

BEFORE THE ALASKA OCCUPATIONAL SAFETY AND HEALTH REVIEW BOARD

STATE OF ALASKA, DEPARTMENT OF LABOR)
AND WORKFORCE DEVELOPMENT, DIVISION)
OF LABOR STANDARDS & SAFETY,)
OCCUPATIONAL SAFETY & HEALTH SECTION,)
Complainant,)
)
)
v.)
)
SOUTHEAST EARTHMOVERS, INC.,) Docket No. 10-2252
Contestant.) Inspection No. 310857644
) OAH No.10-0326-OSH

DECISION and ORDER

I. Introduction

This matter arises from several citations issued by the Alaska Department of Labor and Workforce Development, Division of Labor Standards & Safety, Occupational Safety and Health Section (Division) to Southeast Earthmovers, Inc. (Southeast) on May 24, 2010. Southeast contested the citations alleging violations of 29 CFR §1926.900(h),¹ -.905(h),² -.905(i),³ -.905(t),⁴ -.909(b),⁵ dealing with blasting, and 29 CFR §1910.1200(e)(1)⁶ and 29 CFR §1926.21(b)(2),⁷ dealing with hazardous substances and general safety precautions.

A hearing was held before the Alaska Occupational Safety and Health Review Board on October 4, 2011. The Division was represented by Assistant Attorney General Rachel Witty. Southeast was represented by its President, John McGraw. Both parties had an opportunity to present witness testimony, documentary evidence, and oral argument. The Division called as witnesses Chief Enforcement Officer Steven Standley and Assistant Chief Enforcement Officer

¹ R. 12; Citation 1, Item 1.
² R. 12; Citation 1, Item 2a.
³ R. 12; Citation 1, Item 2b.
⁴ R. 11; Citation 1, Item 3. Initially, this item was not contested. *See* R. 12.
⁵ R. 12; Citation 1, Item 4.
⁶ R. 12; Citation 2, Item 1.
⁷ R. 12; Citation 2, Item 2.

Keith Bailey.⁸ William Britton (blaster), Garrith Maclean (surveyor), Jay Paris (driller) and Jay Bradley (truck driver) testified on behalf of Southeast.

After considering the evidence and arguments of the parties, the Board concludes that Southeast is liable for violations of all the cited regulations except 29 CFR. §1926.905(t) and 29 CFR §1926.21(b)(2), and that the penalty of \$3,450 proposed by the Division is appropriate.

II. Findings of Fact

The Ketchikan Public Utilities contracted with Southeast Earthmovers, Inc. to prepare a site for a new 750,000 gallon water tank adjacent to a residential neighborhood in Ketchikan, with homes within 250 of the work site.⁹ The project involved a substantial amount of blasting to remove a hillside for emplacement of the tank. Southeast is an experienced excavation contractor with substantial experience in conducting blasting operations;¹⁰ its president and sole owner, John McGraw,¹¹ has experience as a certified explosives handler.¹²

Initially, explosives for use in the blasting operations were sold to Southeast by Austin Powder West, LLC, in Ketchikan.¹³ By March 16, Southeast had switched to a new vendor for explosives, Alaska Pacific Powder, which delivered explosives and provided on site storage on a daily basis.¹⁴

Leland Purvis was the on site project foreman for Southeast.¹⁵ Southeast contracted with Terra Dinamic as its blasting consultant. William Britton, a licensed explosives handler¹⁶ employed by Southeast, was the blaster in charge for the project.¹⁷ Mr. Britton planned the shots (a shot is coordinated blast of multiple charges) and submitted his plan to Terra Dinamic for review and approval prior to firing.¹⁸ Garrith Mclean, a licensed surveyor employed by Southeast, laid out the shots in accordance with the approved blast plan.¹⁹

⁸ Mr. Bailey investigated the incident at issue in this case. At the time of the investigation, his position was Health and Safety Compliance Officer. K. Bailey testimony [0:08].

⁹ See R. 33, 102-104, 140-141.

¹⁰ See R. 33.

¹¹ R. 154.

¹² S. Standley testimony [2:33, 2:51 (commonly referred to as powderman)].

¹³ See R. 128-131.

¹⁴ Testimony of W. Britton [3:24, 3:48]. See R. 65 (statement of L. Purvis); 88-92, 97, 145-150.

¹⁵ See R. 5, 10, 32, 65.

¹⁶ R. 153.

¹⁷ See R. 96.

¹⁸ G. Maclean testimony [4:02].

¹⁹ See R. 96.

