. The application for Agency approval of a State certification plan must include all of the following: ***NEW* §171.303(b)(3)(i)** A list and detailed description of all the categories and subcategories to be used for certification of private applicators in the State and a citation to the specific State laws and/or regulations demonstrating that the State has adopted such categories and subcategories.	**1970S PLAN, STANDARDS AND CATEGORIES** §171.7(e)(1)(ii) For private applicators (B) The standards ~~of competency~~ elaborated by the State. These shall conform and be at least equal to those prescribed in §171.5(a), including the five requirements listed in §171.5(a)(1) through (5): [(1) Recognize common pests... (2) Read and understand label and labeling information...(3) Apply pesticides in accordance with label instructions and warnings...(4) Recognize local environmental situations...(5) Recognize poisoning symptoms...] §171.5(b) Such competence of each private applicator shall be verified by the responsible State agency through the administration of a private applicator certification system which ensures that the private applicator is competent, based upon the standards set forth above, to use the RUPs under limitations of applicable State and Federal laws and regulations. A certification system shall employ a written or oral testing procedure, or such other equivalent system as may be approved as part of a State plan.
SAME: -Provide a list and detailed description of all standards, and a citation to laws/regs showing adoption ADDED: -If competency is determined based on: Written exam, describe the exam standards and an explanation of how they meet or exceed EPA's exam standards at §171.103(a)(2) -Explain the quantity, content and quality of training to ensure the applicator demonstrates the level of competency required	§171.303(b)(3)(ii) A list and detailed description of all of the standards for certification of private applicators adopted by the State and a citation to the specific State laws and/or regulations demonstrating that the State has adopted such standards. Any additional categories or subcategories established by a State must be identified in the application for Agency approval of a State plan and the application must clearly describe the standards the State will use to determine if the applicator has the necessary competency. ***NEW* §171.303(b)(3)(iii)** If private applicator certification is based upon written examination, a description of the State's private applicator certification examination standards and an explanation of how those meet or exceed the standards prescribed by the Agency under §171.103(a)(2).	~~(1) In any case where a person, at the time of testing for certification, is unable to read a label, the responsible State agency may employ a testing procedure, previously approved by the Administrator, which can adequately assess the competence of such person with regard to all of the above standards. Certification must be related and limited of the use and handling of each individual pesticide for which he desires certification at any time. Therefore, the applicator will be authorized to use only the pesticide(s) for which he has demonstrated competence. A specific procedure is required for §171.5(a)(2) relating to label comprehension, with testing designed to assure his knowledge of the following: (i) Understanding of the label and labeling information~~

	***NEW* §171.303(b)(3)(iv)** If private applicator certification is based upon training, an explanation of how the quantity, content, and quality of the State's training program ensure that a private applicator demonstrates the level of competency required § 171.105 for private applicators, addressing, at the minimum, all of the following factors: (A) The quantity of training required to become certified as a private applicator. (B) The content that is covered by the training and how the State ensures that required content is covered. (C) The process the State uses to approve training programs for private applicator certification. (D) How the State ensures the ongoing quality of the training program for private applicator certification.	~~including those items indicated in that subsection. (ii) Sources of advice and guidance necessary for the safe and proper use of each pesticide related to his certification.~~
CHANGED: The 1970s rule asked to show provisions for ensuring continued competency whereas the 2017 rule asks for specific information and documentation	***NEW* APPLICATIONS, RECERTIFICATION STANDARDS for private and commercial applicators §171.303(b)(4)** The application for Agency approval of a State certification plan must contain satisfactory documentation that the State standards for the recertification of applicators of restricted use pesticides meet or exceed those standards prescribed by the Agency under § 171.107. Such documentation must include a statement that the State has adopted its own standards that meet or exceed the standards for recertification prescribed by the Agency under § 171.107. The application for Agency approval of a State certification plan must include all of the following: (i) A list and detailed description of all of the State standards for recertification of private and commercial applicators, including the elements described in § 171.303(b)(4)(ii) through (iv), and a citation of the specific State laws and/or regulations demonstrating that the State has adopted such standards. (ii) The certification period, which may not exceed five years. (iii) If recertification is based upon written examination, a description of the State's process for reviewing, and updating as necessary, the written examination(s) to ensure that the written examination(s) evaluates whether a certified applicator demonstrates the level of competency required by § 171.103 for commercial applicators or § 171.105 for private applicators. (iv) If recertification is based upon continuing education, an explanation of how the quantity, content, and quality of the State's continuing education program ensures that a certified applicator continues to demonstrate the level of competency required by § 171.103 for commercial applicators or § 171.105 for private applicators, including but not limited to: (A) The quantity of continuing	§ 171.8 PLANS, MAINTENANCE § 171.8(a) Any State certification program approved under § 171.7 shall be maintained in accordance with the State plan approved under that section. Accordingly, the State plan should include… (2) Provisions to ensure that certified applicators continue to meet the requirements of changing technology and to assure a continuing level of competency and ability to use pesticides safely and properly.

