

October 19, 2007

In the matter of:  
Drummond Company, Inc.  
Shoal Creek Mine  
I.D. No. 01-02901

Petition for Modification  
  
Docket No. M-2006-042-C

PROPOSED DECISION AND ORDER

On, May 26, 2006, a petition was filed seeking a modification of the application of 30 C.F.R. § 75.507 to Petitioner's Shoal Creek Mine, located in Jefferson County, Alabama. The Petitioner alleges that the alternative method outlined in the petition will at all times guarantee no less than the same measure of protection afforded by the standard.

MSHA personnel conducted an investigation of the petition at the Shoal Creek Mine and filed a report of their findings with the Administrator for Coal Mine Safety and Health. After a careful review of the entire record, including the petition and MSHA's investigation report, this Proposed Decision and Order is issued.

Finding of Fact and Conclusion of Law

The applicable standard, 30 C.F.R. § 75.507, states

Except where permissible power connection units are used, all power-connection points outby the last open crosscut shall be in intake air.

The petitioner proposes to use three-phase, alternating current deep well pumps in boreholes in the subject mine. The alternative method proposed by the petitioner (as amended by the recommendations of MSHA investigators) will at all times guarantee no less than the same measure of protection afforded the miners under 30 C.F.R. § 75.507.

MSHA is requiring, for this petition only, that the surface pump control and power circuits be examined in accordance with 30 C.F.R. § 77.502 requirements, since the control and power circuits that enter the underground portions of the mine cannot

be examined in their entirety to satisfy the requirements of 30 C.F.R. § 75.512 or the 30 C.F.R. § 75.364(b)(7) weekly examination requirement.

On the basis of the petition and the findings of MSHA's investigation, Drummond Company, Inc. is granted a modification of the application of 30 C.F.R. § 75.507 to its Shoal Creek Mine.

#### ORDER

Wherefore, pursuant to the authority delegated by the Secretary of Labor to the Administrator for Coal Mine Safety and Health, and pursuant to Section 101(c) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 811(c), it is ordered that Drummond Company, Inc.'s Petition for Modification of the application of 30 C.F.R. § 75.507 in the Shoal Creek Mine is hereby:

GRANTED, for the use of low-, medium- or high-voltage, three phase, alternating-current submersible pump(s) installed in boreholes in the Shoal Creek Mine, conditioned upon compliance with the following terms and conditions:

1. The low-, medium- and high-voltage, three phase, alternating-current electric power circuit(s) for the pump(s) must be designed and installed to:
  - a. Contain either a direct or derived neutral wire, which must be grounded through a suitable resistor at the source transformer or power center and through a grounding circuit originating at the grounded side of the grounding resistor, which must extend along with the power conductors and serve as the grounding conductor for the frame of the pump and all associated electric equipment that may be supplied power from this circuit. The borehole casing shall be bonded to the system grounding medium.
  - b. Contain a grounding resistor that limits the ground-fault current to not more than the values listed below.

- i. For low-voltage circuits: 25 amperes
    - ii. For medium-voltage circuits: 15 amperes
    - iii. For high-voltage circuits: 3.75 amperes
  - c. The grounding resistor(s) must be rated for the maximum fault current available and must be insulated from ground for a voltage equal to the phase-to-phase voltage of the system.
2. The following protection(s) for the low-, medium-, and high-voltage pump circuit(s) must be provided by a suitable circuit interrupting device of adequate interrupting capacity with devices to provide protection against undervoltage, grounded phase, short-circuit, and overload.
3. The under-voltage protection device must operate on a loss of voltage to prevent automatic restarting of the equipment.
4. The grounded-phase protection must be provided as listed in the following.
  - a. The grounded-phase protection device must be set not to exceed 40 percent of the current rating of the neutral grounding resistor.
  - b. The high-voltage circuit must also provide the following:
    - i. A "look ahead" circuit device to prevent closing the contactor when a phase to ground fault condition exists on the system.
    - ii. A test circuit that will inject a test current through the grounded-phase current transformer.
5. The short circuit protection device shall not be set to exceed the required short circuit protection for the power cable or 75 percent of the minimum available phase-to-phase short circuit current, whichever is less.