Blasting began on January 12, 2010, initially at a rate of four or five per day through Shot 20 on January 15, and at a slower rate thereafter through Shot 42, on February 18.²⁰ Rubberized blast mats to contain blasted materials were used for all of those shots. After a three week gap, blasting resumed with Shot 43 on March 12 and Shot 44 on March 13 (Saturday). Shot 43 (ten holes) was on sloping rock, to remove the toe and leave a vertical face.²¹ Blast mats were not used on that shot.²² Shot 44 (twelve holes) was to remove rock from the face to floor elevation.²³ Again, blast mats were not used,²⁴ but the shot was decked (alternating powder and stemming) to reduce vibration.²⁵ Shot 45 was planned for March 16 (Tuesday), to remove rock from the face to floor elevation²⁶ from the area adjacent to Shot 44.²⁷

A blast “shot” consists of a number of holes, set for timed ignition in order to achieve the desired blast effect. Shot No. 45 as designed consisted of twenty-two holes.²⁸ Jay Paris, a Southeast employee, was the driller for Shot No. 45,²⁹ as he had been on the prior shots.³⁰ Shot No. 45 involved three inch diameter shot holes on a six foot by six foot grid pattern, to a depth of 40 feet into the rock face.³¹ Explosive powder was packed into the holes up to 18 feet, topped with 15-18 feet of stemming on top.³² For the front row of holes, only the bottom five feet of the hole was packed with powder, using two-inch diameter packing.³³ Holes were wired for a .25 millisecond delay horizontally, with a .42 millisecond delay vertically.³⁴ The rock face edge was less than six feet from the bore holes.³⁵ Shot No. 45 involved the use of approximately 30% more powder per cubic yard,³⁶ nearly twice the number of holes, and more than twice the total

²⁰ See Shot Reports, Shots 1-42.

²¹ See Shot Report, Shot 43, pp 1, 3.

²² *Id.* See R. 33.

²³ Shot Report, Shot 44, pp. 1, 3.

²⁴ See Shot Report, Shot 44, p. 3.

²⁵ Testimony of W. Britton [3:20, 3:41].

²⁶ See Shot Report, Shot 45, p. 3.

²⁷ Testimony of J. Paris [3:08].

²⁸ Shot Report, Shot 45, p. 1; R. 87.

²⁹ See R. 3. Mr. Britton drilled most of the shots, but not this one. See R. 96.

³⁰ Testimony of J. Paris [3:07]; Testimony of W. Britton [3:17].

³¹ See R. 33, 48, 55-56, 96.

³² See R. 96.

³³ Testimony of W. Britton [3:19, 3:23, 3:31, 3:42]. See R. 99 (written statement of D. Shockley) (stemming on outside holes was “deeper - 15 feet appx”).

³⁴ See R. 56, 96.

³⁵ See R. 34, 39, 77 (written statement of D. Shockley).

³⁶ Mr. Bailey calculated the increase from “the previous two shots” as 40%, based on a powder factor (pounds of powder per cubic yard of blasted material) for Shot No. 45 of 1.069. See R. 34, 40. According to the shot reports, the powder factor on Shot No. 43 was 0.790, Shot No. 44 was .934, and on Shot No. 45 was 1.214. The powder factor on Shot No. 45, according to the shot reports, was 40% greater than the average of the prior two shots.

amount of explosive,³⁷ than Shot No. 44, the prior shot to the immediately adjacent portion of the face.

Because he had not drilled the holes, Mr. Britton, the blasting supervisor, was unaware of the nature of the rock encountered preparatory to Shot 45.³⁸ The rock was known to be generally unpredictable, however.³⁹ Seismographic readings were taken to monitor ground vibration from the blasting. Blasting mats were not used at the top of the blast out of concern that using mats would increase ground vibration (possible causing damage to the nearby buildings, including the existing wooden water tank) to an undesirable degree.⁴⁰ It would have been difficult, if not impracticable, to use blast mats on the rock face.⁴¹ Prior to Shot No. 45, Mr. Purvis used a Hitachi 450 excavator with a 36 foot arm reach to remove debris rock from the prior shot from the bottom of the rock face to clear an area for debris from the next shot.⁴² A berm was left at the foot of the face to serve as a barrier.⁴³

On the day of the shot, as Mr. Britton and Dan Shockley were loading the bore holes, the excavator was being used to load rock, with the bucket coming to within 50 feet of the face.⁴⁴ Prior to ignition, the excavator was parked in front of and less than 100 feet from the face.⁴⁵ A

However, for purposes of comparison to Shot No. 45, Shot No. 44 is more directly comparable, as it involved a blast of the immediately adjacent rock face, while Shot No. 43 was a blast of the toe.