	education required to maintain certification. (B) The content that is covered by the continuing education program and how the State ensures the required content is covered. (C) The process the State uses to approve continuing education courses or events, including information about how the State ensures that any continuing education courses or events verify the applicator's successful completion of the course or event. (D) How the State ensures the ongoing quality of the continuing education program.	
CHANGED: In the 1970s rule, a plan must show provisions for assuring that supervisors carry out adequate supervision of noncertified applicators, whereas in the 2017 rule, the State is given options on how to document standards that meet or exceed federal standards	**2017 APPLICATIONS, SUPERVISION** of noncertified applicators by certified private and commercial applicators ***NEW* §171.303(b)(5)** The application for Agency approval of a State certification plan must contain satisfactory documentation that the State standards for the direct supervision of noncertified applicators by certified private and commercial applicators of restricted use pesticides meet or exceed those standards prescribed by the Agency under § 171.201. Such documentation may include one or more of the following as applicable: (i) A statement that the State has adopted the standards for direct supervision of noncertified applicators by certified private and/or commercial applicators prescribed by the Agency under § 171.201 and a citation of the specific State laws and/or regulations demonstrating that the State has adopted such standards. (ii) A statement that the State prohibits noncertified applicators from using restricted use pesticides under the direct supervision of certified private and/or commercial applicators, and a citation of the specific State laws and/or regulations demonstrating that the State has adopted such a prohibition. (iii) A statement that the State has adopted standards for direct supervision of noncertified applicators by certified private and/or commercial applicators that meet or exceed the standards prescribed by the Agency under § 171.201, a citation of the specific State laws and/or regulations demonstrating that the State has adopted such standards, and an explanation of how the State standards meet or exceed the standards prescribed by the Agency under § 171.201.	§ 171.8 PLANS, MAINTENANCE § 171.8(a) Any State certification program approved under § 171.7 shall be maintained in accordance with the State plan approved under that section. Accordingly, the State plan should include: (1) Provisions to assure that certified applicators comply with standards for the use of restricted use pesticides and carry out their responsibility to provide adequate supervision of noncertified applicators.
NEW in 2017 RULE – an "application" is required. The Certification Plan is a part (subset) of the overall application	***NEW* APPLICATIONS - §171.303(b)(6)** The application for Agency approval of a State certification plan must include all of the following:	No application. The application and Certification Plan were one and the same.
CHANGED: -Lead agency designation. 2017 rule at §171.303(b)(6)(i) requires a **written statement**	**2017 APPLICATIONS**, LEAD DESIGNATION §171.303(b)(6)(i) **A written statement** by the Governor of the State designating a lead agency responsible for administering the State	1970S PLAN, LEAD DESIGNATION §171.7(a) Designates a State agency as the agency responsible for administering the plan throughout the

from the Governor of State designating the lead agency. In contrast, the 1970s rule at71.7(a) required the Governor of State to submit a plan designating the lead agency
-Primary point of contact. The 2017 revised rule at §171.303(b)(6)(i) requires the plan to **list the primary point of contact** for the lead agency. In contrast, the 1970s rule at §171.7(a) required a list of the numbers and job titles of the officials in the lead agency & cooperating agencies
-Agency responsibilities. **New:** the plan must identify all cooperating agencies & organizations, listing functions to be performed by each, **including compliance monitoring and enforcement responsibilities** (Note: The 1970s rule required a list of other agencies/orgs. and their functions but did not specify "compliance monitoring and enforcement activities"

