Protecting Miners: MSHA Guidance on Mitigating and Preventing the Spread of COVID-19

Executive Summary

This guidance is intended for miners and operators in coal, metal, or nonmetal mines to help them identify risks of being exposed to SARS-CoV-2, the virus that causes COVID-19, at work and to help them determine appropriate control measures to reduce such risk. This guidance contains recommendations, as well as descriptions of mandatory safety and health standards. It is not a standard or regulation, and it creates no new legal obligations. The recommendations are advisory in nature, informational in content, and are intended to assist operators in recognizing and abating hazards likely to cause death or serious physical harm from the spread of SARS-CoV-2 (COVID-19) as part of their obligation to provide a safe and healthful mine.

COVID-19 is an infectious disease spread most commonly through respiratory droplets and particles produced when an infected person exhales, talks, vocalizes, sneezes, or coughs. People who are physically near (within 6 feet) a person with COVID-19 or have direct contact with that person are at greatest risk of infection. COVID-19 can be spread by people who have no symptoms. Particles containing the virus can travel more than 6 feet, especially indoors, and can be spread by individuals who do not know that they are infected.

Operators should implement COVID-19 Prevention Programs at each mine. Operators may consider a stand-alone program or additions to existing training and education programs. The most effective programs engage miners and miner representatives in the program's development, and include the following key elements:

- Conducting a hazard assessment of the mine site;
- Identifying a combination of measures that limit the spread of COVID-19 in mine settings;
- Adopting measures to ensure that miners who are infected or potentially infected are separated and sent home from the mine; and
- Implementing protections from retaliation for miners who raise COVID-19-related concerns.

The Mine Safety and Health Administration (MSHA) will continue to update this guidance over time to reflect developments in science, best practices, and standards.

Pursuant to the Federal Mine Safety and Health Act of 1977, as amended by the Mine Improvement and New Emergency Response (MINER) Act of 2006 ("the Mine Act"), operators must comply with safety and health standards and regulations issued and enforced by MSHA. Under the Mine Act, an operator is any owner, lessee, or other person who operates, controls, or supervises a coal or other mine or any independent contractor performing services or construction at a mine. A miner is any individual working in a coal, metal, or non-metal mine.

What Operators and Miners Need To Know about COVID-19 Protections in Mines

- An important way to protect yourself is to stay far enough away from other people so that you are not breathing in particles produced by an infected person – generally at least 6 feet (about 2 arm lengths). However, this physical distancing is not always practicable in mine settings and is not a guarantee of protection from transmission, especially in enclosed spaces.
- Practice good personal hygiene and wash or sanitize your hands often. Always cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow and do not spit. Monitor your health daily and be alert for COVID-19 symptoms (e.g., fever, cough, shortness of breath, or other symptoms of COVID-19).
- Face masks covering the mouth and nose are simple barriers to help prevent your respiratory droplets or aerosols from reaching others. Not all face masks are the same; the CDC recommends that face masks be made of at least two layers of a tightly woven breathable fabric, such as cotton, and should not have exhalation valves or vents.
- For operations where the face mask worn by miners can become wet and soiled, provide miners with replacements daily or more frequently. Face shields may be provided for use with face masks to protect them from getting wet and soiled, but they do not provide protection by themselves.
- The main function of wearing a face mask is to protect those around you, in case you are infected but not showing symptoms. Studies show that face masks reduce the spray of droplets when worn over the nose and mouth.
- Although not their primary purpose, studies also show that face masks can reduce wearers' risk of infection in certain circumstances, depending upon the face mask.
- You should wear a face mask even if you do not feel sick. This is because people with COVID-19 who never develop symptoms (asymptomatic) and those who are not yet showing symptoms (pre-symptomatic) can still spread the virus to other people.
- It is especially important to wear a face mask when you are unable to stay at least 6 feet apart from others, since COVID-19 spreads mainly among people who are in close contact with one another. However, wearing a face mask does not eliminate the need for physical distancing or other control measures (e.g., handwashing).
- It is important to wear a face mask and remain physically distant from co-workers and others even if you have been vaccinated, because it is not known at this time how vaccination affects transmissibility.
- Many operators have established COVID-19 prevention programs that include a number of best practices and important steps to keep miners safe. Ask your supervisor or miners' representative, if applicable, about programs in your mine.