³⁷ Shot 45 used 1,318 pounds of explosive, as compared with 592.68 on Shot 44 and 397.68 on Shot 43. Shot Reports.

³⁸ See R. 96.

³⁹ Testimony of W. Britton [3:33] (“all kind of cheesy rock”). Mr. Paris had left the job site and was no longer employed by Southeast, before the shot was loaded. There is hearsay evidence that after he drilled Shot No. 45, Mr. Paris had told Southeast that there was a rock seam in the face, and there might be a blowout. R. 3. At hearing Mr. Paris denied telling anyone that there was a seam. He testified that he had said that the rock was unpredictable. Testimony of J. Paris [2:58-3:00].

⁴⁰ R. 96-97 (written statement of W. Britton); Testimony of W. Britton [3:31]. The record includes a copy of what purports to be blasting specifications issued by the City of Ketchikan. R. 54. Those specifications require a contractor to “cover area to be blasted with blasting mats or provide other means that will contain and prevent scattering of blast debris.”

⁴¹ Testimony of W. Britton [3:33-34] (asserting that only upper six feet of face can be matted because mats cannot be stacked; placement limited by reach of backhoe arm).

⁴² See R. 39, 65 (written statement of L. Purvis), 77 (written statement of D. Shockley). Mr. Britton testified that rock from Shot No. 44, was removed the day before (March 15), and that on the day of the shot the backhoe was delivering gravel to be used for stemming. Testimony of W. Britton [3:38]. The make, model, and reach of the excavator was determined by Mr. Bailey during the course of his investigation. R. 70.

⁴³ Testimony of W. Britton [3:20, 3:36, 3:38-39] (debris from prior shot removed previous day; used backhoe on the day of Shot No. 45 to bring gravel for stemming)].

⁴⁴ See R. 39, 65 (written statement of L. Purvis), 77 (written statement of D. Shockley (“excavator was against the face of the shot”), 79. Testimony of W. Britton [3:42] (“we were loading rock at the time so he was 50 feet away so he could swing [the bucket]”).

⁴⁵ The video recording shows that the backhoe was parked off the street, at the edge of the work site. This is contrary to the testimony of both Mr. Britton and Mr. Bradley, who stated the backhoe was in the intersection, 100-150 feet away (Mr. Britton) or 250 feet away (Mr. Bradley) from the rock face. Testimony of W. Britton [3:39]; Testimony of J. Bradley [3:16]. The distance between the rock face and the street was not measured by Mr. Bailey.

blast whistle was used to alert employees and others of the impending blast.⁴⁶ The blast was ignited at 1:26 p.m. The rock failed to disintegrate as planned, due to a hidden seam in the rock. Fly rock (excavated debris) shot out horizontally, striking a number of homes and vehicles in the area, breaking windows, damaging siding, and in at least one case penetrating into a residence.⁴⁷ Jay Bradley, a Southeast employee, filmed the blast with a hand-held camera from a position by a dumpster with a direct line of sight view of the blast.⁴⁸ He was peppered with sand from the explosion.⁴⁹

As the blaster in charge, Mr. Britton was responsible for maintaining an accurate record of explosives, blasting agents and blasting supplies used in each blast.⁵⁰ The usual practice was for Mr. Mclain to prepare a preliminary shot report incident, which Mr. Britton reviewed and signed after making any necessary corrections.⁵¹ For shot No. 45, unsigned shot reports were provided to Terra Dinamic and Ketchikan Public Utilities.⁵² Mr. Britton signed only the report retained by Southeast.⁵³ All three reports show a different total amount of explosives, as well differences in the number of initiators and the brand of explosive used.⁵⁴

At the time of Shot No. 45, Southeast had a written program for hazard identification and communication.⁵⁵ It had not, however, posted a copy of the program at the worksite or taken other steps to inform employees of the contents of that program.⁵⁶ On the morning of March 16, Southeast conducted a safety meeting that addressed traffic control and “shot procedures.”⁵⁷

Considering normal street widths and the alleged 40’ height of the rock face (as testified to by Mr. Britton), it is clear from a review of the video recording that the backhoe was less than 100 feet from the rock face, and may have been less than 50 feet. *See* Testimony of W. Britton [3:33]; Appendix A.

⁴⁶ Testimony of J. Bradley [3:11]; Testimony of W. Britton [3:21]. The blast whistle is clearly audible on the video recording of the blast.

⁴⁷ *See* R. 176-179.

