F. Clearances of wires, conductors, cables, and rigid live parts from grain bins

1. Grain bins loaded by permanently installed augers, conveyers, or elevator systems

All portions of grain bins that are expected to be loaded by the use of a permanently installed auger, conveyer, or elevator system shall be considered as a building or other installation under Rule 234C for the purpose of determining appropriate clearances of wires, conductors, cables, and rigid live parts. In addition, the following clearances shall also apply without wind displacement. See Figure 234-4(a).

a. A clearance of not less than 5.5 m (18 ft) in all directions above the grain bin shall be maintained from each probe port in the grain bin roof for all wires, conductors, and cables.

b. A horizontal clearance of not less than 4.6 m (15 ft) shall be maintained between grain bins and open supply conductors, 0 to 22 kV. This clearance does not apply to a neutral conductor meeting Rule 230E1.

2. Grain bins loaded by portable augers, conveyers, or elevators (with no wind displacement)

a. The clearance of wires, conductors, cables, and rigid live parts from grain bins that are expected to be loaded by the use of a portable auger, conveyer, or elevator shall be not less than the values illustrated in Figure 234-4(b).

EXCEPTION: Clearances of the following items on the nonloading side of grain bins shall be not less than those required by Rule 234C for clearances from buildings:

(a) Support arms; effectively grounded equipment cases

(b) Insulated communication conductors and cables, messengers, surge-protection wires, effectively grounded guys, neutral conductors meeting Rule 230E1, and supply cables meeting Rule 230C1

(c) Supply cables of 0 to 750 V meeting Rule 230C2 or 230C3

b. Any side of a grain bin is considered to be a nonloading side if it is so designated, or if it is so closely abutting another structure or obstruction, or so close to a public road or other right-of-way that a portable auger, conveyor, or elevator is not reasonably anticipated to be used over that side or portion to fill the grain bin.

c. Where an agreement excludes the use of portable augers, conveyors, or elevators from a designated portion of a grain bin, such portion is considered to be a nonloading side.

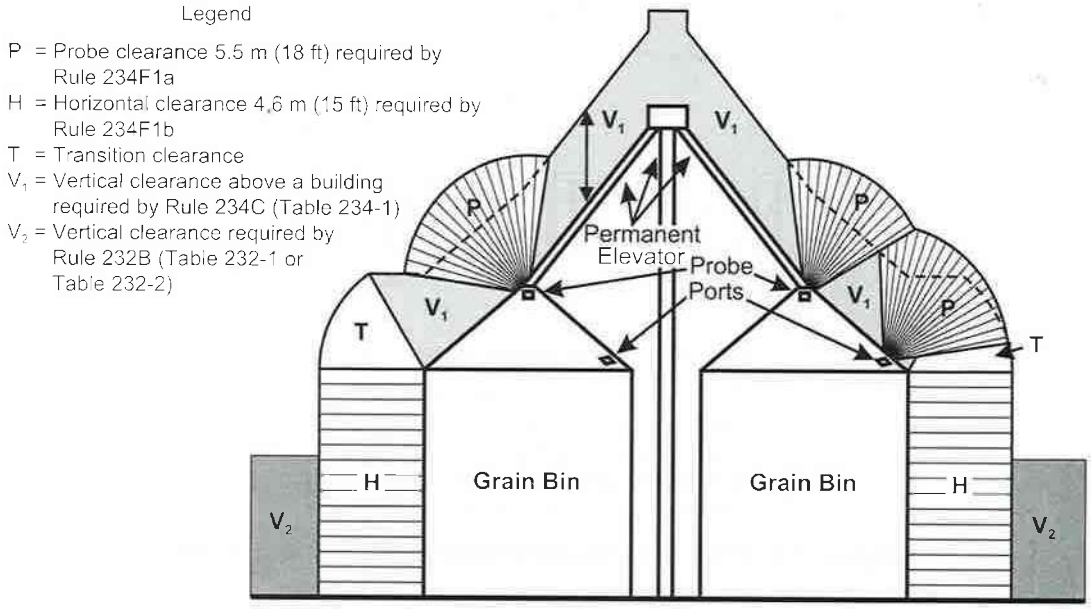

Figure 234-4(a)—Clearance envelope for grain bins filled by permanently installed augers, conveyors, or elevators