SAME:
– Lead agency coordination. Both 1970s & 2017 rules require the plan indicate how program functions will be coordinated by the lead agency to ensure consistency of program administration (§171.303(b)(6)(i)) and (§171.7(a)), respectively)
-Legal authority. Both 1970s & 2017 rules require assurances of legal authority to carry out the plan. However, the 2017 rule specifies that it be in writing and that an opinion come from the lead agency and all cooperating authorities whereas the 1970s rule required an opinion from the lead agency *or* other cooperating agencies:
-Qualified personnel. **NEW:** list **qualified personnel (instead of "responsible officials")** for lead agency and all cooperating agencies/organizations. Also list number of staff and job titles and their job functions as before. (§171.303(b)(6)(iii)) Note: The pre-2017 rule required the same information for responsible officials at the lead agency and all cooperating agencies/organizations

certification plan. The lead agency will serve as the central contact point for the Agency. The State certification plan must **identify the primary point of contact at the lead agency** responsible for administering the State certification plan and serving as the central contact for the Agency on any issues related to the State certification plan. In the event that more than one agency or organization will be responsible for performing functions under the State certification plan, the application for Agency approval of a State plan must identify all such agencies and organizations and list the functions to be performed by each, **including compliance monitoring and enforcement responsibilities**. The application for Agency approval of a State plan must indicate how these functions will be coordinated by the lead agency to ensure consistency of the administration of the State certification plan.
2017 APPLICATIONS, LEGAL AUTHORITY §171.303(b)(6)(ii) A written opinion from the State attorney general or from the legal counsel of the State lead agency that states that the lead agency and other cooperating agencies have the legal authority necessary to carry out the State certification plan.
2017 APPLICATIONS, PERSONNEL
§171.303(b)(6)(iii) A **listing** of the qualified personnel that the lead agency and any cooperating agencies or organizations have to carry out the State certification plan. The list must include the number of staff, job titles, and job functions of such personnel of the lead agency and any cooperating organizations.
2017 APPLICATIONS, RESOURCES
§171.303(b)(6)(iv) A commitment by the State that the lead agency **and any cooperators** will ensure **sufficient resources** are available to carry out the applicator certification program as detailed in the State certification plan.
***NEW* APPLICATIONS,** IMPLEMENTATION - **§171.303(b)(6)(v)** A document outlining the State's proposed approach and anticipated timeframe for implementing the State certification plan after EPA approves the State certification plan.

State. Since several other agencies or organizations may also be involved in administering portions of the State plan, all of these shall be identified in the State plan, particularly any other agencies or organizations responsible for certifying applicators and suspending or revoking certification. In the extent that more than one governmental agency will be responsible for performing certain functions under the State plans, the plans shall identify which functions are to be performed by which agency and indicate how the program will be coordinated by the lead agency to ensure consistency of programs within the State. The lead agency will serve the central contact point for the EPA in carrying out the certification program. The numbers and job titles of the responsible officials of the lead agency and cooperating units shall be included.

1970s PLAN, LEGAL AUTHORITY AND QUALIFIED PERSONNEL
§171.7(b) Contains satisfactory assurances that such lead agency has or will have the legal authority and qualified personnel necessary to carry out the plan: (1) Satisfactory assurances that the lead agency or other cooperating agencies have the legal authority necessary to carry out the plans should be in the form of an opinion of the Attorney General of the legal counsel of the lead agency.

1970S PLAN, RESOURCES–
§171.7(c) Gives satisfactory assurances that the State will devote adequate funds to the administration of the plan.

