

Mine disaster; Crisis management

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Fortunately, few mining professionals have dealt with the thing all mining professionals fear — a mine disaster. Unfortunately, many have dealt with “accidents” that may or may not claim lives but, nevertheless, rise to the level of a “disaster” given the fallout of liability and litigation in today’s society.¹ The authors published an article 10 years ago regarding crisis management² based upon their collective first-hand experiences in actual disasters to that point in time.

Unfortunately, more disasters have occurred since that time, prompting legislation, and a fresh analysis and an expansion of those basic principles is certainly in order. Without question, no two disasters are alike, yet general guidelines for forming an effective plan of action can be formulated — and if a mining operation is to have any chance of survival after a disaster, such a plan is vital.

The primary concern as any disaster evolves remains, as stated in a 2003 SME paper,³ the protection of human life. From that point, the focus moves to any assistance that may be needed given the magnitude of the situation. Permeating throughout this process is “damage control.”

The first step in dealing with a disaster, however, begins long before any threat of danger arises — formulation and implementation of an emergency response plan.

The emergency response plan

Congress enacted the Mine Improvement and New Emergency Response Act of 2006 (MINER Act) [Pub. L. 109-236] in response to the Sago Mine explosion in 2006. Part of the MINER Act requires operators of underground coal mines to improve accident preparedness. The MINER Act



obligates coal mining companies to develop an emergency response plan specific to each mine they operate. Although this legislation is specific to underground coal mining operations, the basic principles set forth guidelines for emergency response plans that can be formulated for all mining operations.⁴

Emergency response plans required under the Emergency Planning and Community Right-to-Know Act (EPCRA)⁵ contain critical information that community and emergency response officials can use in the event of an accident. These plans must be updated annually and must contain the following information:

- Facilities and transportation routes of extremely hazardous substances.
- Emergency response procedures, on and off site.
- Designation of a community coordinator and facility coordinator(s) to implement the plan.
- Emergency notification procedures.
- Description of how to determine the affected area and population by releases.
- Description of local emergency equipment

This photo, from Getty Images, taken after the explosion at the Upper Big Branch Mine in 2010, illustrates how a mine disaster can impact an entire community.

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¹ The Martin County coal impoundment collapse in the fall of 2000 claimed no lives. Miners were rescued from the water inundation at Quecreek in 2002, with no loss of life. However, no one can discount the impact that each of these incidences had in the future of mining. The names Scotia Mine, Wilberg, Pyro, Southmountain, Sago, Kentucky Darby, Crandall Canyon and Upper Big Branch have, unfortunately, gone down in coal mining history. Nevertheless, mining disasters are not confined to the coal industry. Metal and nonmetal mines have had some significant disasters at the Belle Isle Mine (salt), Sunshine Mine (silver) and Barnett Complex (fluorspar) operations.

and facilities and identification of the people responsible for them.

- Evacuation plans.
- Training programs for emergency responders (including schedules).
- Methods and schedules for exercising emergency response plans.⁶

Having a response plan in place with the above elements can save lives, limit environmental damages and provide the necessary guidance during an emergency. Without a plan in place, an accident could lead to human casualties, significant property and environmental damages, and possible financial ruin of the company. Another benefit of the response plan is that shortcomings or other issues may be identified during the creation of the plan. Deficiencies identified during creation of the plan can be addressed before a real emergency happens. As noted in this paper, there are several items that a mining professional will want to incorporate into an emergency response plan to account for what might happen once disaster strikes.

Crisis management team

It is imperative that some “command structure” be in place and the emergency response plan must include the mobilization of a predesignated crisis management “team.” The crisis management team should include:

- **Team leader** — a management person designated to be in charge of all company efforts to deal with the emergency.
- **Safety department representative** — the safety-trained person whose sole job is to coordinate communications and cooperation with all safety regulatory agencies.
- **Public relations person** — either a trained, in-house public relations person

or a professional consultant of security, command centers, family centers and media communication facilities whose sole task is to communicate with the media and the general public.⁷

- **Engineering department representative** — preferably a licensed professional engineer whose sole job is to coordinate all needs for mapping and engineering services that might be involved, including interface with government regulators.
- **Plantsite communications person** — a person knowledgeable of the physical layout of the mine whose sole job is to handle communications between the central surface location and the underground (in the case of underground operations) or the central surface location and other mine site areas (for any operation).
- **Offsite communications person** — a person knowledgeable of the local area whose sole job is to handle all incoming and outgoing communications from the plant site along with relaying messages to and from the plant site communications person
- **Supply person** — a person knowledgeable of onsite and offsite resources in charge of procuring and distributing needed supplies
- **Legal counsel** — while the company may have its own legal staff, the far-reaching legal issues emanating from a crisis could soon overwhelm an in-house legal staff who must continue to provide the day-to-day consultation to the company on its routine matters and it is imperative to have an outside attorney on board.