6. The power system must contain a disconnecting device located on the surface and installed in conjunction with the contactor to provide the following.
  - a. A means to provide visual evidence that the power is disconnected from the pump circuit(s).
  - b. A means to lock and tag out the system.
  - c. The "high-voltage" circuit must be designed to prevent entry into the pump controller unless the disconnect handle is in the off position and the circuit is grounded.
7. The pump power systems(s) must include a fail-safe ground check circuit or other no less effective device approved by the Secretary that must cause either a circuit breaker or a contactor to open when either the ground or pilot wire is broken.
8. The incoming high-voltage three-phase alternating current system must be provided with a low resistance grounded medium for the grounding of the lightning arrestors for the pump power circuit(s) that is separated from the mine neutral grounding medium by a distance of not less than 25 feet.
9. The pump(s) electric control circuit(s) must be designed and installed so that:
  - a. The pump(s) cannot start and/or run in either the manual or the automatic mode if the water is below the low water probe level.
  - b. The low water probe must be positioned to maintain water above the electrical connections of the pump motor.
  - c. The low water probe must be suitable for submersible pump control application.
  - d. All probe circuits must be intrinsically safe.
  - e. A motor controller must be provided and used for pump startup and shutdown.

- f. A remote control and monitoring system can be used with the pump system for the purpose of condition monitoring and for remote startup/shutdown control of the pump(s).
  - g. Overcurrent, ground fault, and overload fault conditions must not be able to be reset from the remote location.
- 10. The surface pump(s) control and power circuits must be examined as required by 30 C.F.R. § 77.502.
- 11. The power cable(s) to the submersible pump motor must be suitable for this application and have a current carrying capacity not less than 125 percent of the full load current of the submersible pump motor and an outer jacket suitable for a "wet location." High-voltage type cables must meet the requirements of 30 C.F.R. § 75.804. Optional high voltage cable cabling to be used for deep well pump application shall include cabling that is armored jacketed with a continuous armor interlocking jacket. This armor shall make contact with the pump discharge casing in each area that it is banded to the casing. The armor shall be grounded to the grounded side of the neutral grounding resistor located at the source transformers. The pump discharge casing shall also be grounded to the grounded side of the neutral grounding resistor.
- 12. Splices and connections made in low- and medium-voltage submersible pump cable(s) must be made in a workmanlike manner and must meet the requirements of 30 C.F.R. § 75.604. Splices and connections in high-voltage cables must be made in a workmanlike manner and must provide continuity of all components.
- 13. The pump installations must comply with all other applicable 30 C.F.R. § requirements.
- 14. Petitioner must at all times ensure compliance with 30 C.F.R. § 75.705-1(a), (b), and (c).
- 15. The District Manager shall be notified when any submersible pump is installed in boreholes. The

District shall have the opportunity to inspect the installation before the pump is put into operation.

16. Within 60 days after this Petition for Modification is granted, the Petitioner shall submit proposed revisions for their approved 30 C.F.R. Part 48 training plan to the Coal Mine Safety and Health District Manager. These proposed revisions shall specify task training for all qualified mine electricians who perform electric work and monthly electric examinations as required by 30 C.F.R. § 77.502 and refresher training regarding the alternative method outlined in the petition and the terms and conditions stated in the Proposed Decision and Order.
17. The procedures of 30 C.F.R. § 48.3 for approval of proposed revisions to already approved training plans shall apply.

Any party to this action desiring a hearing on this matter must file in accordance with 30 C.F.R. § 44.14, within 30 days, a request with the Administrator for Coal Mine Safety and Health, 1100 Wilson Boulevard, Arlington, Virginia 22209-3939. If a hearing is requested, the request shall contain a concise summary of position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the proposed decision.

A party other than Petitioner who has requested a hearing shall also comment upon all issues of fact or law presented in the petition, and any party to this action requesting a hearing may indicate a desired hearing site. If no request for a hearing is filed within 30 days after service thereof, the Decision and Order will become final and must be posted by the operator on the mine bulletin board at the mine.

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Terry L. Bentley  
Acting Deputy Administrator for  
Coal Mine Safety and Health