CHANGED: All cooperating agencies/organizations (not just lead agency) must commit to having sufficient resources. 1970s rule required only the lead agency to assure they would devote "adequate funds" *NEW*: States must submit a document on their proposed approach and timeframe for implementing the EPA-approved Certification Plan		
NEW: The lead agency must submit a complete copy of all State laws and regulations relevant to the State certification plan -SAME: Lead agency must include citations on specific legal authority for: – a list of the acts for grounds for denying, suspending and revoking certifications, at a minimum for: misuse of a pesticide, falsification of certified applicator required records, a criminal conviction (FIFRA Section 14(b)), a final order imposing civil penalty (FIFRA Section 14(a) -ADDED: a list of acts for denying, suspending and revoking certifications based on the conclusion of State enforcement action for violations of State laws or regulations relevant to the Certification plan -SAME: -show authority to review an applicator's certification for suspension or revocation if a criminal conviction or civil penalty is involved under FIFRA Lead agency must cite laws, regulations, showing provisions for	2017 APPLICATIONS, LAWS/REGS §171.303(b)(7) The application for Agency approval of a State certification plan must include a complete copy of **all State laws and regulations relevant to the State certification plan**. In addition, the application for Agency approval of a State plan must include citations to the specific State laws and regulations that demonstrate specific legal authority for each of the following: **(i)** Provisions for and listing of the acts which would constitute grounds for denying, suspending, and revoking certification of applicators. Such grounds must include, at a minimum, misuse of a pesticide, falsification of any records required to be maintained by the certified applicator, a criminal conviction under section 14(b) of FIFRA, a final order imposing civil penalty under section 14(a) of FIFRA, **and conclusion of a State enforcement action for violations of State laws or regulations relevant to the State certification plan.** (ii) Provisions for reviewing, and where appropriate, suspending or revoking an applicator's certification based on any of the grounds listed in the plan pursuant to paragraph (b)(7)(i) of this section, or a criminal conviction under section 14(b) of FIFRA, a final order imposing civil penalty under section 14(a) of FIFRA, or conclusion of a State enforcement action **for violations of State laws or regulations relevant to the State certification plan**. §171.303(b)(7)(iii) Provisions for assessing criminal and civil penalties for violations of State laws or regulations relevant to the State certification plan. §171.303(b)(7)(iv) Provisions for right of entry by consent or warrant by State officials at reasonable times for sampling, inspection, and observation purposes. §171.303(b)(7)(v) Provisions making it unlawful for persons other than certified applicators **or noncertified applicators** working under	1970S PLAN – LAWS/REGS §171.7(b)(1)(i) The lead agency should submit a copy of the appropriate State law and regulation. §171.7(b)(1)(iii) The State plan should indicate by citations to specific laws ~~(whether enacted or pending enactment)~~ and/or regulations ~~(whether promulgated or pending promulgation)~~ that the State has legal authorities as follows: (A) Provision for and listing of the acts which constitute grounds for denying, suspending, and revoking certification of applicators, and for assessing criminal and /or civil penalties. Such grounds should include, at a minimum, misuse of a pesticide and falsification of any records required to be maintained by the certified applicator. (B) Provisions for reviewing an applicator's certification to determine whether suspension or revocation of the certification is appropriate in the event of criminal conviction under Section 14(b) of the amended FIFRA, a final order imposing civil penalty under section 14(a) of the amended FIFRA, or conclusion of a State enforcement action. (C) Provisions for right-of-entry by consent or warrant by appropriate State officials at reasonable times for sampling, inspection, and observation purposes. (D) Provisions making it unlawful for persons other than certified applicators or persons working under their direct supervision to use RUPs.

NEW: – authority to assess criminal and civil penalties for violations of State laws & regulations relevant to Certification plan SAME: -Right of entry. -Making it unlawful for persons other than certified applicators or persons under their supervision to use RUPs NEW: – supervised applicators are now "noncertified applicators" -Requirement of certified commercial applicators must keep records of RUP applications for 2 years and make available to State officials CHANGED: 1970s rule required general information on records commercial applicators must keep. The 2017 rule lists the specific information commercial applicators have to keep in RUP use records. See text in bold	a certified applicator's direct supervision to use restricted use pesticides. §171.303(b)(7)(vi) Provisions requiring certified commercial applicators to **record** and maintain for the period of at least two years routine operational records containing information on **types**, amounts, uses, dates, and places of application of restricted use pesticides and for ensuring that such records will be available to appropriate State officials. Such provisions must require commercial applicators to record and maintain, at a minimum, all of the following: **(A) The name and address of the person for whom the restricted use pesticide was applied**. (B) The **location** of the restricted use pesticide application. (C) The **size of the area treated**. (D) The **crop, commodity, stored product, or site** to which the restricted use pesticide was applied. (E) The **time** and date of the restricted use pesticide application. (F) The **brand or product name** of the restricted use pesticide applied. (G) The **EPA registration number** of the restricted use pesticide applied. (H) The **total amount** of the restricted use pesticide applied **per location per application**. **(I) The name and certification number of the certified applicator that made or supervised the application, and, if applicable, the name of any noncertified applicator(s) that made the application under the direct supervision of the certified applicator.** (J) Records required under § 171.201(e). [(1) Commercial applicators must create or verify existence of records on noncertified applicator qualifications: (i) If they received noncertified applicator training - name & signature of noncertified applicator, date of training, name of trainer, and title or description of training. (ii) if they were trained as an agricultural handler - printed name & signature of handler, date of training, name of trainer and documentation showing they met WPS trainer requirements, information on EPA-approved training materials used, and name of handler's employer (170.501(d)(1)). (iii) If they met the certifying authority's requirements (that meet or exceed noncertified applicator training) - the records required by the certifying authority. (iv) if a certified applicator (but not for type/category of application) – name, certification number, certifying authority,and expiration date of certification.]	(E) Provisions requiring certified commercial applicators to ~~keep~~ and maintain for the period of at least 2 years routine operational records containing information on-~~kinds~~, amounts, uses, dates, and places of application of RUPs; and for ensuring that such records will be available to appropriate State officials.

