



DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petition for Modification of Application of Existing Mandatory Safety Standards

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: This notice is a summary of a petition for modification submitted to the Mine Safety and Health Administration (MSHA) by the party listed below.

DATES: All comments on the petition must be received by MSHA's Office of Standards, Regulations, and Variances on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE **FEDERAL REGISTER**].

ADDRESSES: You may submit comments identified by Docket No. MSHA-2023-0035 by any of the following methods:

1. *Federal eRulemaking Portal:* <https://www.regulations.gov>. Follow the instructions for submitting comments for MSHA-2023-0035.
2. *Fax:* 202-693-9441.
3. *Email:* petitioncomments@dol.gov
4. *Regular Mail or Hand Delivery:* MSHA, Office of Standards, Regulations, and Variances, 201 12th Street South, Suite 4E401, Arlington, Virginia 22202-5452,

Attention: S. Aromie Noe, Director, Office of Standards, Regulations, and Variances. Persons delivering documents are required to check in at the receptionist's desk in Suite 4E401.

Individuals may inspect copies of the petition and comments during normal business hours at the address listed above. Before visiting MSHA in person, call 202-693-9455 to make an appointment, in keeping with the Department of Labor's COVID-19 policy. Special health precautions may be required.

FOR FURTHER INFORMATION CONTACT: S. Aromie Noe, Office of Standards, Regulations, and Variances at 202-693-9440 (voice), Petitionsformodification@dol.gov (email), or 202-693-9441 (fax). [These are not toll-free numbers.]

SUPPLEMENTARY INFORMATION: Section 101(c) of the Federal Mine Safety and Health Act of 1977 and title 30 of the Code of Federal Regulations (CFR) part 44 govern the application, processing, and disposition of petitions for modification.

I. Background

Section 101(c) of the Federal Mine Safety and Health Act of 1977 (Mine Act) allows the mine operator or representative of miners to file a petition to modify the application of any mandatory safety standard to a coal or other mine if the Secretary of Labor determines that:

1. An alternative method of achieving the result of such standard exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such standard; or
2. The application of such standard to such mine will result in a diminution of safety to the miners in such mine.

In addition, sections 44.10 and 44.11 of 30 CFR establish the requirements for filing petitions for modification.

II. Petition for Modification

Docket Number: M-2023-012-C

Petitioner: Warrior Met Coal Mining, LLC, 16243 Highway 216, Brookwood, Alabama 35444.

Mine: No. 4 Mine, MSHA ID No. 01-01247, located in Tuscaloosa County, Alabama.

No. 7 Mine, MINE ID No. 01-01401, located in Jefferson County, Alabama.

Regulation Affected: 30 CFR 75.900, Low- and medium-voltage circuits serving three-phase alternating current equipment; circuit breakers.

Modification Request: The petitioner requests a modification of 30 CFR 75.900 to permit use of a contactor or a Variable Frequency Drive (VFD) in series with the circuit breaker, in lieu of a circuit breaker alone.

The petitioner states that:

- (a) The mine uses continuous mining machinery and longwall mining machinery,
- (b) Miners have been injured setting a circuit breaker which creates a phase-to-phase fault resulting in an arc flash.
- (c) The alternative method places the contactor or VFD between the circuit breaker and load, minimizing the possibility of closing into a fault. The use of a vacuum contactor to clear a fault has no arc flash when the fault is cleared.
- (d) A VFD will control or limit the inrush current to the connected load as compared to starting across the line. This provides less stress on the electrical system and allows the operator to set the instantaneous trip on the circuit breaker at lower than the maximum allowed setting.
- (e) The petitioner currently uses a combination of a circuit breaker and a contactor on continuous mining machine sections to power up continuous mining machines, roof bolters, feeders, ventilation fans, and chargers.
- (f) The petitioner currently uses a circuit breaker and VFD combination out-by on conveyor belt systems.
- (g) The combination of circuit breakers with a contactor or VFD will provide short circuit, undervoltage, grounded phase, and overcurrent protection.

The petitioner proposes the following alternative method:

- (a) The petitioner shall use a contactor in series with a circuit breaker instead of a circuit breaker alone. The contactor shall provide protection from undervoltage and grounded phase. The circuit breaker shall provide short circuit protection and overcurrent protection (when applicable).
- (1) Contactors shall be rated for the maximum voltage of the circuit being protected.