Elements for a COVID-19 Prevention Program

Under the Mine Act, mine operators, with the assistance of the miners, have the primary responsibility to prevent the existence of unsafe and unhealthful conditions and practices at mines. Operators should implement a COVID-19 prevention program in the mine. Prevention programs are the most effective way to mitigate the spread of COVID-19 at work.

The most effective COVID-19 prevention programs engage miners and their representatives in the program's development and implementation at every step, and should include the following elements, as applicable to the unique conditions at the mine site:

1. ***Identify a mine coordinator*** who will be responsible for COVID-19 issues on the operator's behalf, and who will regularly communicate with the miners' representative or other direct contacts for miners.

2. ***Identify where and how miners might be exposed to COVID-19 at work.*** This includes a thorough assessment of the mine site to identify potential hazards related to COVID-19. These assessments are most effective when they involve miners and miners' representatives, because they are often most familiar with the conditions they face.

3. ***Identify measures that will limit the spread of COVID-19***. This should include hazard removal, engineering controls, administrative controls, personal protective equipment (PPE), and other measures, prioritizing controls from most to least effective, to protect miners from COVID-19 hazards. Key examples, discussed in additional detail below, include:

   - Minimize the hazard by separating and sending home infected or potentially infected people from the mine;
   - Ensure miners complete isolation or quarantine as appropriate;
   - Provide information and resources regarding COVID-19 vaccines;
   - Implement physical distancing in communal work areas (e.g., limiting the number of miners on hoists, personnel carriers, or other transport vehicles at any one time);
   - Suppress the spread of the hazard using face masks when respirators are not required;
   - Improve ventilation;
   - Use appropriate PPE to protect miners from exposure;
   - Provide necessary supplies for good hygiene practices; and
   - Perform routine and enhanced cleaning and disinfection as appropriate.

4. ***Consider protections for miners at higher risk for severe illness through supportive policies and practices.*** People of any age who have certain underlying medical conditions are at higher risk for severe illness from COVID-19. Miners with disabilities may be legally entitled to reasonable accommodations (e.g., temporary reassignment to a less-populated work area or to duties with minimal in-person contact) that protect them from the risk of contracting COVID-19. Where feasible, operators should consider reasonable accommodations for certain miners identified as high-risk, such as Part 90 miners.

5. ***Educate and train miners on your COVID-19 policies and procedures using accessible formats and in a language they understand.*** Mine operators must communicate supportive policies clearly, frequently, in plain language that miners understand

(including non-English language and other accessible communication methods, if applicable), and via multiple methods to miners, contractors, and any other individuals on site, as appropriate, to promote a safe and healthy mine. Communications should include:

- Basic facts about COVID-19, including how it is spread and the importance of physical distancing, use of face masks, and hand hygiene;
- Policies and procedures implemented to protect miners from COVID-19 hazards, including a method for miners to report COVID-19 symptoms, possible COVID-19 exposures, and possible COVID-19 hazards in the mine (and set forth in the operator's COVID-19 prevention program); and
- Some means of tracking which miners have been informed and when.

In addition, ensure that miners understand their rights to a safe and healthful work environment, whom to contact with questions or concerns about safety and health, and their right to raise safety and health concerns free of retaliation. Ensure supervisors and managers are familiar with human resources policies and procedures.

6. ***Instruct miners who are infected or potentially infected to stay home and isolate or quarantine*** to prevent or reduce the risk of transmission of COVID-19. Ensure that absence policies are flexible and non-punitive. Policies that directly or inadvertently encourage miners to come to work sick or when they have been exposed to COVID-19 are strongly discouraged because they increase the likelihood of COVID-19 exposures. Operators should consider implementing pre-shift screening for miners to complete prior to entering the mine setting.

