DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petition for Modification of Application of an Existing Mandatory Safety Standard

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: This notice includes the 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 April 21, 2022.

ADDITIONAL INFORMATION:

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

(2) Permanent warning labels will warn miners not to change or alter the sealed short-circuit settings.

(3) This petition will apply to the initial bottom development of the mine, working sections that mine around gas wells, and working sections developing mains, submains, three entry panels, and bleeder and recovery entries.

(l) Within 60 days after the Proposed Decision and Order (PDO) becomes final, the petitioner will submit proposed revisions for its approved part 48 training plan to the District Manager. The proposed revisions will include initial and refresher training regarding compliance with the terms and conditions of the PDO.

The petitioner asserts that the alternative 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,
Acting Director, Office of Standards, Regulations, and Variances.

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I. Background

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.
Lowry Mine, Mine ID No. 36–09287, located in Indiana County, PA; Cresson Mine, Mine ID No. 36–09308, located in Cambria County, PA; Barrett Mine, Mine ID No. 36–09342, located in Indiana County, PA; Penfield Mine, Mine ID No. 36–09355, located in Clearfield County, PA; Mine 78, Mine ID No. 36–09371, located in Somerset County, PA; Kocjancic Mine, Mine ID No. 36–09436, located in Jefferson County, PA; Brush Valley Mine, Mine ID No. 36–09437, located in Indiana County, PA; Harmony Mine, Mine ID No. 36–09477, located in Clearfield County, PA; Crooked Creek Mine, Mine ID No. 36–09972, located in Indiana County, PA.

Regulation Affected: 30 CFR 75.1700 Oil and Gas Wells.

Modification Request: The petitioner requests a modification of the existing standard, 30 CFR 75.1700, as it relates to oil and gas wells at the mine. Specifically, the petitioner is proposing:

- Procedures for cleaning out and preparing oil and gas wells prior to plugging or re-plugging; procedures for cleaning out, preparing, and plugging oil or gas wells to the surface; procedures for plugging or re-plugging oil or gas wells for use as degasification boreholes; alternative procedures for preparing and plugging or re-plugging oil or gas wells; and mandatory procedures after approval has been granted to mine through a plugged or re-plugged well.

The petitioner states:

(a) District Manager Approval Required:

(1) The type of oil or gas well subject to this petition includes wells that have been depleted of oil or gas production, wells that have not produced oil or gas and may have been plugged, and active wells. Marcellus and Utica wells may not be mined through. No Marcellus or Utica wells are contained within the petition mine permits and are not subject to this modification.

(2) A safety barrier of 300 feet in diameter (150 feet between any mined area and a well) shall be maintained around all oil and gas wells (defined herein to include all active, inactive, abandoned, shut-in, or previously plugged wells, water injection wells, and carbon dioxide sequestration wells) until the District Manager has given approval to proceed with mining. Wells drilled into potential oil or gas producing formations that did not produce commercial quantities of either gas or oil [exploratory wells, wildcat wells or dry holes] are classified as oil or gas wells by MSHA. If the District Manager determines that the procedures have been complied with as described in subparagraphs 2(a) and (b), he will provide his approval, and the mine operator may then mine within the safety barrier of the well, subject to the terms of this Order. If well intersection is not planned, the mine operator may request a permit to reduce the 300-foot diameter of the safety barrier that does not include intersection of the well. The District Manager may require documents and information that help verify the accuracy of the location of the well with respect to the mine maps and mining projections. This information may include survey closure data, downhole well deviation logs, historical well intersection location data and any additional data required by the District Manager. If the District Manager determines that the proposed barrier reduction is reasonable, he will provide his approval, and the mine operator may then mine within the safety barrier of the well.

(3) Prior to mining within the safety barrier around any well that the mine plans to intersect, the mine operator shall provide to the District Manager a sworn affidavit or declaration executed by a company official with appropriate authority stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed as described by the terms and conditions of this order.

(4) The affidavit or declaration must be accompanied by all logs described in (b)(8) and (b)(9) and any other records, described in those subparagraphs, the District Manager may request. The District Manager will review the affidavit or declaration, the logs and any other records provided, and may inspect the well itself, and will then determine if the operator has complied with the procedures for cleaning out, preparing, and plugging each well as described by the terms and conditions of this Order.

(5) The terms and conditions of this petition apply to all types of underground coal mining.

(b) The petitioner proposes to use the following mandatory procedures for cleaning out and preparing vertical oil and gas wells prior to plugging or re-plugging:

(1) The mine operator shall test for gas emissions inside the hole before cleaning out, preparing, plugging, and re-plugging oil and gas wells. The District Manager shall be contacted if gas is being produced.

(2) A diligent effort shall be made to clean the well to the original total depth. The mine operator shall contact the District Manager prior to stopping the operation to pull casing or clean out the total depth of the well.

