

National Electrical Safety Code Committee, Accredited Standards Committee C2

National Electrical Safety Code®

Interpretation

Section 11. Protective arrangements in electric supply stations

Rule 110B2 General requirements—Rooms and spaces—Use (2007 Edition, page 32) (30 March 2007) IR546

EXCEPTION 1 makes reference to equipment and EXCEPTION 2 and EXCEPTION 3 do not specifically mention equipment. Can EXCEPTION 2 and EXCEPTION 3 be applied to equipment as well as materials? Also, it is not clear as to what type of equipment is being considered under EXCEPTION 1. Would this apply to electrical equipment and construction equipment (line trucks, backhoes, trenchers, etc.)?

Discussion: Upon review of certain practices for storing materials and construction equipment in electrical substations, it was determined that some storage needs are short-term and some are long-term. It is clear that long-term storage requires a separate fenced area. Clarification on the equipment considered under the exceptions would be very helpful in the setting of work practices such that they do not violate the Code.

Interpretation

The Interpretations Subcommittee has considered the subject Interpretation Request for Rule 110B2 and has developed a consensus report as follows:

“Electric supply stations come in various forms and sizes. Small unit substations may have very few exposed high-voltage parts while larger substations and switching stations tend to have an abundance of high-voltage lines, bus bars, transformers, switchgear, etc. Property size and the amount of fencing installed at a specific site also vary. Fencing may be minimal, enclosing only the station yard—the electrified portion of the station—and may or may not cover the entire property. On the other hand, a perimeter fence may be installed to cover a much larger area. In such cases, the station yard may or may not be enclosed with additional switchyard fencing.

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The rationale for fencing (or walls, etc.) is covered in the first paragraph of Rule 110A1, which reads: “Rooms and spaces in which electric supply conductors or equipment are installed shall be so arranged with fences, screens, partitions, or walls to form an enclosure as to limit the likelihood of entrance of unauthorized persons or interference by them with equipment inside. Entrances not under observation of an authorized attendant shall be kept locked.” (Emphasis added.) Rule 110B2 prohibits storage except as allowed in the exceptions. EXCEPTION 1 is limited to items essential for the maintenance of installed equipment at the specific station. EXCEPTION 2 applies to both short- and long-term storage and, as is stated in the discussion above, requires a separate or intermediate fence. EXCEPTION 3 is limited to temporary storage of items to be used for work in progress, and all of the itemized requirements in the exception must be met.

Types of equipment and material that may be stored under any of the exceptions have not been detailed because of the vast differences in stations, methods of operation, and maintenance requirements. There is no intent to exclude either electrical equipment (such as spare transformers) or mechanized construction equipment (such as line trucks, etc.) as long as the other provisions of the exceptions are followed. However, with respect to this interpretation, note that Rule 110A1 limits entrance to the station yard (the inner sanctum) to authorized personnel and states that all entrances to such an area must be kept locked if not under the observation of an authorized attendant. In other words, persons not qualified and authorized to be in station yards cannot deliver materials or equipment to a yard nor can they park a truck in a yard unless under the observation of or escorted by a qualified and authorized person.”