NEW -RUP recordkeeping requirements for dealers 1970S RULE had no federal recordkeeping requirements for RUP dealers, except for any State or area of Indian country where EPA implements a Certification Plan	***NEW* APPLICATIONS, RUP DEALER RECORDKEEPING** **§171.303(b)(7)(vii)** Provisions requiring restricted use pesticide retail dealers to record and maintain at each individual dealership, for the period of at least two years, records of each transaction where a restricted use pesticide is distributed or sold to any person, excluding transactions solely between persons who are pesticide producers, registrants, wholesalers, or retail sellers, acting only in those capacities. Records of each such transaction must include all of the following information: (A) Name and address of the residence or principal place of business of each certified applicator to whom the restricted use pesticide was distributed or sold, or if applicable, the name and address of the residence or principal place of business of each noncertified person to whom the restricted use pesticide was distributed or sold for application by a certified applicator. (B) The certification number on the certification document presented to the seller evidencing the valid certification of the certified applicator authorized to purchase the restricted use pesticide, the State, Tribe or Federal agency that issued the certification document, the expiration date of the certified applicator's certification, and the category(ies) in which the applicator is certified relevant to the pesticide(s) sold. (C) The product name and EPA registration number of the restricted use pesticide(s) distributed or sold in the transaction, including any applicable emergency exemption or State special local need registration number. (D) The quantity of the restricted use pesticide(s) distributed or sold in the transaction. (E) The date of the transaction.	
SAME: -Both the 1970s and 2017 rules require the State to agree to submitting reports on annual certification numbers, a change that was made or proposed to make to the State plan, a summary of enforcement activities, and any other reports as needed	2017, REPORTS §171.303(c) Requirement to submit reports to the Agency. The State must agree to submit the following reports to the **Agency** in a manner and containing the information that the **Agency** requires: (1) An annual report to be submitted by the State lead agency to the Agency by the **date established** by the **Agency** that includes all of the following information: (i) The number of new general private applicator certifications and recertifications issued during the last 12 month reporting period, and total number of applicators holding a valid general private applicator certification at the end of the last 12 month reporting period. (ii) For each private applicator category specified in the certification plan, the numbers of new certifications	1970s, REPORTS §171.7(d) Provides that the State agency will make reports to the ~~Administrator~~ in a manner and containing information that the ~~Administrator may from time to time require, including:~~ (1) An annual report to be submitted by the lead agency, at a ~~time~~ to be ~~specified~~ by the ~~State~~, to include the following information: (i) Total number of applicators, private and commercial, by category, currently certified; and number of applicators, private and commercial, by category, certified during the last reporting period. (ii) Any changes in commercial applicator subcategories. (iii) A summary of enforcement

	and recertification issued during the last 12 month reporting period, and the total number holding valid certifications in each category at the end of the last 12 month reporting period. (iii) The numbers of new commercial applicator certifications and recertifications during the last 12 month reporting period, and the total number of applicators certified in at least one commercial applicator certification category at the end of the last 12 month reporting period. (iv) For each commercial applicator certification category or subcategory specified in the certification plan, the numbers of new certifications and recertifications issued during the last 12 month reporting period, and the total number of commercial applicators holding a valid certification in each category **or subcategory** at the end of the last 12 month reporting period. (v) A description of any modifications made to the approved certification plan during the last 12 month reporting period that have not been previously evaluated by the Agency under §171.309(a)(3). (vi) A description of any proposed changes to the certification plan that the State anticipates making during the next reporting period that may affect the certification program. (vii) A summary of enforcement activities related to the use of restricted use pesticides during the last 12 month reporting period. (2) Any other reports reasonably required by the **Agency** in its oversight of restricted use pesticides.	activities related to use of RUPs during the last reporting period. (iv) Any significant proposed changes in required standards of competency. (v) Proposed changed in plans and procedures for enforcement activities related to use of RUPs for the next reporting period. (vi) Any other proposed changes from the State plan that would significantly affect the State certification program. (2) Other reports as may be required by the ~~Administrator~~ shall be submitted from time to time to meet specific needs.