Protection of human life

As noted, the paramount consideration in any

² J. Zaluski, M. Rajkovich, J. Gardner, “Crisis Management and Emergency Response: What Would You Do If Disaster Strikes,” *Mining Engineering*, (October 2004, 2003 SME Annual Meeting presentation)

³ Id.

⁴ The MINER Act essentially requires a plan for evacuation of an underground mine. Required items include: post-accident communication, tracking, breathable air and lifelines. It requires provisions for mine evacuation and fire-fighting as well as the logistics.

⁵ United States Public Law 99-499

⁶ Id.

⁷ It is not recommended that the company president or the company attorney fill this role during the chaotic time of a disaster. Aside from the fact that public relations savvy is essential during this time, placing a company executive and/or counsel in this position creates a host of confidentiality and attorney-client privilege issues. The time for a company executive to make appropriate statements comes later, as they fit with the public relations communications.

⁸ Underground and surface mine communication and tracking equipment must be kept in top working order and maintained in accordance with federal regulations governing such communications and applicable state regulations.

disaster is the preservation of life. In a disaster, it is possible that miners could be trapped or imperiled as a result of a mine explosion or mine inundation (for underground operations), a highwall collapse (for surface operations) or as a consequence of well-meaning “rescuers” who might make some rash judgments. There may be “secondary victims” at peril in some disastrous situations such as residents adjacent to the mining operations.

The first response is always to dispatch quick and effective communication to all persons who could possibly be affected in order to assess their first-hand knowledge of the extent of injuries, peril or damage; and/or to notify them of the impending danger⁸. As for residents in the immediate area of the mining operation, there must be a plan in place to notify them of impending danger. Every mining facility should have an easy, readily accessible emergency contact list that should have contact persons prioritized with all available emergency telephone numbers listed. While the topic of “notification” will be addressed in more detail, this contact list, at a minimum, should list telephone numbers for the nearest ambulance service, the nearest medical facility, the nearest mine rescue team, the local civil defense disaster officer, the local and state police, applicable local and state regulatory emergency contacts and company officials.

Immediate notification of the regulatory authorities and to the public

Once the first step in the emergency plan is underway, namely, the immediate rescue effort and preservation of life, prompt notifications must be given to all regulatory agencies that have jurisdiction over the various aspects of the disaster. All health and safety enforcement agencies, and the respective state mine safety and health regulatory agencies, must be notified that an accident has occurred. For the U.S. Mine Safety

and Health Administration (MSHA), as well as a number of state mine safety agencies, that notification must occur within 15 minutes of the operator’s knowledge.⁹ Local civil defense and disaster agencies should also be promptly notified in the event that it is necessary to evacuate homes or take other measures to protect life and property.¹⁰

If the disaster should have any effect upon streams, land or atmosphere, then all relevant federal and state environmental regulatory agencies must be contacted. Regarding the mining aspect, the nearest U.S. Office of Surface Mining, Reclamation and Enforcement should be contacted and any state environmental regulatory agency. Additionally, the nearest office of the EPA must be notified. If any “navigable waters” of the particular state (and the United States) may be affected, the local office of the U.S. Coast Guard must be notified. In short, the crisis management team must be able to act with lightning speed in determining the magnitude of the disaster, the impacts and the regulatory agencies that will have to be involved at all stages.

Damage control

In the midst of rescue efforts and emergency procedures, there always exists the possibility that such efforts themselves could cause additional problems. The 1976 Scotia disaster was a nightmare case-in-point.¹¹ In the wake of a mine explosion, the underground mine atmosphere can be drastically and dangerously changed. For example, a fireball from an explosion will usually eliminate nearly all of the oxygen in a mine atmosphere, causing certain asphyxiation for any person entering without self-contained breathing apparatus. A violent explosion could also disrupt roof conditions, giving rise to the possibility of rooffalls and/or coal pillar failures.

Underground disasters could also include the possibility of a buildup of water in certain

⁹ The MINER Act mandates the 15-minute rule in accordance with 30 C.F.R. § 50.10 for occurrences constituting “accidents” as defined therein. Many state legislatures have followed suit by enacting similar statutes and regulations requiring the 15-minute notification. See, Ky. Rev. Stat. Ann. §352.180 (Kentucky Statute). Common sense and the nature of the emergency, alone, mandate that such notification be given immediately. Both state and federal agencies will most likely mobilize their own mine rescue teams to assist in the emergency efforts and they also bring specialized training, experience and knowledge in dealing with emergency situations.

¹⁰ Given that many local governments may not be

experienced or equipped to handle disaster response, there should be a list of a few chosen local officials who can be contacted on an emergency basis and relied upon to take any necessary action for the protection of the public.

¹¹ In 1976, an explosion occurred at Blue Diamond Coal Co.’s Scotia Mine in Ovenfork, KY. During the rescue operations, a second explosion occurred that claimed additional lives, including those of the federal investigation team of the Mine Enforcement and Safety Administration (MESA, predecessor to MSHA). This debacle was the catalyst for enactment of the Federal Mine Safety and Health Act of 1977 (Pub. L. 91-173)

locations of a mine that could entrap miners underground or create a dangerous situation for any rescue team approaching the area. While the miracle of the Quecreek Mine rescue was a technological success story, there always loomed the potential that the rescue efforts could have cost the lives of all the trapped miners.¹²

Rupture of surface impoundments pose the threat of emptying untold volumes of contained materials into surface streams and private properties. Some method for immediate plugging of a rupture must be quickly put in motion.¹³ The remedial actions necessary to repair the ruptured impoundment are only part of the problem. Surface impoundment ruptures spawn the potential for downstream flooding and extensive property damage. Plans should be implemented to (1) evacuate any persons in danger of flooding; (2) build up the creek banks to prevent overtopping of streams; (3) advance dredge stream banks to contain the additional flow and (4) establish containment barriers to slow or stop slurry flow into larger waterways. Municipal water systems may be in jeopardy. Most such systems often have water intakes in larger streams and measures must be taken to insulate those water intakes from the contamination.

Every disaster has a potential to make matters go from bad to worse and the emergency response plan must anticipate all consequences. Nevertheless, a plan is worthless unless it can be executed to its fullest by a competent, well-selected crisis management team.

Specter of liability

Once people have been rescued, the public protected and the immediate danger has been

placed in check, the face of disaster turns to a different perspective. An investigation will follow every disaster. The search will be on to find the guilty party, irrespective of whether there exists any real guilt at all. The “Act of God” defense most likely falls on deaf ears. It is inevitable that attention will turn to civil and criminal liability. It is absolutely essential that experienced legal counsel has to be on site, early on, to advise the company in dealing with the various regulatory agencies and the aftermath.

Ironically, most serious charges arising from a disaster do not arise as a result of what actually happened. During the chaos surrounding a disaster, it is very easy for overworked, exhausted employees and management to make poorly reasoned actions, to innocently (or deliberately) taint or destroy evidence or to undertake inadvertent remarks that could prove costly. It is important to note that every regulatory agency that participated in any manner most likely has the power to issue violations and impose penalties. Possible criminal charges could be brought by the U.S. Attorney under federal law, or the state attorney general, for state law infractions.

In a disaster, any number of regulatory agencies will likely conduct interviews¹⁴ of all employees and witnesses in an effort to finalize their own investigations into the cause of the disaster and any suspicious actions that occurred during the recovery. It is quite common that additional or special investigations will be conducted as to whether there was any deliberate or intentional conduct on the part of the company and/or its management force in any action. Such investigations could examine time periods long before the disaster struck and the consequence

¹² In August 2002, a mining crew in the Quecreek Mine cut into some old abandoned mine workings causing a rapid inundation of the mine, temporarily trapping nine miners. The miners managed to locate themselves in an air pocket created in a high point of the mine that was surrounded by the rising water. The rescue plan eventually succeeded in drilling an escape bore hole into the air pocket area where the miners were located but there was a technical concern that a penetration into this air pocket could result in a siphon effect that would have immediately siphoned off the remaining air and drowned the miners. The collective experience and expertise of the mining regulators and professionals anticipated this problem, developed a scheme of pumping down the mine water to a point where the penetration could be performed safely and successfully.

¹³ In October 2000, the Big Branch slurry impoundment of Martin County Coal Corp. ruptured,

causing more than 250 million gallons of slurry to inundate an old mine and exit through two creeks along the surface. Rapid detection and astute work allowed for a combination of four bulldozers to quickly dig enough fill material to quickly plug the breakthrough area thus preventing even more inundation.

¹⁴ While these interviews may be voluntary, individuals should definitely be advised that they could become targets of the investigation and are most often entitled to have a representative attend the interview with them.

¹⁵ In accordance with SMCRA, a state may institute its own program for regulatory enforcement wherein OSM relinquishes primary jurisdiction for enforcement but retains oversight powers.

¹⁶ EPA has jurisdiction, as well, and could impose penalties of its own. The agency can also refer cases to the U.S. Justice Department for environmental crimes prosecution.

may be that charges could be brought on incidences that may have had nothing to do with the disaster. Should an agency determine there are possible criminal infractions, the case against the company and/or any number of individuals could be turned over to the U.S. Attorney's office for prosecution.

A federal investigation will not preclude a separate state investigation and the state agency could also impose violations for infractions and take action against the individuals, as well. In some states, it is the state agency that issues mine licenses to companies, certifies individuals to be mine foremen and may certify individuals as miners. The possible consequences could range from suspension of a mine license, foreman certificate or miner's certificate to the imposition of penalties and/or criminal prosecution under the respective law.

Regarding compliance with the Surface Mine and Reclamation Act of 1977 (SMCRA), there could be a state agency investigation if that state has "primacy" under the Act.¹⁵ The state environmental agency can also issue violations, impose penalties on companies and could turn over the case for criminal prosecution under state law. Where a state does not have primacy, OSM acts in the enforcement capacity. OSM could refer the case to the U.S. Attorney for prosecution of infractions of SMCRA.¹⁶

When more than one person is involved in a disaster, there is always the specter of conspiracy charges under state or federal law. Racketeering Influenced Corrupt Organizations Act (RICO) charges could be imposed, under certain circumstances.¹⁷ In summary, there is an entire array of various state and federal criminal or quasi criminal charges that could be levied for acts deemed causative of the disaster, or for acts taken in the wake of a disaster.

In addition to these types of sanctions, one must always be mindful of the real threat of civil lawsuits arising from the consequences of such a disaster. The disaster could trigger wrongful death civil suits should any fatalities result, or civil actions for personal injuries. While most state worker's compensation statutes may provide some protection for the company regarding such

civil actions, plaintiff's attorneys have increasingly attempted to go after parent companies, subsidiaries or any other corporate entities that may have been connected in some manner to the mining operation, to avoid any worker's compensation roadblocks. Damage claims from adjacent property owners is a real possibility. A company could also face damage claims from any business that may have experienced business interruptions during a far-reaching disaster. Municipalities may claim damages to their water intake systems or damages resulting from the interruption of water supply. Depending upon whether harmful or hazardous substances are discharged, there may even be some claims for personal injuries based upon exposure to such substances¹⁸.

Preventative maintenance

The goal for all mining professionals is to learn from a disaster so as to never endure it again. Nevertheless, preparedness is an essential part of "dealing" with the phantom of disaster. Many companies have taken proactive steps in making sure their operations are "ready" for adversity.

The Mine Emergency Response Drill (MERD) is an excellent tool in this regard.¹⁹

The concept of a MERD is that a hypothetical mine disaster is planned and formulated with the details kept confidential. An actual minesite is utilized, with company personnel playing the roles that they would play in an actual disaster. Each is given a partial script of developments, but no one the originator knows the full hypothetical problem. Its challenges unfold and evolve throughout the day using special effects and including local, state and federal regulators, along with attorneys and medical personnel — none of whom know the full hypothetical problem, yet must react to the evolving events of the day. Obviously, a MERD requires a huge resource commitment. An operation will necessarily be idled from actual production for the period of time that the MERD is conducted. Regulators and other noncompany participants will be taken away from their daily duties to concentrate on the drill. This is no small expense for these participating companies. The benefit, however,

¹⁷ The Racketeering Influenced Corrupt Organizations Act (RICO) was initially enacted to deal with the influence of organized crime such as the Mafia. It has since been used to impose sanctions on any group of individuals that act together as an organized unit to propitiate crimes. Consequences of RICO charges could be imprisonment and enhanced fines or penalties.

¹⁸ The possibility of natural resource damages must also be considered. Fish kills, hazards to wildlife and/or destruction to wildlife habitats and wetlands could carry significant monetary ramifications.

¹⁹ Companies such as Arch Coal, Alpha Natural Resources and Peabody Coal Co. have teamed with federal, state and local agencies to conduct MERDs at their operations in recent years.

can be priceless. It is preventative maintenance “just in case.”

Many companies have focused their preventative maintenance in efforts to prevent disasters and to better educate their workforce on mining safely. The Upper Big Branch (UBB) Mine explosion of 2010 was a tragedy. However, Alpha Natural Resources has shown that good effects can rise from agonizing situations. One year after the UBB explosion, Alpha Natural Resources acquired Massey Energy, the parent of UBB. The company worked out an agreement with the Department of Justice to invest \$80 million in various health and safety measures, which also included a state-of-the-art training facility with a full training curriculum for its miners and which would also be available to other mining companies. That was preventative maintenance as an “investment in miners, themselves.”

Conclusion

Unfortunately, survival of a company following a disaster is questionable. Those that have survived have done so by taking swift, intelligent action early on in an effort to deal with a serious situation in the best possible manner while mitigating the damages. Survival through a disaster depends upon a good emergency response plan. Once a disaster strikes, it is essential that this response plan be put in motion with good, cool-headed individuals at the helm guided by sound advice from preselected attorneys and professionals.

Mining personnel need to be well-trained and well-equipped to do their jobs. That can only happen if companies take the initiative to give them these additional tools of their trade — long before disaster strikes. ■