(3) If the total depth of the well is less than 4,000 feet and the total depth cannot be reached, the operator shall completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam, unless the District Manager requires cleaning to a greater depth based on his judgment as to what is required due to the geological strata, or due to the pressure within the well.

(4) The operator shall provide the District Manager with all information it possesses concerning the geological nature of the strata and the pressure of the well.

(5) If the total depth of the well is 4,000 feet or greater, the operator shall completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam to provide a higher degree of protection for miners, in light of the greater pressure on wells of greater depth. The operator shall remove all material from the entire diameter of the well, wall to wall.

(6) If the total depth of the well is unknown and there is no historical information, the mine operator must contact the District Manager before proceeding.

(7) The operator shall prepare downhole logs for each well. Logs shall consist of a caliper survey, a gamma log, a bond log and a deviation survey for determining the top, bottom, and thickness of all coal seams down to the lowest mineable coal seam, potential hydrocarbon producing strata and the location of any existing bridge plug. In addition, a journal shall be maintained describing the depth of each material encountered; the nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; length of casing(s) removed, perforated or ripped or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well shall be maintained as part of this journal and provided to MSHA upon request.

(8) When cleaning out the well as provided for in (b)(2), the operator shall make a diligent effort to remove all of the casing from the well. After the well is completely cleaned out and all the casing removed, the well should be plugged to the total depth by pumping expanding cement slurry and pressurizing to at least 200 pounds per square inch (psi). If the casing cannot be removed, it must be cut, milled, perforated or ripped at all mineable coal seam levels to facilitate the removal of any remaining casing in the coal seam by the mining equipment. Any casing
which remains shall be perforated or ripped to permit the injection of cement into voids within and around the well. (9) All casing remaining at mineable coal seam levels shall be perforated or ripped at least every 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Perforations or rips are required at least every 50 feet from 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. The mine operator must take appropriate steps to ensure that the annulus between the casing and the well walls are filled with expanding (minimum 0.5% expansion upon setting) cement and contain no voids.

(10) If it is not possible to remove all of the casing, the operator shall notify the District Manager before any other work is performed. If the well cannot be cleaned out or the casing cannot be removed, the operator shall prepare the well as described, from the surface to at least 200 feet below the base of the lowest mineable coal seam, for wells less than 4,000 feet in depth, and 400 feet below the lowest mineable coal seam, for wells 4,000 feet or greater, unless the District Manager requires cleaning out and removal of casing to a greater depth in consideration of geological strata, or due to the pressure within the well.

(11) If the operator, using a casing bond log, can demonstrate to the satisfaction of the District Manager that all annuli in the well are already adequately sealed with cement, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), any casing that remains shall be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used, in lieu of ripping or perforating multiple strings.

(12) If the District Manager concludes that the completely cleaned-out well is emitting excessive amounts of gas, the operator must place a mechanical bridge plug in the well. It must be placed in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the District Manager requires a greater distance based on his judgment that it is required due to the geological strata, or due to the pressure within the well. The operator shall provide the District Manager with all information the operator possesses concerning the geological nature of the strata and the pressure of the well. If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used. The mine operator shall document what has been done to “kill the well” and plug the carbon producing strata.

(13) If the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam, the operator shall properly place mechanical bridge plugs as described in (b)(11) to isolate the hydrocarbon-producing stratum from the expanding cement plug. Nevertheless, the operator shall place a minimum of 200 vertical feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the District Manager requires a greater distance based on his judgment that it is required due to the geological strata, or due to the pressure within the well.

(d) The petitioner proposes to use the following mandatory procedures for plugging or re-plugging oil and gas wells for use as degasification wells. After completely cleaning out the well as specified in (b), the following procedures shall be utilized when plugging or re-plugging wells that are to be used as degasification wells:

(1) The operator shall set a cement plug in the well by pumping an expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the District Manager requires a greater depth based on his judgment that a greater depth is required due to the geological strata, or due to the pressure within the well.

(i) The expanding cement will be placed in the well under a pressure of at least 200 psi.

(ii) The top of the expanding cement shall extend at least 50 feet above the top of the coal seam being mined, unless the District Manager requires a greater distance due to the geological strata, or due to the pressure within the well.

(2) The operator shall securely grout into the bedrock of the upper portion of the degasification well a suitable casing in order to protect it. The remainder of this well may be cased or uncased.

(3) The operator shall fit the top of the degasification casing with a wellhead equipped as required by the District Manager in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.

(4) Operation of the degasification well shall be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.

(5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, the operator must plug all degasification wells using the following procedures:

(i) The operator shall insert a tube to the bottom of the well or, if not possible, to within 100 feet above the coal seam being mined. Any blockage must be removed to ensure that the tube can be inserted to this depth.