7. ***Minimize negative impacts of quarantine and isolation on miners.*** While often not practicable in a mining setting, if possible, allow workers to work remotely when their job duties allow. If this is not possible, allow miners to use paid sick leave, if available, or consider implementing paid leave policies to reduce risk for everyone at the mine. The Tax Relief Act of 2020 provides certain employers 100% reimbursement through tax credits to provide employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19 through March 31, 2021.

8. ***Isolate miners who show symptoms at work.*** Miners who appear to have symptoms upon arrival at work or who develop symptoms during their work shift should immediately be separated from other miners, customers, and visitors, sent home, and encouraged to seek medical attention.

9. ***Perform enhanced cleaning and disinfection after people with suspected or confirmed COVID-19 have been in the mine setting***. If someone who has been at the mining operation is suspected or confirmed to have COVID-19, follow the CDC cleaning and disinfection recommendations. This can include:
- **Closing areas** used or occupied by the potentially infected person for enhanced cleaning;
- **Opening outside doors and windows** to increase air circulation in the area, where applicable, if feasible;

- **Waiting as long as practicable** before cleaning or disinfecting (24 hours is optimal);
- Cleaning and disinfecting **all immediate work areas and equipment used by the potentially infected person**, such as offices, bathrooms, shared tools or equipment, and tables or work surfaces.
- **[Vacuuming the space if needed and practicable](#)**. Use a vacuum equipped with a high-efficiency particulate air (HEPA) filter, if available. Wait until the room or space is unoccupied to vacuum;
- **Providing miners engaged in cleaning or disinfecting with appropriate disposable gloves**. Additional PPE (e.g., safety glasses, goggles, aprons, respirators) might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash. Cleaning products should be used in accordance with manufacturer's guidance.
- After cleaning, [disinfecting the surface with an appropriate EPA-registered disinfectant on List N: Disinfectants for use against SARS-CoV-2, the virus that causes COVID-19](#);
- MSHA's Hazard Communication (HazCom) standards set forth [in 30 CFR Part 47](#) remain applicable for hazard communication and PPE appropriate for exposure to cleaning chemicals.

Once the area has been appropriately disinfected, it can be opened for use. Miners who did not have close contact with the potentially infected person can return to the area immediately after disinfection.

If it has been **more than 7 days** since the infected person visited or used the facility, additional cleaning and disinfection is not necessary. Continue routine cleaning and disinfection, as described above.

10. *Provide guidance on screening and testing.* Follow state or local guidance and priorities for screening and viral testing in mines. Testing may be arranged through a company's occupational health provider or in consultation with the local or state health department. Operators should inform miners of testing requirements, if any, and availability of testing options. CDC has published [strategies](#) for consideration of incorporating viral testing for SARS-CoV-2, the virus that causes COVID-19, into COVID-19 preparedness, response, and control programs.

Note: Performing screening or health checks is not a replacement for other protective measures such as face masks and physical distancing. Asymptomatic individuals or individuals with mild non-specific symptoms may not realize they are infected and may not be detected through screening.

11. *Record and report COVID-19 infections and deaths.* Operators are responsible for recording work-related cases of COVID-19 illness on their Form 7000-1 if the following requirements are met: (1) the case is a confirmed case of COVID-19; (2) the case is an occupational illness (as defined by [30 CFR 50.2(f)](#)); and (3) the case involves one or more relevant recording criteria (e.g., medical treatment, days away from work).

Operators must follow the requirements in 30 CFR 50.20 and 50.20-1 when reporting. More information is available on MSHA's website. Operators should also report outbreaks to health departments as required and support their contact tracing efforts.

Operators also may consider recording all worker cases of and exposures to COVID-19 in a separate log for contact-tracing and training purposes. Additional information about contact tracing may be available from local public health departments.

