

electrical energy storage such as batteries. These systems may have ac or dc output for utilization.

(1) *Conductors of different systems.* Photovoltaic source circuits and photovoltaic output circuits may not be contained in the same raceway, cable tray, cable, outlet box, junction box, or similar fitting as feeders or branch circuits of other systems, unless the conductors of the different systems are separated by a partition or are connected together.

(2) *Disconnecting means.* Means shall be provided to disconnect all current-carrying conductors of a photovoltaic power source from all other conductors in a building or other structure. Where a circuit grounding connection is not designed to be automatically interrupted as part of the ground-fault protection system, a switch or circuit breaker used as disconnecting means may not have a pole in the grounded conductor.

(g) *Integrated electrical systems*—(1) *Scope.* Paragraph (g) of this section covers integrated electrical systems, other than unit equipment, in which orderly shutdown is necessary to ensure safe operation. An integrated electrical system as used in this section shall be a unitized segment of an industrial wiring system where all of the following conditions are met:

(i) An orderly shutdown process minimizes employee hazard and equipment damage;

(ii) The conditions of maintenance and supervision ensure that only qualified persons will service the system; and

(iii) Effective safeguards are established and maintained.

(2) *Location of overcurrent devices in or on premises.* Overcurrent devices that are critical to integrated electrical systems need not be readily accessible to employees as required by §1910.304(f)(1)(iv) if they are located with mounting heights to ensure security from operation by nonqualified persons.

§§ 1910.309–1910.330 [Reserved]

SAFETY-RELATED WORK PRACTICES

§ 1910.331 Scope.

(a) *Covered work by both qualified and unqualified persons.* The provisions of §§1910.331 through 1910.335 cover electrical safety-related work practices for both qualified persons (those who have training in avoiding the electrical hazards of working on or near exposed energized parts) and unqualified persons (those with little or no such training) working on, near, or with the following installations:

(1) *Premises wiring.* Installations of electric conductors and equipment within or on buildings or other structures, and on other premises such as yards, carnival, parking, and other lots, and industrial substations;

(2) *Wiring for connection to supply.* Installations of conductors that connect to the supply of electricity; and

(3) *Other wiring.* Installations of other outside conductors on the premises.

(4) *Optical fiber cable.* Installations of optical fiber cable where such installations are made along with electric conductors.

NOTE: See §1910.399 for the definition of “qualified person.” See §1910.332 for training requirements that apply to qualified and unqualified persons.

(b) *Other covered work by unqualified persons.* The provisions of §§1910.331 through 1910.335 also cover work performed by unqualified persons on, near, or with the installations listed in paragraphs (c)(1) through (c)(4) of this section.

(c) *Excluded work by qualified persons.* The provisions of §§1910.331 through 1910.335 do not apply to work performed by qualified persons on or directly associated with the following installations:

(1) *Generation, transmission, and distribution installations.* Installations for the generation, control, transformation, transmission, and distribution of electric energy (including communication and metering) located in buildings used for such purposes or located outdoors.

NOTE 1: Work on or directly associated with installations of utilization equipment