(ii) The operator shall set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.

(iii) The operator shall embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent...
magnetic monument of the well. In the alternative, a 4-inch or larger casing, set in cement, shall extend at least 36 inches above the ground level with the API well number engraved or welded on the casing.

(e) The petitioner proposes to use the following mandatory alternative procedures for preparing and plugging or re-plugging oil or gas wells. The following provisions apply to all wells which the operator determines, and with which the MSHA District Manager agrees, cannot be completely cleaned out due to damage to the well.

(1) The operator shall drill a hole adjacent and parallel to the well, to a depth of at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the District Manager requires a greater distance due to the geological strata, or due to the pressure within the well.

(2) The operator shall use a geophysical sensing device to locate any casing which may remain in the well.

(3) If the well contains casing(s), the operator shall drill into the well from the parallel hole. From 10 feet below the coal seam to 10 feet above the coal seam, the operator shall perforate or rip all casings at least every 5 feet. Beyond this distance, the operator shall perforate or rip at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the District Manager requires a greater distance based on his judgment that a greater distance is required due to the geological strata, or due to the pressure within the well. The operator shall fill the annulus between the casings and between the casings and the well wall with expanding (minimum 0.5% expansion upon setting) cement and shall ensure that these areas contain no voids. If the operator, using a casing bond log, can demonstrate to the satisfaction of the District Manager that the annulus of the well is adequately sealed with cement, then the operator will not be required to perforate or rip the casing for that particular well, or fill these areas with cement. When multiple casing and tubing strings are present in the coal horizon(s), any casing, which remain, shall be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used in lieu of ripping or perforating multiple strings.

(4) When the operator determines, and the District Manager agrees, that there is insufficient casing in the well to allow use of the method outlined in subparagraph (e)(3), then the operator shall use a horizontal hydraulic fracturing technique to intercept the original well. From at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined, the operator shall fracture in at least six places, at intervals agreed upon by the operator and the District Manager after considering the geological strata and the pressure within the well. The operator shall then pump expanding cement into the fractured well in sufficient quantities and in a manner which fills all intercepted voids.

(5) The operator shall prepare down-hole logs for each well. Logs shall consist of a caliper survey, a gamma log, a bond log and a deviation survey for determining the top, bottom, and thickness of all coal seams down to the lowest mineable coal seam, potential hydrocarbon producing strata and the location of any existing bridge plug. The operator may obtain the logs from the adjacent hole rather than the well if the condition of the well makes it impractical to insert the equipment necessary to obtain the log.

(6) A journal shall be maintained describing the depth of each material encountered; the nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; length of casing(s) removed, perforated or ripped or left in place; any sections where casing was cut or milled; other pertinent information concerning sealing the well. Invoices, work orders, and other records relating to all work on the well shall be maintained as part of this journal and provided to MSHA upon request.

(7) After the operator has plugged the well as described in (e)(3) and/or (e)(4), the operator shall plug the adjacent hole, from the bottom to the surface, with Portland cement or a lightweight cement mixture. The operator shall embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve a permanent magnetic monument of the well. In the alternative, a 4-inch or larger casing, set in cement, shall extend at least 36 inches above the ground level. A combination of the methods outlined in (e)(3) and (e)(4) may have to be used in a single well, depending upon the conditions of the hole and the presence of casings. The operator and the District Manager shall discuss the nature of the hole. The District Manager may require that more than one method be utilized. The mine operator may submit an alternative plan to the District Manager for approval to use different methods to address wells that cannot be completely cleaned out. The District Manager may require additional documentation and certification by a registered petroleum engineer to support the proposed alternative methods.

(f) The petitioner proposes to use the following mandatory when mining within a 100-foot diameter barrier around a well.

(1) A representative of the operator, a representative of the miners, the appropriate State agency, or the MSHA District Manager may request that a conference be conducted prior to intersecting any plugged or re-plugged well. Upon receipt of any such request, the District Manager shall schedule such a conference. The party requesting the conference shall notify all other parties listed above within a reasonable time prior to the conference to provide opportunity for participation. The purpose of the conference shall be to review, evaluate, and accommodate any abnormal or unusual circumstance related to the condition of the well or surrounding strata when such conditions are encountered.

(2) The operator shall intersect a well on a shift approved by the District Manager. The operator shall notify the District Manager and the miners’ representative in sufficient time prior to intersecting a well in order to provide an opportunity to have representatives present.

(3) When using continuous mining methods, the operator shall install drivage sights at the last open crosscut near the place to be mined to ensure intersection of the well. The drivage sites shall not be more than 50 feet from the well.

(4) The operator shall ensure that firefighting equipment including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the well intersection (when either the conventional or continuous mining method is used) is available and operable during all well intersections. The fire hose shall be located in the last open crosscut of the entry or room. The operator shall maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.