Of significant note: MSHA recommends that operators make every effort to maintain the confidentiality of information related to a miner's COVID-19-positive status—even in cases where it may be obvious that a certain employee has tested positive or is in quarantine.

12. ***Implement protections from retaliation and an anonymous process for miners to voice concerns about COVID-19-related hazards.*** Under the provisions of Section 105(c)(1) of the Mine Act, miners, miners' representatives, and applicants for employment are protected from retaliation for engaging in safety and/or health related activities, such as identifying health or safety hazards, asking for MSHA inspections, or refusing to engage in an unsafe act. This includes, for example, a miner, miners' representative, or applicant for employment raising a concern about infection control related to COVID-19 to the operator, the operator's agent, or miners' representative.

    In addition to notifying miners of their rights to a safe and healthful work environment, operators should ensure that miners know where and how to raise questions or concerns about safety and health, and that there are prohibitions against retaliation for raising safety and health concerns or engaging in other protected activities. Also consider using a hotline or other method for miners to voice concerns anonymously.

13. ***To the extent possible, consider making a COVID-19 vaccine or vaccination series available at no cost to all eligible employees.*** Provide information and training on the benefits and safety of vaccinations. Operators may also consider permitting miners to attend vaccination appointments during their regularly scheduled shift to expedite the process.

14. ***Treat vaccinated miners the same as those who are not vaccinated:*** Miners who are vaccinated must continue to follow all protective measures, such as wearing a face mask and remaining physically distant. At this time, there is incomplete evidence about the ability of COVID-19 vaccines to prevent transmission of the virus from person-to-person. The CDC explains that experts need to understand more about the protection provided by COVID-19 vaccines before changing the recommendation on steps everyone should take to slow the spread of the COVID-19 virus.

15. ***Other applicable MSHA Standards***: There are numerous health and safety standards that may be used to address COVID -19. Mine operators are required to abate the health and safety hazards addressed by the following standards:

- **Sanitation requirements**: [30 CFR 56.20003(a)](#), [30 CFR 57.20003(a)](#), [30 CFR 56.20008(b)](#), [57.20008(b)](#), [71.402](#) and [75.1712-3](#);
- **Training requirements**: [30 CFR 46.1-12](#), [48.3](#), [48.11](#); [48.23](#); and [48.31](#)
- **Workplace examinations**: [30 CFR 56.18002](#), [57.18002](#), [77.1713](#), [75.360](#), [.361](#), [.362](#), [.364](#);
- **Safeguards**: [30 U.S.C. 874(b)](#) and [30 CFR 75.1403](#);
- **Personal Protective Equipment (PPE)**: [30 CFR 56.15006](#), [57.15006](#), and [72.701](#).

Additional Detail on Key Measures for Limiting the Spread

Remove the Hazard by Separating and Sending Home Infected or Potentially Infected People from the Mine for Quarantine or Isolation.

One key measure involves minimizing the hazard by isolating miners who are infected or potentially infected so they cannot infect other miners. Most operators will follow a symptom-based strategy for identifying and separating and sending home miners. However, there are certain circumstances where operators may consider a [COVID-19 test-based strategy](#), rather than a symptom-based strategy, for determining return-to-work dates.

1. **Miners who have or likely have COVID-19 should be isolated until they meet [CDC guidelines for exiting isolation](#).** If they think or know they had COVID-19 and had symptoms, they can return after:

   - At least 10 days since symptoms first appeared **and**
   - At least 24 hours with no fever without fever-reducing medication **and**
   - Other symptoms of COVID-19 are improving (loss of taste and smell may persist for weeks or months and need not delay the end of isolation).

2. **Some miners might need to stay home and isolate longer than 10 days, as recommended by their healthcare providers.**

   - A healthcare provider may recommend that a worker who had severe illness from COVID-19 (admitted to a hospital and needed oxygen) stay in isolation for up to 20 days after symptoms first appeared.
   - Miners who had COVID-19 or tested positive for COVID-19 **and** have a weakened immune system should consult with their healthcare providers for more information. Their doctors may work with infectious disease experts at the local health department to determine when they can be around others.