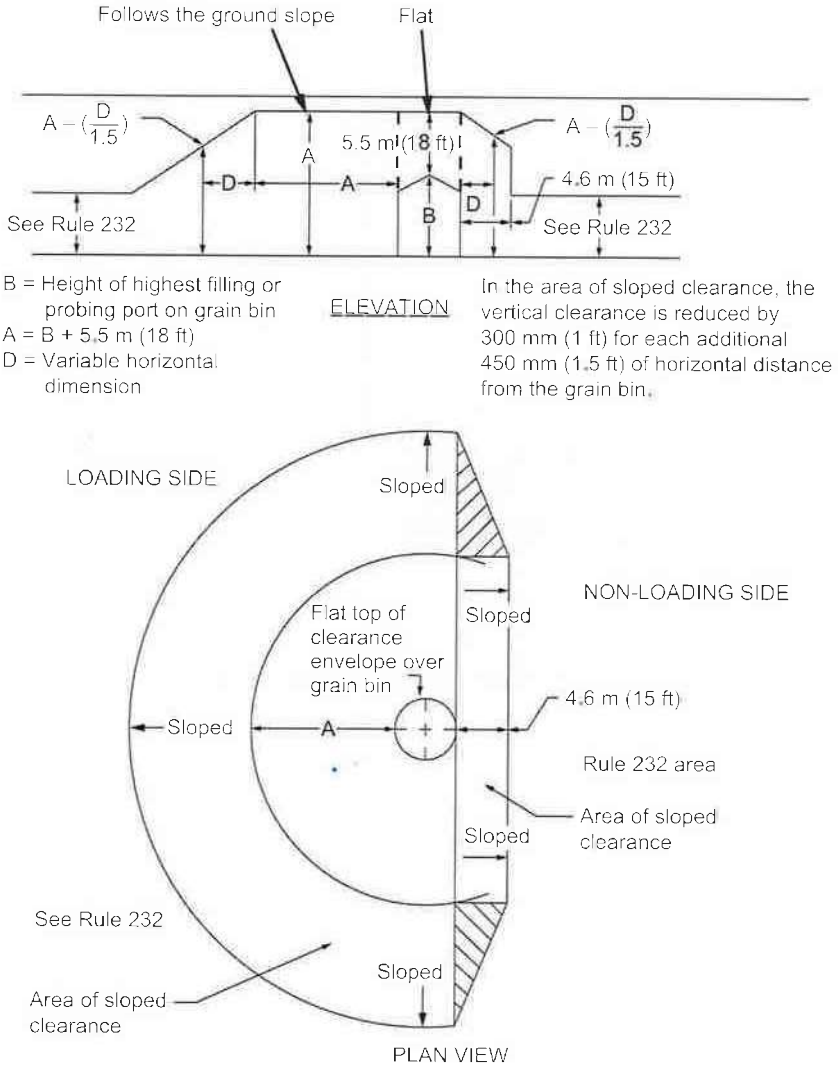

Figure 234-4(b)—Clearance envelope for grain bins filled by portable augers, conveyors, or elevators