III. Detailed Comparison of Regulatory Text and Summary of Changes (D309) Modification and withdrawal of approval of certification plans		
SAME: -State must get approval from EPA before substantial modification CHANGED: -2017 rule clarifies that the State must first determine that the proposed plan modifications do not impair compliance with any federal laws or regulations NEW: -State must notify EPA within 90 days of the effective date of the modifications, or when submitting annual reports, whichever comes first -State must consult with EPA before making substantial modifications "Substantial modifications" include adding or deleting certification/recertification mechanism; new categories or subcategories; or any other change EPA notifies the State that is considered substantial -EPA will provide a written decision regarding the changes -Changes may be approved subject to reasonable terms and conditions and EPA will agree on an implementation schedule SAME: -EPA may withdraw plan approval if the State is not administering the plan as approved -EPA may allow up to 90 days for the State to take corrective action before withdrawing approval NEW: -EPA may withdraw plan approval if the State is not complying with any other federal laws or regulations, or not carrying out a program adequately to ensure compliance with FIFRA section 19(f)	2017, PLANS § 171.309 Modification and withdrawal of approval of certification plans. (a) Modifications to approved certification plans. A State, Tribe, or Federal agency may make modifications to its approved certification plan, provided that all of the following conditions are met: **(1) Determination of plan compliance. Before modifying an approved certification plan, the State, Tribe, or Federal agency must determine that the proposed modifications will not impair the certification plan's compliance with the requirements of this part or any other Federal laws or regulations.** (2) Requirement for Agency notification. The State, Tribe, or Federal agency **must notify the Agency of any plan modifications within 90 days after the final State, Tribal, or Federal agency plan modifications become effective or when it submits its required annual report to the Agency, whichever occurs first.** (3) Additional requirements for substantial modifications to approved certification plans. Before making any substantial modifications to an approved certification plan, the State, Tribe or Federal agency **must consult with the Agency and obtain Agency approval of the proposed modifications. Substantial modifications include the following:** **(i) Addition or deletion of a mechanism for certification and/or recertification. (ii) Establishment of a new private applicator category, private applicator subcategory, commercial applicator category, or commercial applicator subcategory. (iii) Any other changes that the Agency has notified the State, Tribal or Federal agency that the Agency considers to be substantial modifications.** **(4) Agency decision. The Agency shall make a written determination regarding the modified certification plan's compliance with the requirements of this part.** The Agency shall give the certifying authority submitting a certification plan notice and opportunity for an informal hearing before rejecting the plan. **The Agency's approval may be subject to reasonable terms and conditions. If the Agency approves modifications to a certification plan, that approval shall specify a schedule for implementation of the modified certification plan.** (b) Withdrawal of approval. If at any time the Agency determines that a State, Tribal, or Federal agency certification plan **does not**	1970s, PLANS § 171.8 Maintenance of State plans. (b) An approved State plan and the certification program carried out under such plan may not be substantially modified without the prior approval of the Administrator. A proposed change may be submitted for approval at any time but all applicable Regulations must be satisfied for the modification to be eligible for approval by the Administrator. (3) Whenever the Administrator determines that the State is not administering the certification program in

	comply with the requirements of this part or **any other Federal laws or regulations,** or that a State, Tribal, or Federal agency is not administering the certification plan as approved under this part**, or that a State is not carrying out a program adequate to ensure compliance with FIFRA section 19(f)**, the Agency may withdraw approval of the certification plan. Before withdrawing approval of a certification plan, the Agency will notify the State, Tribal, or Federal agency and provide the opportunity for an informal hearing. If appropriate, the Agency may allow the State, Tribe, or Federal agency a reasonable time, not to exceed 90 days, to take corrective action.	accordance with the State plan approved under § 171.7, he shall so notify the State and provide for a hearing at the request of the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of the plan.