Notes:
   - Under the Americans with Disabilities Act, employers are permitted to [require a doctor's note from miners](#) to verify that they are healthy and able to return to work. Given potential delays in seeking treatment and demands on the healthcare system, requiring a COVID-19 test result or a healthcare provider's note for miners who are

sick to validate their illness or return to work may cause significant delays affecting operators and miners alike.

- A worker who has recovered from symptoms after testing positive for COVID-19 may continue to test positive for three months or more without being contagious to others. For this reason, these miners should be tested only if they develop new symptoms of possible COVID-19. If they have new symptoms, they should discuss getting tested again with their healthcare provider, especially if they have been in close contact with another person who has tested positive for COVID-19 in the last 14 days. CDC reports that instances of reinfection have so far been infrequent.
- CDC does NOT recommend that employers use antibody tests to determine which miners can work. Antibody tests check a blood sample for **past infection** with SARS-CoV-2. Viral tests check a respiratory sample (such as swabs of the inside of the nose) for **current infection** with COVID-19.

3. Miners should quarantine if they have been exposed to COVID-19, which means:

- They were within 6 feet of someone who has COVID-19 for a combined total of 15 minutes or more within a 24-hour period, starting from 2 days before illness onset (or, for patients without symptoms, 2 days prior to test specimen collection) until the time the patient is isolated, or
- They provided care at home to someone who is sick with COVID-19, or
- They had direct physical contact with a person who has COVID-19 (e.g., hugged or kissed them), or
- They shared eating or drinking utensils with a person who has COVID-19, or
- Someone who has COVID-19 sneezed, coughed, or somehow got respiratory droplets on them.

Local public health authorities determine and establish the quarantine options for their jurisdictions. CDC guidance provides that individuals who have been exposed should:

- Stay home for 14 days after last contact with a person who has COVID-19,
- Watch for fever (above 100.4°F), cough, shortness of breath, or other symptoms of COVID-19, and
- To the extent possible, stay away from others, especially people who are at higher risk for getting very sick from COVID-19.

CDC also recognizes that local public health departments may consider other options for ending quarantine; for example: end quarantine after day 10 without testing, or after day 7 after receiving a negative test result (test must occur on day 5 or later). CDC continues to endorse quarantining for 14 days and recognizes that any quarantine shorter than 14 days balances reduced burden against a small possibility of spreading the virus. Therefore, after stopping a quarantine of less than 14 days, these individuals should:

- Watch for symptoms until 14 days after exposure;
- Immediately self-isolate and contact the local public health authority or their healthcare providers if symptoms appear; and

- Wear a face mask, stay at least 6 feet from others, wash hands, avoid crowds, and take other steps to prevent the spread of COVID-19.

Use Face Masks to Suppress the Spread

Miners may be required to wear respirators as PPE under certain circumstances. Miners should not wear face masks while wearing a respirator with no exhalation valve, but should wear face masks when the respirator is not worn, or over the respirator exhalation valve when the respirator has an exhalation valve. Face masks can be worn by any miner not wearing a respirator, to reduce COVID-19 transmission from themselves to other miners, and should be provided by the mine operator, at no cost to the miner.

- For operations where the face mask worn by miners can become wet and soiled, provide miners with replacements daily or more frequently. Face shields may be provided for use with face masks to protect them from getting wet and soiled, but they do not provide protection by themselves.

- For operations in settings where the use of face masks may increase the risk of heat-related illness indoors or outdoors or cause safety concerns due to introduction of a hazard (for instance, straps getting caught in machinery), or in the case of a miner with a disability who cannot wear a mask, or cannot safely wear a mask, for reasons related to the disability, the operator should consult with an occupational safety and health professional to determine the appropriate face mask/respirator or other precautions for their miners as part of their safety program.

Improving Ventilation

Underground mines with required ventilation plans, as set forth in 30 CFR Part 57 Subpart G or Part 75 Subpart D, must continue to follow those plans, and MSHA will continue to enforce applicable standards regarding mine ventilation.