⁴⁸ Video Recording; Testimony of J. Bradley [3:10-3:12, 3:13 (when debris flew out, “I sat the camera down.”); R. 79. Mr. Bradley testified that he was “behind the dumpster the entire time. [3:14] The dumpster is visible in one of the photographs in the record. R. 140. Based on the angle at which the video recording was taken, either the dumpster was moved or Mr. Bradley was not behind it while taking the video recording.

⁴⁹ Mr. Bailey characterized Mr. Bradley’s description as being “hit with small debris (sand).” R. 79. At the hearing, Mr. Bradley described being enveloped with dust, and said sand hit the dumpster. Testimony of J. Bradley [3:12].

⁵⁰ *See* 29 C.F.R. §1926.905(t).

⁵¹ Testimony of W. Britton [3:25]; Testimony of G. Maclean.

⁵² *See* R. 81; 83-84, 86 (“contractor”), 132 (“blasting consultant”), 133-135 (“Ketchikan”)

⁵³ Shot Reports. *See* R. 83-84, 86, 132, 133-135.

⁵⁴ Shot Reports, Shot No. 45. *See* R. 83-84, 86, 132, 133-135, 171.

⁵⁵ *See* R. 78 (L. Purvis written statement) (“Have not seen a haz com program on site. Do have MSDS [Material Safety Data Sheets] on products. Have seen these program on the other projects with company.”).

⁵⁶ *See* R. 99 (written statement of D. Shockley) (two year employee; “do not know what a haz com program is”).

⁵⁷ R. 97 (written statement of W. Britton) (“We have a safety meetings with issues on traffic control & shot procedures on the day of the shot.”). Mr. Bradley confirmed that a safety meeting was conducted prior to Shot 45,

III. Discussion

An employer in Alaska must do everything necessary to protect the safety of employees,⁵⁸ including complying with all occupational safety and health standards and regulations adopted by the Division.⁵⁹ The complaint in this case rests on a citation issued by the Division following an investigation of the blasting incident described above. The citation alleges violations of safety regulations adopted by the division that govern the conduct of the blast in four respects: (1) control of fly rock,⁶⁰ (2) operation of equipment while loading explosives;⁶¹ (3) blast records,⁶² and (4) location of employees and equipment at time of blast.⁶³ In addition, the citation alleges violations of safety regulations adopted by the Division that govern employer safety programs generally.⁶⁴

The Division has the burden of proof in contested cases.⁶⁵ To show a violation of an applicable regulation, the Division was obliged to prove by a preponderance of the evidence the existence of facts establishing the violation.

A. Control Of Fly Rock

29 C.F.R. §1926.900(h) provides:

(h) When blasting is done in congested areas or in proximity to a structure...the blaster shall take special precautions in the loading, delaying, initiation, and confinement of each blast with mats or other methods so as to control the throw of fragments....

The Division's contention is that the blaster failed to take adequate precautions to "control the throw of fragments" in five respects: (1) no mats were used; (2) the powder factor was too high,⁶⁶ (3) the front line of holes was too close to the face,⁶⁷ (4) an insufficient berm was left,⁶⁸ and (5) ignition delay was not used.⁶⁹

but mentioned only traffic control as having been covered. *See also* R. 112 (written statement of L. Purvis) ("safety meetings, done on occasions, if any issues come up or new hires, especially truck drivers").

⁵⁸ AS 18.60.075(a).

⁵⁹ AS 18.60.075(a)(1).

⁶⁰ Citation 1, Item 1; 29 C.F.R. §1926.900(h).

⁶¹ Citation 1, Items 2a and 2b; 29 C.F.R. §1926.905(h), (i).

⁶² Citation 1, Item 3; 29 C.F.R. §1926.905(t).

⁶³ Citation 1, Item 4; 29 C.F.R. §1926.909(b).

⁶⁴ Citation 2, Items 1 and 2; 29 C.F.R. §§1926.21(b)(2), 1926.59, §1910.1200(e)(1).

⁶⁵ 8 AAC 61.205(i).

⁶⁶ *See* R. 40 ("The previous two shots were conducted without the use of mats, after formulation the powder factor was approximately 40% greater on this shot which resulted in damages and employee near miss.").

⁶⁷ *See* R. 34 ("[T]he powder column rose above the previous covered area"; "height of powder column exceeding the floor and restrictions of materials removed from the previous shot was instrumental in the cause of a mid column blow out which produced the damaging fly rock.").