- (2) Contactors shall be rated for the continuous full load current of the equipment.
- (3) The nominal voltage of the power circuits(s) shall not exceed 995 volts.
- (4) The nominal voltage of the control circuit(s) shall not exceed 120 volts.
- (5) Contactors and associated protective relays shall provide undervoltage protection causing the contactor to open when an undervoltage exists.
- (6) Undervoltage protection shall be provided in two ways:
 - (i) If the supply voltage to the ground monitor drops below 68 percent, the ground monitor will trip, dropping out the GMAUX relay and thereby removing power from the vacuum contactor coil, thus opening the contactor. The ground monitor trip will be a latching fault that requires a manual reset; and
 - (ii) In the alternative, undervoltage protection will be provided by contactors that will drop out at 50 and 60 percent of supply voltage.
- (7) Grounded phase protection shall be provided using a ground fault relay. When the relay trips on a ground fault condition, the contact tips shall open removing power to the vacuum contactor coil that shall open the contactor. The ground fault relay shall be a latching fault that will require a manual reset.
- (8) Contactors shall be located in the same main enclosure as the circuit breaker.
- (9) Each circuit breaker installed in series with a contactor shall be equipped with devices to provide short-circuit protection for each piece of equipment.
- (10) Ground fault and ground monitor trips shall not automatically reset and must require a manual reset before the contactor can be closed.
- (11) Fail-safe ground check circuits shall cause the contractor to open when either the ground or pilot wire is broken.
- (12) A monthly examination shall be conducted on each circuit to ensure proper operation of the contactor.
- (13) The monthly examination shall include activating undervoltage, ground fault,

and ground monitor trip devices. The results of the contactor test shall be recorded with the required circuit breaker monthly tests.

(b) The petitioner shall use a Variable Frequency Drive (VFD) in series with a circuit breaker instead of a circuit breaker alone. The circuit breaker shall provide short circuit protection. A ground fault relay will provide grounded phase protection which will cause the circuit breaker to open. The VFD shall provide protection from undervoltage and overcurrent.

(1) The VFD shall be rated for the maximum voltage of the circuit being protected.

(2) The VFD shall be rated for the continuous full load current of the utilization equipment.

(3) The nominal voltage of the control circuit(s) shall not exceed 120 volts.

(4) The VFD shall provide undervoltage protection. The VFD shall trip at 55 percent of the nominal voltage based on the parameter settings in the VFD that shall de-energize the output of the VFD.

(5) The VFD shall provide over-current protection to the connected load. The VFD shall use an internal algorithm to protect the equipment based on a rated load. The VFD shall calculate the motor temperature based on current draw over time. If the motor temperature reaches the setpoint for the defined time, the VFD shall fault indicating a motor overload. This shall be a latching fault requires a manual reset.

(6) A circuit breaker shall provide short circuit protection for systems using a VFD. A ground fault relay shall provide grounded phase protection by causing the breaker to open.

(7) The VFD shall be located in the same main enclosure as the circuit breaker.

(8) Each circuit breaker installed in series with a VFD shall be equipped with devices to provide short-circuit protection for each piece of equipment.

(9) Ground fault and ground monitor trips shall not automatically reset and shall

require a manual reset before the VFD would turn the output on.

(10) Fail-safe ground check circuits shall cause the breaker to open when either the ground or pilot wire is broken.

(11) A monthly examination shall be conducted on each circuit to ensure proper operation of the breaker and VFD.

(c) Within 60 days after this proposed decision and order is granted, the petitioner shall submit proposed revisions to its part 48 training plan to the appropriate MSHA District Official(s), specifying task training for all miners who are assigned to work in any pertinent area.

(d) The training shall include the purpose of the contractor systems and VFD systems, the potential hazards of working on or near belt conveyors and belt conveyor drives, and the requirements of 30 CFR 75.1725(c) and (d).

(e) The requirements of 30 CFR 48.3 for approval of proposed revisions to existing approved training plans shall apply.

The petitioner provided documentation to include typical control schemes, contactor specifications, VFD specifications, breaker specifications, ground monitor specifications, ground fault relay specifications, and coupler specifications in support of their petition.

The petitioner asserts that the alternate method proposed will at all times guarantee no less than the same measure of protection afforded the miners under the mandatory standard.

Song-ae Aromie Noe,

Director,

Office of Standards, Regulations, and Variances.