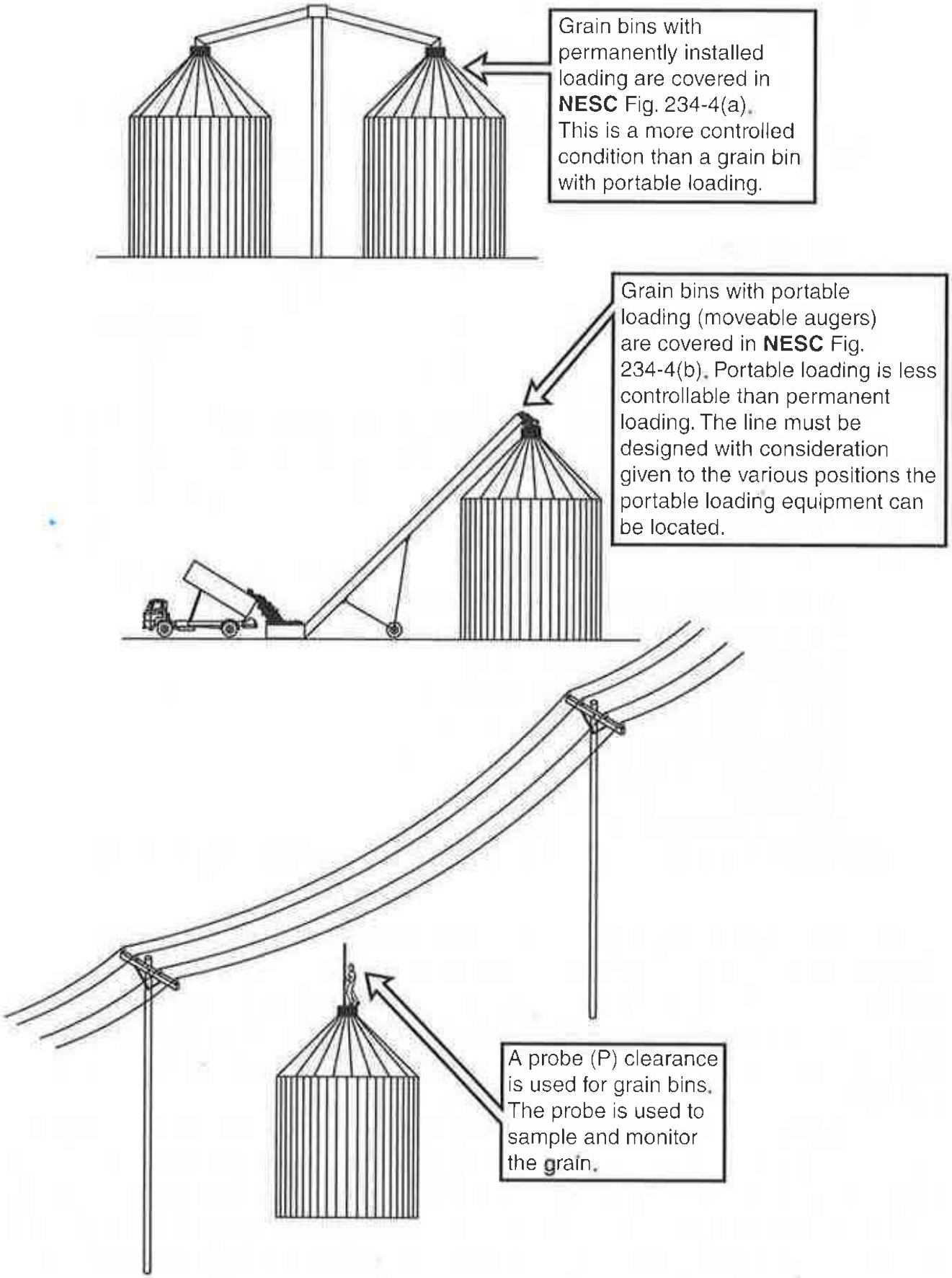

Fig. 234-21. Concerns that are addressed when providing clearance to grain bins (Rule 234F).

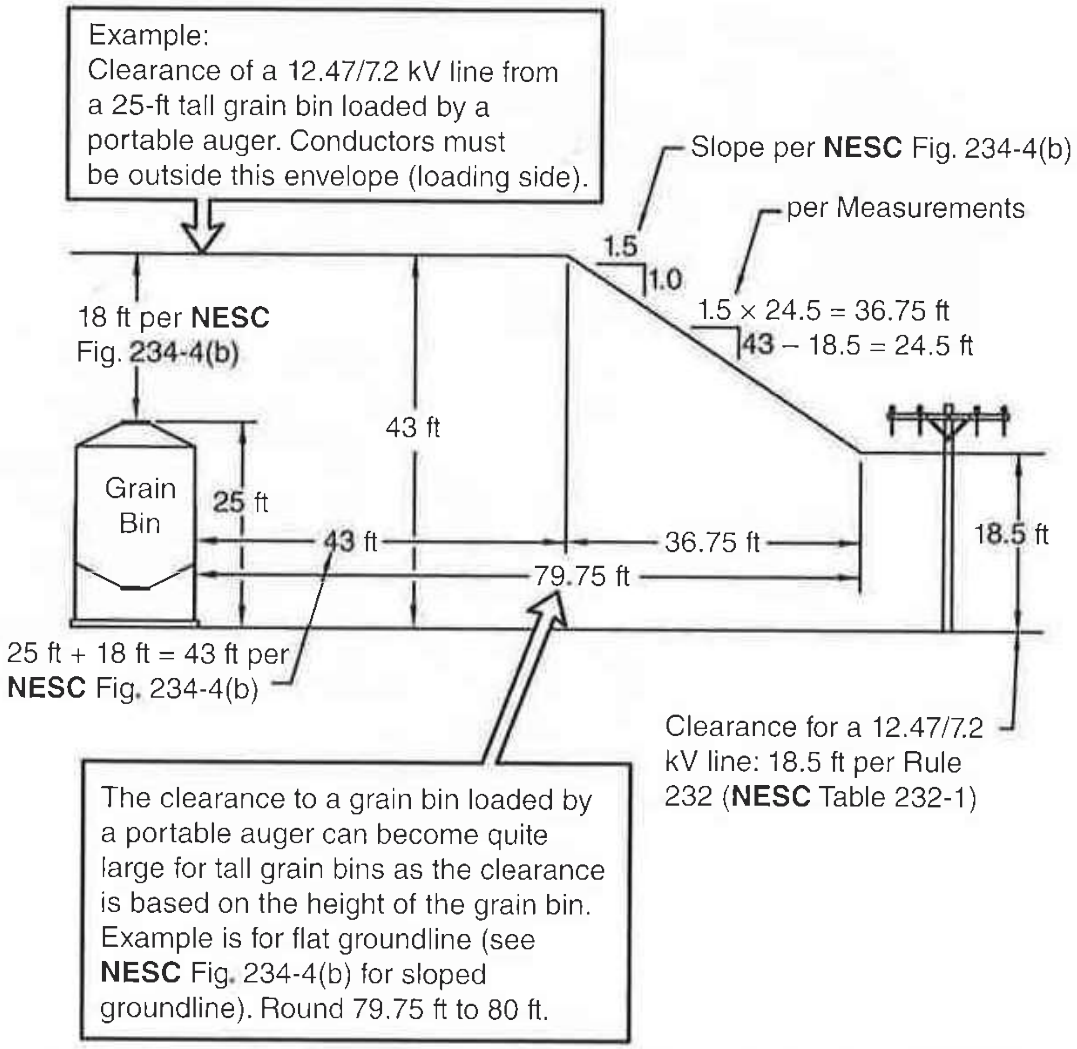

Fig. 234-22. Example of clearance to a grain bin loaded by a portable auger (Rule 234F2).