

(2) *Step-up transformer.* A step-up transformer is a transformer that steps up the low or medium voltage to high voltage (See Figure 2 in this section) and must meet the following requirements:

(i) The trailing cable supplying low or medium voltage to the step-up transformer must meet the applicable requirements of 30 CFR part 75;

(ii) The high-voltage circuit output of the step-up transformer supplying power to the continuous mining machine must meet the applicable provisions of § 75.824;

(iii) The step-up transformer enclosure must be—

(A) Securely mounted to minimize vibration on:

(1) The continuous mining machine; or

(2) A sled/cart that must be connected to the continuous mining machine by a tow-bar and be in close proximity to the mining machine.

(B) Grounded as follows:

(1) Connected to the incoming ground conductor of the low- or medium-voltage trailing cable;

(2) Bonded by a No. 1/0 A.W.G. or larger external grounding conductor to the continuous mining machine frame; and

(3) Bonded by a No. 1/0 A.W.G. or larger external grounding conductor to the metallic shell of each cable coupler.

(C) Equipped with:

(1) At least two interlock switches for each of the enclosure covers; and

(2) An external emergency stop switch to remove input power to the step-up transformer.

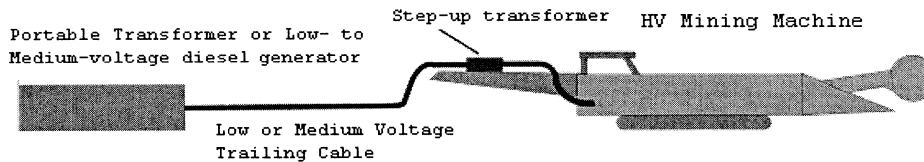


Figure 2 - Power source - 75.829(c) (2) 480 or 995 volts to a step-up transformer to 2300 volts for tramming

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§ 75.830 Splicing and repair of trailing cables.

(a) *Splices and repairs.* (1) Splicing means the mechanical joining of one or more severed conductors in a single length of a cable including the replacement of: Insulation, semi-conductive tape, metallic shielding, and the outer jacket(s).

(2) Repair means to fix damage to any component of the cable other than the conductor.

(3) Splices and repairs to high-voltage trailing cables must be made:

(i) Only by a qualified person trained in the proper methods of splicing and repairing high-voltage trailing cables;

(ii) In a workman-like manner;

(iii) In accordance with § 75.810; and

(iv) Using only MSHA-approved high-voltage kits that include instructions for outer-jacket repairs and splices.

(b) *Splicing limitations.* (1) Splicing of the high-voltage trailing cable within 35 feet of the continuous mining machine is prohibited.

(2) Only four (4) splices will be allowed at any one time for the portion of the trailing cable that extends from the continuous miner outby for a distance of 300 feet.

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§ 75.831 Electrical work; troubleshooting and testing.

(a) *Trailing cable and continuous mining machine electrical work procedures.* Prior to performing electrical work, other than troubleshooting and testing, on the high-voltage trailing cable or the continuous mining machine, a