

567—49.14(455B) Pumps, pumping equipment, and wiring.

49.14(1) General pump installation requirements. Pump installation shall be planned and carried out so the pump will be:

- a. Installed so that it and its surroundings are not exposed to chemical or biological contamination;
- b. Properly sized so as to provide the volume of water necessary, where obtainable, for an adequate water supply;
- c. Designed to meet the well characteristics and not exceed the yield of the well, except for low yield seepage/storage wells;
- d. Installed without repriming or breaking suction;
- e. Installed in a manner that provides adequate protection against contamination of the water supply from any surface or subsurface sources; and
- f. Accessible for maintenance, repair, and removal.

49.14(2) Lubrication. Pump motor lubricant or coolant oil shall be NSF H1 approved or be FDA Generally Recognized As Safe (GRAS)-approved for incidental food contact.

49.14(3) Other power pumps. Other power pumps located over the well shall be mechanically joined to the casing or on a pump foundation or stand in a manner that effectively seals the top of the well. A sanitary seal shall be used where the pump is not located over the well, and the pump delivery or suction pipe emerges from the top.

49.14(4) Hand pumps or similar devices.

a. A hand pump, hand pump head, hand pump stand, or similar device shall be constructed so that there are no openings into the interior of the pump or well casing where rain or surface water, dirt, insects, or animals, or other foreign matter can enter.

b. Hand pumps shall:

- (1) Be provided with a casing vent as described in 49.17(2);
- (2) Have a closed, downward-directed spout and a sealed pump rod packing assembly; and
- (3) Be attached to a well casing by a sealed flange or other method approved by the administrative authority. The flange shall not be less than 12 inches above a concrete slab or the ground surface.

c. Where a well casing functions as a hand pump cylinder wall, the plunger shall not be less than 25 feet below the ground surface. Casing wall weep holes are not allowed.

49.14(5) Pump wiring. Pump wiring within the well shall be double-jacketed copper wire meeting the NEC specifications for wire sizing unless the pump manufacturer requires a non-jacketed wire. Wire outside of the casing shall meet NEC specifications, at a minimum. Wire shall be secured to the drop pipe at a minimum of 20-foot intervals.

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