(5) The operator shall ensure that sufficient supplies of roof support and ventilation materials shall be available at the last open crosscut. In addition, emergency plugs and suitable sealing materials shall be available in
the immediate area of the well intersection.

(6) Within 12 hours prior to intersecting the well, the operator shall service all equipment and check it for permissibility. Water sprays, water pressures, and water flow rates used for dust and spark suppression shall be examined and any deficiencies corrected.

(7) The operator shall calibrate the methane monitor(s) on the longwall, continuous mining machine, or cutting machine and loading machine within 12 hours prior to intersecting the well.

(8) When mining is in progress, the operator shall perform tests for methane with a handheld methane detector at least every 10 minutes, from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected. During the actual cutting process, no individual shall be allowed on the return side until the well intersection has been completed, and the area has been examined and declared safe. The operator’s most current Approved Ventilation Plan will be followed at all times unless the District Manager deems a greater air velocity for the intersect is necessary.

(9) When using continuous or conventional mining methods, the working place shall be free from accumulations of coal dust and coal spillages, and rock dust shall be placed on the roof, rib, and floor to within 20 feet of the face when intersecting the well. When the well is intersected, the operator shall deenergize all equipment, and thoroughly examine and determine the area to be safe before permitting mining to resume.

(10) After a well has been intersected and the working place determined to be safe, mining shall continue inby the well a sufficient distance to permit adequate ventilation around the area of the well.

(11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. However, in rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame shall be permitted in the area until adequate ventilation has been established around the well bore and methane levels of less than 1.0% are present in all areas that will be exposed to flames and sparks from the torch. The operator shall apply a thick layer of rock dust to the roof, face, floor, ribs and any exposed coal within 20 feet of the casing prior to the use of torches.

(12) Non-sparking (brass) tools will be located on the working section and will be used exclusively to expose and examine cased wells.

(13) No person shall be permitted in the area of the well intersection except those actually engaged in the operation, including company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.

(14) The operator shall alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift. This warning shall be repeated for all shifts until the well has been mined through.

(15) The well intersection shall be under the direct supervision of a responsible person. Instructions concerning the well intersection shall be issued only by the certified individual in charge.

(16) If the mine operator cannot find the well in the middle of the panel or room and misses the anticipated intersection, mining shall cease and the District Manager shall be notified.

(17) The provisions of this Decision and Order do not impair the authority of representatives of MSHA to interrupt or halt the well intersection, and to issue a withdrawal order, when they deem it necessary for the safety of the miners. MSHA may order an interruption or cessation of the well intersection and/or a withdrawal of personnel by issuing either a verbal or written order to that effect to a representative of the operator, which order shall include the basis for the order. Operations in the affected area of the mine may not resume until a representative of MSHA permits resumption. The mine operator and miners shall comply with verbal or written MSHA orders immediately. All verbal orders shall be committed to writing within a reasonable time as conditions permit.

(18) A copy of this Petition shall be maintained at the mine and be available to the miners.

(19) If the well is not plugged to the total depth of all minable coal seams identified in the core hole logs, any coal seams beneath the lowest plug will remain subject to the barrier requirements of 30 CFR 75.1700, should those coal seams be developed in the future.

(20) All necessary safety precautions and safe practices required by MSHA regulation and by State agencies that have jurisdiction over the plugging site shall apply and shall be followed to provide the upmost protection to the miners involved in the process.

(21) All miners involved in the plugging or re-plugging operation will be trained on the contents of this petition prior to starting the process and a copy of this petition will be posted at the well site until the plugging or re-plugging has been completed.

(22) Mechanical bridge plugs should incorporate the best available technologies that are either required or recognized by the State regulatory agency and/or oil and gas industry.

(23) Within 30 days after this Decision and Order becomes final, the operator shall submit proposed revisions for its approved 30 CFR part 48 training plan to the District Manager. These proposed revisions shall include initial and refresher training on compliance with the terms and conditions stated in the Decision and Order. The operator shall provide all miners involved in well intersection with training on the requirements of this Decision and Order prior to mining within 150 feet of the next well intended to be mined through.

(24) The responsible person required under 30 CFR 75.1501 Emergency Evacuations, is responsible for well intersection emergencies. The well intersection procedures should be reviewed by the responsible person prior to any planned intersection.

(25) Within 30 days after this Decision and Order becomes final, the operator shall submit proposed revisions for its approved mine emergency evacuation and firefighting program of instruction required under 30 CFR 75.1502. The operator will revise the program of instruction to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of submittal. The procedure as specified in 30 CFR 48.3 for approval of proposed revisions to already approved training plans shall apply.

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 applicable standard.

Song-ae Aromie Noe,
Acting Director, Office of Standards, Regulations, and Variances.
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