For operations with miners inside buildings or facilities not required to have ventilation plans, the CDC has released important guidance about ways to improve ventilation and prevent the spread of COVID-19 in buildings. Below are a number of strategies to do so. Some of these recommendations are based on American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Guidance for Building Operations During the COVID-19 Pandemic.

- Ensure ventilation systems operate properly and provide acceptable indoor air quality for the current occupancy level for each space.
- Increase ventilation rates when possible.
- When weather conditions allow, increase fresh outdoor air by opening windows and doors. Do not open windows and doors if doing so poses a safety or health risk (e.g., risk of falling, triggering asthma symptoms) to building occupants.

- Use fans to increase the effectiveness of open windows. To safely achieve this, fan placement is important. Avoid placing fans in a way that could potentially cause contaminated air to flow directly from one person over another. One helpful strategy is to use a window fan, placed safely and securely in a window, to exhaust room air to the outdoors. This will help draw fresh air into the room via other open windows and doors without generating strong room air currents.
- Disable demand-controlled ventilation (DCV).
- Reduce or eliminate recirculation, for example by opening minimum outdoor air dampers. In mild weather, this will not affect thermal comfort or humidity. However, this may be difficult to do in cold or hot weather.
- Improve central air filtration to the MERV-13 (the grade of filter recommended by ASHRAE) or the highest compatible with the filter rack, and seal edges of the filter to limit bypass.
- Check filters to ensure they are within service life and appropriately installed.
- Keep systems running longer hours, 24/7 if possible, to enhance air exchanges in the building.
- Ensure restroom exhaust fans are functional and operating at full capacity.
- Inspect and maintain local exhaust ventilation in areas such as kitchens and cooking areas.
- Use portable high-efficiency particulate air (HEPA) fan/filtration systems to help enhance air cleaning (especially in higher-risk areas such as a nurse's office or areas frequently inhabited by persons with higher likelihood of COVID-19 and/or increased risk of getting COVID-19).
- Generate clean-to-less-clean air movement by re-evaluating the positioning of supply and exhaust air diffusers and/or dampers (especially in higher-risk areas).
- Consider using ultraviolet germicidal irradiation (UVGI) as a supplement to help inactivate SARS-CoV-2, especially if options for increasing room ventilation are limited. Upper-room UVGI systems can be used to provide air cleaning within occupied spaces, and in-duct UVGI systems can help enhance air cleaning inside central ventilation systems.
- If ventilation cannot be increased, reduce occupancy level in the building. This increases the effective dilution ventilation per person.

Use Personal Protective Equipment Wherever Necessary

When the measures described above cannot be implemented or do not fully protect miners, operators must provide PPE to supplement other controls where required.

- Determine what PPE is necessary to protect miners.
- Provide all PPE, if necessary, including respirators (N95 filtering facepiece respirators or better, including elastomeric respirators, without exhalation valves or vents), face shields, protective gowns and gloves, to the miners at no cost.
- Make sure to provide PPE in accordance with relevant MSHA and consensus standards. Respirators, if necessary, must be provided and used in compliance with 30 CFR 56/57.5005 and 30 CFR 72.701, 72.710 (e.g., medical determination, fit testing, training on correct use), including certain provisions for voluntary use when miners supply their

own respirators. Respirators also must meet the NIOSH approval requirements under 42 CFR Part 84. Other PPE must meet the requirements in 30 CFR Part 56, Subpart N, 30 CFR Part 57, Subpart N, and 30 CFR 75.1720.

- There are times when PPE is not required under MSHA standards, but may be required as a reasonable accommodation for certain miners under the Americans with Disabilities Act, as described above (see "Elements for a COVID-19 Prevention Program," item 4). Others may want to use PPE if they are concerned about their personal safety (e.g., if a family member is at higher-risk for severe illness, wearing a face shield in addition to a face mask as an added layer of protection). Encourage and support voluntary use of PPE in these circumstances.