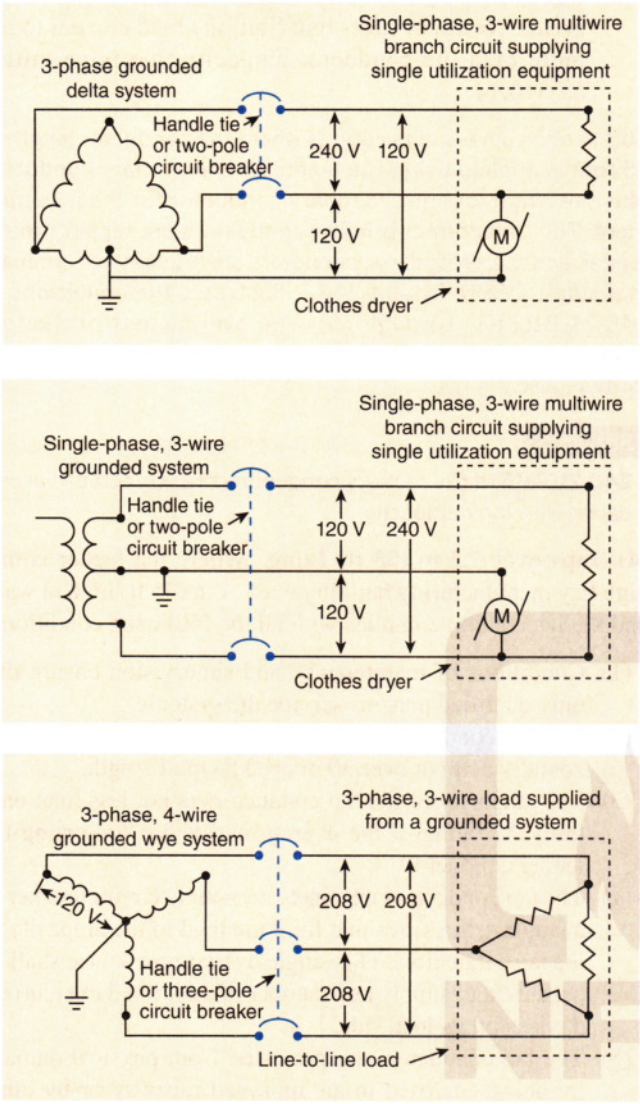

EXHIBIT 240.5 Examples of circuits in which identified handle ties are permitted to provide the simultaneous disconnecting function.

Section 240.15(B)(4) covers protection of direct-current circuits and permits the use of two single-pole circuit breakers (rated for dc application) with identified handle ties to be used for the overcurrent protection of line-to-line connected loads. The 3-wire circuits covered by this requirement are *multiwire branch circuits* per the definition in Article 100 and as such are subject to all of the requirements specified in 210.4.

Part II. Location

240.21 Location in Circuit. Overcurrent protection shall be provided in each ungrounded circuit conductor and shall be located at the point where the conductors receive their supply except as specified in 240.21(A) through (H). Conductors supplied under 240.21(A) through (H) shall not supply another conductor except through an overcurrent protective device meeting the requirements of 240.4.

(A) Branch-Circuit Conductors. Branch-circuit tap conductors meeting the requirements specified in 210.19 shall be permitted to have overcurrent protection as specified in 210.20.

(B) Feeder Taps. Conductors shall be permitted to be tapped, without overcurrent protection at the tap, to a feeder as specified in 240.21(B)(1) through (B)(5). The tap shall be permitted at any point on the load side of the feeder overcurrent protective device. Section 240.4(B) shall not be permitted for tap conductors.

An OCPD is not permitted to be supplied by a tap conductor having an ampacity less than its rating. For example, the use of a 500-kcmil THWN copper conductor (380 amperes, per Table 310.16) as a tap conductor to supply a 400-ampere rated device is not permitted.

Note that the lengths specified in 240.21(B) and (C) apply to the conductors, not to a raceway enclosing the conductors or to the distance between the enclosures in which the tap conductors originate and terminate.

Δ **(1) Taps Not over 3 m (10 ft) Long.** If the length of the tap conductors does not exceed 3 m (10 ft) and the tap conductors comply with all of the following:

(1) The ampacity of the tap conductors is as follows:

a. Not less than the combined calculated loads on the circuits supplied by the tap conductors
b. Not less than the rating of the equipment containing an overcurrent device(s) supplied by the tap conductors or not less than the rating of the overcurrent protective device at the termination of the tap conductors

Exception to b: Where listed equipment, such as a surge-protective device(s) [SPD(s)], is provided with specific instructions on minimum conductor sizing, the ampacity of the tap conductors supplying that equipment shall be permitted to be determined based on the manufacturer's instructions.

(2) The tap conductors do not extend beyond the switchboard, switchgear, panelboard, disconnecting means, or control devices they supply.
(3) Except at the point of connection to the feeder, the tap conductors are enclosed in a raceway, which extends from the tap to the enclosure of an enclosed switchboard, switchgear, a panelboard, or control devices, or to the back of an open switchboard.
(4) For field installations, if the tap conductors leave the enclosure or vault in which the tap is made, the ampacity of the tap conductors is not less than one-tenth of the rating of the overcurrent device protecting the feeder conductors.

Informational Note: See 408.36 for overcurrent protection requirements for panelboards.

(2) Taps Not over 7.5 m (25 ft) Long. Where the length of the tap conductors does not exceed 7.5 m (25 ft) and the tap conductors comply with all the following: