

In the matter of
Energy West Mining Company
Deer Creek Mine
I.D. No. 42-00121

Petition for Modification

Docket No. M-2007-020-C

AMENDED PROPOSED DECISION AND ORDER

Background

On June 29, 2007, Energy West Mining Company (Petitioner) filed a Petition for Modification to amend terms and conditions of a granted Amended Proposed Decision and Order (PDO), issued on April 30, 2002, (Docket No. M-2002-012-C) to the Deer Creek Mine, an underground coal mine in Emery County, Utah, which uses a two-entry mining system.¹ All provisions of the granted Amended PDO issued on April 30, 2002, are currently in effect.

The granted Amended PDO consists of special terms and conditions applicable to the two-entry mining system at the Deer Creek Mine. These terms and conditions of the PDO, which are designed to protect miners from potential fire hazards that are inherent in two-entry mining systems, are divided into the following sections:

- I. Development Of the Two-Entry System;
- II. Retreat Mining In the Two-Entry System;
- III. Requirements Applicable To Both Development and Retreat Mining Systems; and
- IV. Requirements Applicable To Both Development and Retreat Mining Systems When Diesel-Powered Equipment Is Operated On a Two-Entry System.

¹ The Amended PDO issued on April 30, 2002, continued with some changes to the Amended PDO issued on April 3, 2001, (Docket No. M-1999-044-C) to the Deer Creek Mine. The Amended PDO issued on April 3, 2001, continued with some changes to the Amended PDO issued on October 21, 1996, (Docket No. M-1996-011-C), to the Deer Creek Mine. The Amended PDO issued on October 21, 1996, continued with some changes to the modification of the application of 30 C.F.R. § 75.326 (now §§ 75.350 and 75.352), Case No. 86-MSA-3 (Docket No. M-85-127-C), issued July 14, 1989, to the Deer Creek Mine.

The Petitioner only raises concerns with the requirements in section IV of the granted Amended PDO regarding operating diesel-powered equipment when operated on a two-entry system. Section IV of the granted Amended PDO requires:

- (a) Administrative controls shall be used to minimize the number and type of pieces of diesel equipment in the two-entry system, to notify miners on the working section when any diesel equipment is operating in the two-entry system, and to avoid alert and alarm signals caused by operating diesel equipment.
- (b) All diesel powered equipment which is not approved and maintained under Part 36 and is operated on any two-entry system shall include an automatic closing, heat-activated shut off valve, maintained in operating condition, on diesel fuel lines either between the fuel injection pump and fuel tank if the fuel lines are constructed of steel and located as close as practical to the fuel tank.
- (c) The following types of diesel-powered equipment ("heavy duty") which are not approved and maintained under Part 36 and Part 7 shall not be used in the two-entry system:
 - (1) equipment for cutting or moving rock or coal;
 - (2) equipment that performs drilling or bolting functions;
 - (3) equipment that moves longwall components; and
 - (4) lube units.
- (d) A non-approved diesel road grader, used for maintenance purposes only, may be operated in the two-entry section as long as:
 - (1) The road grader is provided with a means, maintained in operating condition, to maintain the surface temperature of the exhaust manifolds below 302 degrees Fahrenheit;
 - (2) The road grader is provided with both a manual and automatic fire suppression system maintained in operating condition at all times;
 - (3) At least two twenty (20) pound fire extinguishers meeting the requirements of 30 C.F.R. § 75.1907, are maintained on the road grader.

- (4) In addition to the requirements of 30 C.F.R. § 75.1100-2(b), fire hose outlets with valves every 300 feet shall be installed along the intake entry. At least 500 feet of fire hose with fittings and nozzles suitable for connection with the outlets shall be stored at strategic locations along one intake entry. The locations shall be specified in the firefighting and evacuation plan.
- (5) All miners assigned to operate the road grader are task trained on the proper operation of the road grader, notification procedures, and fire fighting capabilities available on the road grader and the section; and
- (6) The mine monitor operator and the two-entry miner section are notified whenever the road grader is operating in the two-entry system and miners are located adjacent to or inby.
- (e) Diesel fuel shall not be stored in the two-entry system. Diesel-powered equipment which is not approved and maintained under Part 36 and Part 7 shall not be refueled in the two-entry system.
- (f) Diesel equipment shall not be used for face haulage equipment on the working section, except that diesels may be used on the working section for cleanup, setup, and recovery, or similar non-coal haulage purposes.
- (g) Miners assigned to work in the two-entry system shall be trained on all diesel equipment fire suppression systems. This training shall be conducted prior to the implementation of this Proposed Decision and Order and annually, in addition to the Part 48 annual refresher training.
- (h) A check of diesel-powered equipment which is not approved and maintained under Part 36 and Part 7 shall be performed before the equipment is permitted to operate on a two-entry system. The check shall consist of a visual exam of the hand-held fire extinguisher and automatic fire suppression system indicator panel, and for leaking diesel fuel, hydraulic oil and lubricating oil lines. The check shall be made at least once per shift if the equipment is to be used on the two-entry system. If this visual exam reveals a hazard such as a faulty fire extinguisher, a malfunction with the fire suppression system, or a leaking line, the diesel-powered equipment shall not be operated in the two-entry

system until repaired. Any hazard that cannot be corrected at that time shall be reported to the responsible foreman and made part of and retained in the same manner as the on-shift examination hazardous condition record.

- (i) If diesel-powered equipment not approved and maintained under part 36 and part 7 needs to be "jump" started due to a dead battery in any two-entry system, a methane check, made by an MSHA approved detector, shall be made prior to attaching the "jumper" cables. The equipment shall not be "jump" started if air contains 1.0 volume per centum or more of methane.
- (j) If diesel-powered equipment not approved and maintained under part 36 and part 7 is used in any two-entry system, the average carbon monoxide concentration from sensors shall be determined prior to the use of this equipment and again after this equipment is in use. These averages shall be compared to ensure that the use of this equipment does not adversely impact the health and safety of the miners by affecting carbon monoxide concentrations or the number of nuisance alarms.

The petition makes three specific requests, all with respect to section IV of the granted Amended PDO. First, Petitioner requests that the requirements in paragraph (c) be removed. The petitioner states that paragraph (c), which does not allow four types of non-approved heavy-duty diesel powered equipment to be used in the two-entry system is based on MSHA's diesel regulation guidelines prior to promulgation of MSHA's final rule on Diesel-Powered Equipment. In follow-up comments to MSHA's investigation of the petition, Petitioner states that the final rule, under 30 C.F.R. § 75.1908, addresses the same types of "heavy-duty" equipment that are listed in the granted Amended PDO and that the final rule does not place restrictions on where such "heavy-duty" equipment may be used. Petitioner's follow-up clarifies that paragraph (c) does not provide any safety benefit in the two-entry mining system and results in a diminution of safety. Petitioner asserts that "heavy-duty" equipment, as defined under 30 C.F.R. § 75.1908 was not meant to imply that hazards posed by heavy-duty equipment are greater than light-duty equipment. In addition, Petitioner states that paragraph (c) severely restricts the mine's ability to clean-up the two-entry sections or perform other critical work that could be done more safely and effectively with non-approved heavy-duty equipment. Additionally, it results in having to use a limited number of slower, larger permissible equipment which have outdated engines; are difficult to maneuver; are unreliable, difficult to maintain, and may block an escapeway during a mechanical failure; expose miners to larger amounts of diesel exhaust; and cause nuisance alerts and alarms. Finally, it does not allow the use of diesel equipment which is capable of helping correct roof control problems.

Petitioner's second request involves the terms and conditions in paragraph (d) of the granted Amended PDO. Petitioner states that paragraph (d), which allows a non-approved diesel road grader used for maintenance only to be used in the two-entry section provided that certain fire-safety requirements are met, is based on MSHA's diesel regulation guidelines prior to promulgation of the final rule on Diesel-Powered Equipment and, therefore, should be amended. Petitioner's follow-up comments state that it is safer to provide water cooled exhaust rather than wrapped exhaust on a diesel road grader. In addition, Petitioner states that it needs the ability to look at newer engine technology for engines with cooled exhaust instead of focusing on wrapped exhausts, and that re-routing fuel and hydraulics on the opposite side of the exhaust is a safe alternative that should be allowed. Petitioner's proposed amendment would permit the use of all heavy-duty diesel-powered equipment, that is not approved and maintained as permissible under 30 C.F.R. Part 36, to operate on any two-entry system, except where permissible equipment is required, as long as the equipment includes the following:

- (1) Diesel equipment must be equipped with both an automatic and manual fire suppression system meeting the requirements of 30 C.F.R. § 75.1911 and capable of being activated from inside and outside the machine operator's cab. The manual activator located outside the cab must be on the side of the machine opposite the operator's cab.
- (2) Each diesel-powered machine must be equipped with two hand-held fire extinguishers that meet the requirements of 30 C.F.R. § 75.1100-1(e), or one handheld fire extinguisher that is at least twice the capacity of the two fire extinguishers mentioned.
- (3) An automatic engine shut down fuel shut off system, maintained in operating condition, which is tied into the activation of the fire suppression system;
- (4) An automatic closing, heat-activated shut off valve, maintained in operating condition, on diesel fuel lines either between the fuel injection pump and fuel tank, if the fuel lines are constructed of steel, or connected as close as practical to the fuel tank using steel fittings if fuel lines constructed of material other than steel are used;
- (5) A means, maintained in operating condition, to prevent the spray from ruptured diesel fuel, hydraulic oil, and lubricating oil lines from being ignited by contact with engine exhaust system components

surfaces such as shielding, conduit, or non-absorbent insulating materials.

- (6) For diesel-powered equipment classified as "heavy-duty" under 30 C.F.R. § 75.1908(a), will include a means to maintain the surface temperature of the exhaust system of diesel equipment below 302 degrees Fahrenheit, or meet the following requirements:
- a. All hydraulic hoses, fuel lines, or other devices used to convey combustible fluids must be separated from the hot engine exhaust-system surfaces by piping, re-routing, barriers or other means acceptable to MSHA. Such hoses, lines, or other devices used to convey combustible fluids that by design cannot be separated as required may be insulated using a Kevlar or equivalent insulation product.
 - b. In addition to the requirements of 30 C.F.R. § 75.1909, 4-braid hoses must be used as a minimum where a hose failure could result in combustible fluids contacting parts of the exhaust systems.
 - c. Engine exhaust systems must be designed to minimize contact with combustible materials. Where safe and reasonable, exhaust pipes outside of the engine compartment must be of double-wall construction with insulation material within the double walls. Joints in the exhaust systems must consist of flanged connections utilizing exhaust type gaskets and/or be of solid construction.
 - d. Diesel equipment equipped with diesel particulate matter disposable filters must be fitted with high exhaust gas temperature shutdown sensors to prevent the operation of the machine if the exhaust gas exceeds 650 degrees Fahrenheit at the filter inlet. The shutdown sensors must be located as near the filter housing (filter inlet) as practicable, as determined by MSHA.
 - e. The visual inspection of diesel equipment required by 30 C.F.R. § 75.1914 must include an examination of the protective devices installed to control exhaust-system surface temperatures, hoses, fuel lines, and all other materials designed to prevent combustible fluids from contacting hot engine exhaust-system surfaces.

- f. All underground miners working in the two-entry areas of the mine must be trained in the terms and conditions listed in this modification and the fire hazards involved with equipment working in these areas.
- (7) In addition to the requirements of 30 C.F.R. § 75.1100-2(b), fire hose outlets with valves shall be maintained along the intake entry at maximum 300 feet intervals to within 600 feet of the section loading point. At least 500 feet of fire hose with fittings and nozzles suitable for connection with the outlets shall be stored at strategic locations along one intake entry. The locations shall be specified in the firefighting and evacuation plan.
- (8) The provisions above do not apply to ambulances and fire fighting equipment used for emergencies only.
- (9) Diesel powered equipment such as compressors, generators, etc., when defined as "heavy duty," which do not meet the requirements of item (C) above, may be used in the two-entry system, except where permissible equipment is required, provided no one is in by the work area including adjacent entries.

Finally, Petitioner requests that the terms and conditions in paragraph (e) be amended to allow emergency re-fueling of non-approved equipment in the two-entry section. The Petitioner states that there are times when diesel-powered equipment, which is not approved under 30 C.F.R. Parts 7 and 36, may run out of fuel within the two-entry system. The Petitioner states the requested alternative procedure is safer because it would allow for limited re-fueling rather than having to haul the equipment out of the section to be re-fueled. Petitioner is requesting that the existing terms and conditions be amended as follows:

Diesel fuel shall not be stored in the two-entry system. Diesel-powered equipment which is not approved and maintained under 30 C.F.R. Parts 7 and 36 shall not be refueled in the two-entry system with the exception of a piece of equipment running out of fuel. If this occurs a maximum of five (5) gallons of fuel may be transported in an approved container to add fuel to the machine so it can be driven out of the section for re-fueling.

MSHA personnel conducted an investigation of the Petition and filed a report of their findings and recommendations with the Administrator for Coal Mine Safety and Health. After a careful review of the entire record, including the petition, comments,

and MSHA's investigative report, this Amended Proposed Decision and Order is issued.

Findings of Fact and Conclusions of Law

The conditions that led to the finding of a diminution of safety, in the July 14, 1989 Decision and Order granting the modification of 30 C.F.R. § 75.326 (now §§ 75.350 and 75.352) to the Deer Creek Mine and in the October 21, 1996 finalized PDO amending the modification continue to apply in this case.

When this modification was originally granted in 1989, Part 36 approved diesel-powered equipment was required where two-entry mining was permitted because this equipment provided enhanced protection from equipment fires. Non-approved diesel-powered equipment was not allowed in the two-entry system as it did not contain the fire prevention features required for approval. Section IV of the 1996 PDO specifically prohibited Deer Creek from using certain types of diesel-powered equipment which is not approved under Part 36 in the two-entry system. The prohibition applied to equipment for cutting or moving rock or coal, equipment that performs drilling or bolting functions, equipment that moves longwall components, and lube units, all considered heavy-duty equipment. In 1999, Petitioner sought to revise this prohibition and permit such non Part 36 approved equipment in the two-entry system under certain conditions.

The Amended granted PDO issued on April 3, 2001, contained the following findings. Heavy-duty non-approved equipment is typically used for extended periods during a shift on a continuous, rather than intermittent basis. That equipment normally moves heavy loads or performs considerable work. For example, equipment used to haul longwall components is usually operated at a consistently accelerated pace under extremely heavy loads. Fuel transportation and lube units are generally larger machines designed to transport and dispense diesel fuel, hydraulic fluid, grease, oil and other combustibles materials. These machines operate under heavy load and constantly move around a section during a shift to refuel equipment. Equipment such as drilling and bolting machines generally has an engine that runs at a high rate of speed and powers large hydraulic systems. Because of the way such non-approved heavy-duty equipment is used, it presents additional fire risks. For this reason, only Part 36 heavy duty equipment, which must contain additional fire-related safety features to be approved, is allowed under the existing granted PDO at the Deer Creek Mine where its two-entry system of mining provides fewer means of escape should a problem occur.

However, the granted Amended PDO issued on April 3, 2001, added a provision concerning non-approved diesel road graders used to maintain roadway entries in the two-entry section. The granted Amended PDO stated that maintaining such roadways, as opposed to constructing them, does not require the non-approved grader to operate

under the same kind of heavy load and it does not require the grader to operate for the same extended period of time. Instead, during maintenance activity, the road grader normally operates at less power and for shorter periods of time; therefore, less risk of fire is presented. For this reason, non-approved diesel road graders were allowed to be used for maintenance purposes in the two entry-section provided certain conditions were met. These conditions addressed potential fire hazards from using a non-approved road grader during roadway maintenance activities. They included: (1) requiring the grader to have an automatic fire suppression system maintained in operating condition at all times; (2) requiring the grader to have a means to maintain the surface temperature of the exhaust manifolds below 302 degrees Fahrenheit which is always kept in operating condition; (3) prohibiting miners from being located inby the location or area where the grader is operating or located; and (4) prohibiting miners from being located in the adjacent parallel entry at any location when the road grader is operating or located in the two-entry section.

In 2002, Petitioner sought to revise the 2001 granted Amended PDO to permit the operation of a non-approved diesel road grader with miners located inby and in the adjacent and parallel entry. The granted Amended PDO issued on April 30, 2002, continued the requirements that the road grader have an automatic fire suppression system maintained in operating condition at all times and a means to maintain the surface temperature of the exhaust manifolds below 302 degrees Fahrenheit which is always kept in operating condition. In addition, the granted Amended PDO included the following four other conditions to address any potential fire hazards from use of a non-approved road grader: (1) maintaining two extra twenty-pound fire extinguishers on the road grader; (2) maintaining 500 feet of fire hose at 2000 foot intervals along one intake roadway; (3) task training of all miners who operate the road grader on its proper operation; and (4) notifying the mine monitor operator and two-entry section when the road grader is operated and miners are adjacent or inby.

Petitioner's follow-up comments to MSHA's investigation of this petition summarized the petition as a request to remove the restrictions in paragraphs (b) and (c) of the April 30, 2002 granted Amended PDO and allow the use of non-approved, heavy-duty, diesel-powered equipment in the two-entry system if the equipment has either an exhaust system that is wrapped to control temperatures not greater than 302 degrees Fahrenheit, or an exhaust system that is cooled to not exceed 302 degrees Fahrenheit, or an exhaust system that is isolated from combustible fluids.

MSHA finds that the risk of fire involving diesel-powered equipment is particularly high because of the very hot diesel exhaust temperature, and that the hazard to miners continues to be particularly dangerous in two-entry mining systems because of the ventilation configuration. In addition, MSHA agrees with Petitioner's follow-up comments which state that it is safer to provide water-cooled exhaust rather than wrapped exhaust on a diesel road grader. MSHA finds that wrapping material to

control temperatures below 302 degrees Fahrenheit that is used for exhaust systems is vulnerable to deterioration from washing the engine, accumulation of carbon from leaks at joints in the exhaust system, and accumulations of oil from mists and leaks in the hydraulic systems. The wrapping material can also trap heat in the turbocharger causing a failure of the oil seal thereby releasing pressurized oil into the engine. The increased load and duty cycle on this non-approved, heavy duty, diesel-powered equipment also increases engine and exhaust heating as well as an increased risk of fire in the two-entry system.

MSHA further finds that since the issuance of the 2002 granted Amended PDO, there are water-cooled exhaust systems currently available that effectively control the surface temperature of the diesel engine exhaust to less than 302 degrees Fahrenheit for outby heavy-duty equipment. MSHA has determined that using a water-cooled exhaust system is the safest method of controlling the surface temperature of the diesel exhaust system to 302 degrees Fahrenheit or less. Water-cooled exhaust systems would reduce the potential of fire, prevent the necessity of adding additional components, prevent redesigning equipment, prevent fabricating barriers and enclosures, reduce costs in filters and maintenance, and provide safer operating equipment. In addition, the Petitioner would benefit from the ability to use newer engine technology for engines with water-cooled exhaust systems.

Accordingly, MSHA is granting an amendment to the Petitioner's requested alternative method to use non-approved, heavy-duty, diesel-powered equipment in the two-entry system at the Deer Creek mine provided that certain safety requirements discussed below are met. Also, the additional heavy duty, non-permissible, diesel equipment in the 2 entry system increases the carbon monoxide and diesel particulates which become airborne in the intake air course used to ventilate the working section. To limit this exposure to miners, only two (2) pieces of heavy duty, non-permissible, diesel equipment will be permitted to operate concurrently in the 2-entry system's intake air course. This air course quantity is established in the currently approved ventilation plan.

Specifically, the requirements in both section IV(c) regarding non-approved, heavy duty diesel-powered equipment that is not to be used in the two-entry system, and section IV(b) regarding use of a non-approved, diesel-powered road grader, are being removed and replaced with revised requirements in section IV(b) of this amended PDO to allow all heavy-duty diesel-powered equipment, under 30 C.F.R. § 75.1908(a), not approved and maintained as permissible, under 30 C.F.R. Parts 7 and 36, to operate on any two-entry system, subject to certain terms and conditions. In addition, MSHA is including "light duty" diesel-powered equipment as well as additional protections, because whether heavy-duty or light-duty, large or small, moving rock, coal or equipment, diesel-powered equipment can pose hazards to miners working on two-entry systems. Although the use of diesel-powered equipment allows for greater maneuverability and

workability, its use is accompanied by an increased risk of harm to miners. The limited number of entries and escape routes, potential increased fire hazards, and contamination of all air courses in the event of a fire pose risks that require additional protections to ensure the safety of miners working in two-entry systems where either light-duty or heavy-duty diesel-powered equipment is used.

The additional requirements for both light-duty and heavy-duty non-approved diesel powered equipment include the following terms and conditions to assure that the alternative method will at all times guarantee no less than the same measure of protection afforded by the 2002 granted Amended PDO. First, an automatic and manual fire suppression system which meets the requirements of 30 C.F.R. § 75.1911 and is capable of being activated from inside and outside the machine operator's cab. This requirement is similar to a requirement in the granted Amended PDO concerning use of a non-approved diesel road grader used only for maintenance in the two-entry section. This requirement is also similar to item (c)(1) of the petition, but includes a requirement that the system be maintained in safe operating condition. Second, an automatic engine shut down/fuel shut off system. This requirement is the same as item (c)(3) of the petition. Third, an automatic closing, heat-activated shut-off valve. This requirement is the same as item (c)(4) of the petition and is the same as the requirement in the granted Amended PDO concerning use of non-approved diesel powered equipment operated on any two-entry system. Fourth, a means to prevent the spray from ruptured diesel fuel, hydraulic oil, and lubricating oil lines from being ignited by contact with engine exhaust system components. This requirement is the same as item (c)(5) of the petition.

Item (c)(2) of the petition, regarding hand-held fire extinguishers which meet the requirements of 30 C.F.R. § 75.1100-1(e), is not included in this Amended PDO because the requirement is covered under the existing standard at 30 C.F.R. 75.1907(b)(2).

In addition, paragraph (c) of section IV of this Amended PDO includes a fire-safety requirement consisting of installation of fire outlets that are in addition to those required under existing 30 C.F.R. § 75.1100-2(b). This requirement is the same as the requirement in the granted Amended PDO concerning use of a non-approved diesel road grader used only for maintenance in the two-entry section, and is the same as item (c)(7) of the petition.

Paragraph (d) of section IV of this Amended PDO includes a requirement for non-approved, heavy-duty, diesel-powered equipment to maintain the surface temperature of the exhaust system below 302 degrees Fahrenheit by using a water-cooled exhaust system. The specific requirement to use a water-cooled exhaust system is, as discussed above, safer than using a wrapped exhaust and it is the safest method of controlling the surface temperature of the diesel exhaust system to 302 degrees Fahrenheit or less.

This Amended PDO does not include Petitioner's requested alternative to use an exhaust system that is isolated from combustible fluids. Specifically, item (c)(6)(a) of the petition, which would isolate the combustible fluids from contacting the hot engine exhaust by piping, re-routing, barriers, or other means would only have a delayed effect on propagation of an engine fire. Hose failure usually results in a small hole which causes a mist or small high pressure spray or a large and sudden release of hydraulic fluid. Either type of failure in the close confines of the engine compartment would, in most cases, result in contact with some part of the engine's exhaust system. Although item (c)(6)(b) of the petition would require using 4-braid hoses where a hose failure could result, this would only add a small measure of additional protection against hose wear and burst pressure.

Item (c)(6)(c) of the petition requires engine exhaust systems to be designed to minimize contact with combustible liquids, such as using double wall exhaust pipes. For safety purposes, MSHA believes that the design of the exhaust system should begin where the temperature can be best controlled; at the engine. Component insulation in the double walls will break down over time and connections of exhaust pipes, as well as the systems, are highly susceptible to failure. In addition, the mine's geology and conditions, as well as the equipment's continuous duty and demand, adds additional load and heat to the system.

Furthermore, using diesel particulate matter filters and high exhaust gas sensors referenced in item (c)(6)(d) and conducting a visual inspection of the equipment under item (c)(6)(e) of the petition would not provide the same degree of safety as would a water-cooled exhaust system. Lastly, item (c)(6)(f) of the petition is related to training and does not itself add protections that would tend to offset the hazards created by using an alternative method to providing engine exhaust temperatures to a maximum of 302 degrees Fahrenheit.

Item (c)(8) of the petition, regarding ambulances and fire fighting equipment, is covered under existing 30 C.F.R. § 75.1908. Therefore, it is not included in this Amended PDO.

In Item (c)(9) of the petition, the Petitioner proposes the use of diesel-powered rock dust machines, compressors and generators which are not approved and maintained as permissible under Part 36, except where permissible equipment is required, in the two-entry system, provided that no miners are located inby the work area and no miners are located in the adjacent parallel entry at any location when either the rock dust machine, compressor or generator is operating or located in the two-entry section. MSHA agrees that this alternative method will at all times guarantee no less than the same measure of protection afforded by the standard, as modified by this Amended PDO, because no miners will be working inby the operating equipment and would therefore not expose miners to a potential injury.

Paragraph (f) of section IV of this Amended PDO revises paragraph (e) of section IV of the granted Amended PDO and allows re-fueling of non-approved diesel-powered equipment in the two entry system by using a maximum of five gallons of fuel in an approved fuel container so that the equipment may be driven from the section to be refueled. This revision was requested by Petitioner and at all times guarantees no less than the same measure of protection afforded the miners under the granted Amended PDO. The revision is consistent with existing 30 C.F.R. §§ 75.1904, 1905 and 1906 which allow diesel-powered equipment to be refueled using one five gallon or less safety container transported one at a time.

In addition to the above, the following requirements in the granted Amended PDO are being deleted from this Amended PDO because they are required by existing standards under 30 C.F.R. Part 75:

- (1) Section II (a);
- (2) Section III (b) through (m), excluding (i) and (j); and,
- (3) Section III(s) and (t).

Section II(a) of the granted Amended PDO regarding low-level carbon monoxide detection systems is covered under existing 30 C.F.R. § 75.1103-4. Section III(b) regarding 4 hours of back up power for the low level carbon monoxide system is covered under existing 30 C.F.R. § 75.1103-4(e). Section III(c) regarding interim alert and alarm signal levels is covered under existing 30 C.F.R. § 75.1105(a). Section III(d) regarding audible and visual signals being provided to a manned location on the surface is covered under existing 30 C.F.R. § 75.1103-5(a). Section III(e) regarding a responsible person always being on duty while miners are underground is covered under existing 30 C.F.R. § 75.1103-5(a). Section III(f) regarding the detection of malfunctions in the carbon monoxide detection system is covered under existing 30 C.F.R. § 75.1103-5(b). Section III(g) regarding the map or schematic identifying the details for the monitoring system is covered under existing 30 C.F.R. § 75.1103-8. Item III(k) regarding testing procedures for belting is covered under existing 30 C.F.R. part 14. Section III (l) regarding details of the detection and monitoring systems being included in the ventilation plan is covered under existing 30 C.F.R. § 75.371(mm). Section III(m) regarding sampling of the intake air in the belt entries is covered under existing 30 C.F.R. § 70.100(b). Except for the above, all other requirements of the granted Amended PDO are included in this Amended PDO.

On the basis of the petition, the findings of MSHA's investigation, and Petitioner's follow-up comments to the investigation, Energy West Mining Company is granted an amendment of the granted Amended PDO issued on April 30, 2002, Docket No.

M-2001-012-C, to the Deer Creek Mine. Once final, this Amended PDO shall supersede the 2002 granted Amended PDO.

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 Energy West Mining Company's Petition for Modification of the granted Amended PDO issued on April 30, 2002, Docket No. M-2001-012-C, to the Deer Creek Mine is hereby:

GRANTED, to the Deer Creek Mine for a two-entry mining system, based on compliance with the following special terms and conditions.

I. Development of the Two-Entry System

- (a) An early warning fire detection system utilizing low-level carbon monoxide detectors shall be installed in the panel intake escape way entry and the panel belt entry used as a return air course as follows:
 - (1) At the mouth of the panel in the intake escape way entry, at the beginning of the working section, and at intervals not to exceed 1,000 feet along the panel intake escape way entry.
 - (2) At the mouth of the panel in the return/belt conveyor entry, not more than 50 feet outby the section belt tailpiece, at intervals not to exceed 1,000 feet along panel return/belt conveyor entry, and at each belt drive except as provided III(l).
- (b) In addition to the carbon monoxide monitoring devices installed in the belt haulage entry, approved methane monitors shall be installed as follows:
 - (1) Approved methane monitoring devices shall be installed to monitor the return air in each belt haulage entry. Such devices shall be located so that the return air is monitored near the mouth of the longwall section, near the tailpiece of the belt conveyor, and at or near any secondary belt drive unit installed in the belt haulage entry.
 - (2) The methane monitoring devices shall be capable of providing both audible and visual alarm signals on both the working section and at a manned location on the surface where personnel will be

on duty at all times when miners are underground and have two-way communication with all working sections. When the level of methane equals or exceeds 1.0 volume percentum, the device shall initiate alarm signals and shall de-energize the belt conveyor drive units and the equipment located on the section.

- (3) The methane monitoring devices shall be visually examined at least once every 24 hours to ensure proper functioning. The unit shall be inspected by a person qualified for such work at intervals not exceeding 7 days. The qualified person shall ensure that the monitor is operating properly and that the required maintenance as recommended by the manufacturer is performed. The monitor shall be calibrated with known quantities of methane-air mixtures at intervals not exceeding 30 calendar days. An inspection record shall be maintained on the surface and made available to all interested persons. The inspection record shall show the date and time of each weekly inspection and calibration of the monitor and all maintenance performed.

II. Retreat Mining in the Two-Entry System

- (a) A low-level carbon monoxide detection system shall be installed in the panel intake escape way entry at the mouth of the panel in the intake escape way entry, at the beginning of the working section, and at intervals not to exceed 1,000 feet in the panel intake escape way entry.
- (b) During retreat mining, two separate and distinct intake air courses, both on the same side of the longwall section, shall be provided from the beginning of each longwall panel and having an air movement in the direction from the mouth of the panel toward the face.

III. Requirements Applicable to Both Development and Retreat Mining Systems

- (a) The velocity of air in the belt conveyor entry shall be 50 feet a minute or greater and shall have definite and distinct movement in the designated direction. The intake air velocity measuring station at the two-entry section neck shall activate an alarm in the manned center on the surface and on the working section when the normal section intake velocity falls to 80 feet per minute or less. Upon installation of the full monitoring system, the intake air velocity measuring station shall activate the alarm when the normal intake air quantity is reduced by 9,000 cubic feet of air per minute or more.

(b) If at any time the carbon monoxide monitoring system or methane monitoring system or any portion of these systems required by this petition have been de-energized for reasons such as routine maintenance or failure of a sensor unit, the belt conveyor may continue to operate provided the affected portion of the belt conveyor entry is continuously patrolled and monitored for carbon monoxide and methane by a qualified person in the following manner until the monitoring system is returned to normal operation:

- (1) If one sensor becomes inoperative, a qualified person shall monitor at that location;
- (2) If two or more adjacent sensors become inoperative, a qualified person shall patrol and monitor the area affected; and
- (3) If the complete system becomes inoperative, a sufficient number of qualified persons shall patrol and monitor the belt entries of the mine so that the belt haulage entries will be traveled each hour in their entirety.

Each of these qualified persons shall be provided with a hand-held carbon monoxide detection device and methane detection device. A carbon monoxide detection device and methane detection device shall also be available for use on each working section in the event either monitoring system is de-energized or fails.

Monitoring with hand-held instruments shall not be used in lieu of installation and use of the fire detection and methane monitoring systems described in this Order.

- (c) The carbon monoxide monitoring system located in the intake escapeway shall be patrolled and monitored in the same manner as in paragraph III(b) if the system has been de-energized for reasons such as routine maintenance or failure of a sensor unit.
- (d) Mantrip cars, personnel carriers, or other transportation equipment shall be maintained on or near the working section and be of sufficient capacity to transport all persons who may be in the area.
- (e) During development of the two-entry panel, a rock dusting unit shall be installed in the belt conveyor entry near the section loading point. Also,

during longwall retreat mining in the two-entry panel, a rock dusting unit shall discharge at or near the last tailgate shield. These rock dusting units shall run continuously during mining operations to render inert float coal dust in these entries except when miners are performing maintenance, inspections, or other required work in these areas.

- (f) Fire doors designed to quickly isolate the working section shall be constructed in the two entries for potential use in emergency situations. Miners working in the two-entry panel shall be trained in the use of fire doors.
- (g) When the hydraulic fluid pump station for the longwall support system is located in the two-entry system, it shall be installed and maintained as follows:
 - (1) The pumps and electrical controls shall be equipped with an automatic fire suppression system.
 - (2) Only MSHA approved fire resistant hydraulic fluid of the “high water content group” may be used.
 - (3) The pump station shall be maintained to within 1,200 feet of the longwall face.
 - (4) In addition to the concentrate contained as part of the hydraulic pump system, hydraulic concentrate stored in the two entry system shall be limited to 500 gallons.
 - (5) A carbon monoxide sensor shall be installed between 50 and 100 feet downwind of the hydraulic pump station. The sensor shall be installed in a location that will detect carbon monoxide caused by a fire and in a location to prevent damage from mobile equipment.
 - (6) Whenever the transformer supplying power to the hydraulic pumping station is located in the primary intake entry, the transformer shall be:
 - (a) maintained within 1,200 feet of the longwall face.
 - (b) Provided with a carbon monoxide sensor which is located on the inby side of the transformer in a

location that will detect carbon monoxide caused by a fire and prevent damage from mobile equipment.

- (c) Provided with an over-temperature device that shall de-energize the pumping station when the temperature reaches 165 degrees Fahrenheit.
- (7) Each hydraulic pump shall be provided with an over-temperature device that automatically de-energizes the motor on which it is installed. De-energization shall take place at a temperature of not more than 210 degrees Fahrenheit. The over-temperature device shall be installed to monitor:
 - (a) the circulating oil for the pump; or
 - (b) the external pump case housing.
 - (8) Personal protective equipment as listed on the Material Safety Data Sheet (MSDS) for the fire resistant hydraulic fluid shall be provided for use when adding bulk emulsion oil at the pump station.
 - (9) A copy of the Material Safety Data Sheet (MSDS) shall be posted near the pumping station.
 - (10) The pumping station shall be well ventilated at all times while in operation.
 - (11) All personnel who perform maintenance on the pump station shall receive training concerning safety and maintenance procedures of the pumping system. Also, all personnel who move the equipment or work in the vicinity of the pump station shall receive safety training concerning the station. A record of the training shall be maintained and made available to MSHA representatives and miners' representatives.
 - (12) MSHA shall be informed prior to the initial start up of the pumping system so that an inspection by MSHA can be conducted.
- (h) The permanent stoppings separating the conveyor belt entries from the intake escapeway shall be constructed of solid concrete blocks. The stoppings shall be installed with mortared joints or coated with a sealant

that provides equivalent strength to a mortared joint installation. Overcasts shall be constructed of concrete block with concrete and rail or I-beam construction. No ventilation structures shall be constructed of aluminum.

- (i) At least one additional self-contained self-rescuer shall be available for each person on the working section and shall be stored on the section while advancing the two-entry panel. During longwall retreat mining, self-contained self-rescuer units shall be stored near the face on the headgate and tailgate sides of the longwall unit at readily accessible locations. Enough self-contained self-rescuer units for all miners on the working section shall be stored at both locations. These locations shall be specified in the Emergency Response Plan (ERP) approved by the District Manager.

IV. Requirements Applicable to Both Development and Retreat Mining Systems When Diesel-Powered Equipment Is Operated On A Two-Entry System

- (a) Administrative controls shall be used to minimize the number and type of pieces of diesel equipment in the two-entry system, to notify miners on the working section when any diesel equipment is operating in the two-entry system, and to avoid alert and alarm signals caused by operating diesel equipment.
- (b) All light duty and heavy duty diesel-powered equipment, under 30 C.F.R. § 75.1908(a) and (b), not approved and maintained as permissible, under 30 C.F.R. Parts 7 and 36, may operate on any two-entry system, except where permissible equipment is required, as long as the equipment includes:
 - (1) An automatic and manually activated fire suppression system meeting the requirements of 30 C.F.R. § 75.1911. The manual fire suppression system shall be capable of being activated from inside and outside the machine's cab. The manual actuator located outside the cab shall be on the side of the machine opposite the engine. The system shall be maintained in safe operating condition;
 - (2) An automatic engine shut down/fuel shut off system, maintained in safe operating condition, which is tied into the activation of the fire suppression system;

- (3) An automatic closing, heat-activated shut off valve, maintained in safe operating condition, on diesel fuel lines either between the fuel injection pump and fuel tank, if the fuel lines are constructed of steel, or connected as close as practical to the fuel tank using steel fittings if fuel lines constructed of material other than steel are used; and
 - (4) A means, maintained in safe operating condition, to prevent the spray from ruptured diesel fuel, hydraulic oil, and lubricating oil lines from being ignited by contact with engine exhaust system component surfaces such as shielding, conduit, or non-absorbent insulating materials.
- (c) In addition to the requirements of 75.1100-2(b), fire hose outlets with valves shall be maintained along the intake entry at maximum 300 foot intervals to within 600 feet of the section loading point. At least 500 feet of fire hose with fittings and nozzles suitable for connection with the outlets shall be stored at strategic locations along one intake entry. The locations shall be specified in the firefighting and evacuation plan.
- (d) In addition to the requirements of Section IV (b), diesel-powered equipment classified as "heavy-duty" under 30 C.F.R. § 75.1908(a) must include a water-cooled exhaust system, maintained in safe operating condition, to maintain the surface temperature of the exhaust system of the diesel equipment below 302 degrees Fahrenheit. MSHA considers diesel road graders as heavy-duty equipment
- (e) Diesel-powered rock dust machines, compressors and generators, which are not approved and maintained as permissible under Part 36 may be used in the two-entry system, except where permissible equipment is required, provided that:
 - (1) no miners are located inby the work area; and
 - (2) no miners are located in the adjacent parallel entry at any location when either the rock dust machine or generator is operating or located in the two-entry section.
- (f) Diesel fuel shall not be stored in the two-entry system. Diesel-powered equipment not approved and maintained under Part 36 may under controlled circumstances be refueled in the two-entry system. In the event the non-approved Part 36 and Part 7 equipment runs out of fuel, the operator may transport to the machine a maximum of five (5) gallons of fuel in an approved

- fuel container, so that the machine may be driven from the section to be refueled.
- (g) Diesel equipment (unless approved under Part 36 and Part 7) shall not be used for face haulage equipment on the working section. Non-permissible diesel equipment meeting the requirements set forth in this amendment may be used on the working section for cleanup, set-up, and recovery, or similar non-coal haulage purposes which does not require approved equipment.
 - (h) Miners assigned to work in the two-entry system shall be trained on all diesel equipment fire suppression systems. This training shall be conducted prior to the implementation of this Proposed Decision and Order and annually, in addition to the Part 48 annual refresher training.
 - (i) A pre-operational (pre-op) check of diesel-powered equipment which is not approved and maintained under Part 36 and Part 7 shall be performed before the equipment is permitted to operate in a two-entry system. The pre-op check shall consist of a visual exam of the hand-held fire extinguisher and automatic fire suppression system indicator panel, and for leaking diesel fuel, hydraulic oil and lubricating oil lines. The pre-op check shall be made at least once per shift if the equipment is to be used on the two-entry system. If this visual exam reveals a hazard such as a faulty fire extinguisher, a malfunction with the fire suppression system, or a leaking line, the diesel-powered equipment shall not be operated in the two-entry system until repaired. Any hazard that cannot be corrected at that time shall be reported to the responsible foreman and made part of and retained in the same manner as the on-shift examination hazardous condition record.
 - (j) If diesel-powered equipment not approved and maintained under part 36 and part 7 needs to be "jump" started due to a dead battery in any two-entry system, a methane check, made by an MSHA approved detector, shall be made prior to attaching the "jumper" cables to the battery. The equipment shall not be "jump" started if air contains 1.0 volume percentum or more of methane.
 - (k) A limit of two (2) pieces of non-permissible, heavy duty, diesel powered equipment shall be allowed to operate concurrently on the 2 entry system. If the operator requires additional heavy duty, non-permissible, diesel equipment in the 2 entry system, the approved ventilation plan shall be amended to add the additional nameplate amount to the section's total ventilation quantity required in 30 C.F.R. 75.325(g). However, no more than four (4) pieces of heavy duty, non-permissible, diesel equipment shall be permitted to concurrently operate in the 2 entry system. All heavy duty, non-

permissible, diesel powered equipment shall be identified in the mine ventilation plan by engine serial number prior to being placed in service in the two-entry system.

- (l) If diesel-powered equipment not approved and maintained under part 36 and part 7 is used in any two-entry system, the average carbon monoxide concentration from sensors shall be determined prior to the use of this equipment and again after this equipment is in use. These averages shall be compared to ensure that the use of this equipment does not adversely impact the health and safety of the miners by affecting carbon monoxide concentrations or the number of nuisance alarms.
- (m) The concentration of respirable dust in the intake air coursed through a belt conveyor haulageway shall not exceed 1.0 mg/m³. Compliance with this requirement will be determined by establishing a designated area (DA) sampling location within 15 feet outby the working section belt tailpiece or just outby any air split point introduced into the belt entry and by sampling in accordance with 30 C.F.R. § 70.208. The specific DA sampling location shall be identified in the operator's ventilation plan with a four-digit number beginning with 8, followed by the middle two digits of the MMU number, and ending with 9 (i.e., 811-9 for MMU 011-0).
- (n) Within 60 days after this PDO becomes final, the petitioner shall submit proposed revisions for its approved 30 C.F.R. Part 48 training plan to the Coal Mine Safety and Health District Manager. This addition shall require Energy West to update the training plan and provide necessary training pertaining to this PDO to the miners.

Any party to this action desiring a hearing on this matter must file in accordance with 30 C.F.R. Part 44 within 30 days. The request for hearing must be filed 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 may 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.

Charles J. Thomas
Acting Deputy Administrator for
Coal Mine Safety and Health