⁶⁸ *Id.*

It is undisputed that Southeast did not confine this blast with mats. Mr. Britton explained that mats were not used in part in order to reduce vibrations, and in part because installing mats on a rock face is problematic. These explanations are not persuasive. Mr. Britton admitted that mats can be used on a rock face, and while it might be impracticable to stack mats for a full forty-foot face, the drilled holes contained explosives to only half of their depth. And even if mats could not have been used, other measures could have been taken to reduce the risk of fly rock. By way of comparison, for example, the powder factor on Shot No. 45 was 30% greater than on the prior shot on the immediately adjacent face, with more than twice the amount of powder used. Mr. Britton himself recognized that a higher berm would have reduced the risk of fly rock, and yet the decision was made to remove the prior blast material rather than to leave a higher berm. Finally, Mr. Britton himself recognized that more could have been done, and he testified that he is now “a little more cautious” than he had been on this particular shot.⁷⁰

Southeast argued that the fly rock occurred in this case because of an undiscovered seam in the rock,⁷¹ not because of the absence of mats or the any other specific preventative measures, and that it reduced the risk of fly rock by having a berm (which turned out to be too low), using delayed ignition, lowering the charge in the front holes and reducing the diameter of the explosive tubes.⁷² With respect to Southeast’s first point, it may be true that Southeast could not have discovered the seam in advance. But there is no evidence that Mr. Britton conferred with Mr. Paris, the driller, about the condition of the rock before planning the shot.⁷³ In any event, the regulation does not excuse operators who encounter unexpectedly weak rock conditions. The requirement is to take special precautions whenever blasting is done in a congested area, or with nearby structures, not only when the operator knows, or should have known, that the rock is unstable. The issue is not whether Southeast could have predicted that the rock face would give

⁶⁹ See R. 38 (“The employer failed to ensure precautionary measures were taken to prevent throw of fragments by means of delays, confinement and mats.”). See also R. 33.

⁷⁰ Testimony of W. Britton [3:37].

⁷¹ R. 49. Mr. Bailey’s investigative summary suggests that the shot layout contributed to the blowout: “The existing face and boreholes show a significant sign of back break, which is caused by restrictions from the outside row as a result of failure to utilize surface delays in a controlled manner.” R. 33. The clear preponderance of the evidence is that delays were used.

⁷² See Answer, Citation 1, Item I (“We did use delays and some confinement.”).

⁷³ There is evidence that Mr. Paris had detected soft rock when he drilled the holes. Mr. Paris, however, denied that he had found a seam. Mr. Britton testified that the drill logs maintained by Southeast merely noted the number and size of holes, and did not provide information on the rock quality.

way, but rather whether it took adequate precautions to control any fly rock that might have occurred.⁷⁴

With respect to that issue, while we recognize that Southeast did take some steps to reduce the risk of fly rock, including a berm (which turned out to be too low for the mid-blast extrusion) and delayed ignition,⁷⁵ we conclude that Southeast did not take adequate special precautions. We note, in this regard, that Shot No. 45 was the largest blast of the entire blasting operation, both in terms of the powder factor and the total amount of explosives. Moreover, this particular shot was on a vertical face, such that any fly rock from the front holes would be likely to fly horizontally, towards the nearby residential area.⁷⁶ Mr. Britton stated that he did not use mats, and he did not to build up a higher berm, in order to avoid ground vibration that might have been damaging to nearby buildings, given the force of the blast. But reducing the size of the blast would have reduced vibration and made it possible to use mats or a higher berm without creating undue ground vibration. In addition, given the size of the blast, other measures, such as decking, could have been employed. Mr. Britton himself agreed that more could have been done, and that he is now “a little more cautious.”⁷⁷

The only special precautions taken were to construct a low berm, use delayed ignition with the intent of controlling the blast, load the front holes lighter, and reduce the diameter of the explosive tubes to two inches. These measures, in light of the overall size of the blast and the absence of any known investigation of the rock condition, were not sufficient to meet the requirement of the regulation.

B. Operation of Equipment

29 C.F.R. §1926.905 states:

- (h) Machines and all tools not used for loading explosives into bore holes shall be removed from the immediate location of holes before explosives are delivered. Equipment shall not be operated within 50 feet of loaded holes.
- (i) No activity of any nature other than that which is required for loading holes with explosives shall be permitted in a blast area.

⁷⁴ For this reason, it is unnecessary to determine whether, as Southeast contends, the blowout was the result of a hidden seam, or, as Mr. Bailey suggested, of deficiencies in the layout of the shot.

⁷⁵ Notwithstanding Mr. Bailey’s suggestion, the clear preponderance of the evidence is that delays were utilized. In addition to Mr. Britton’s signed shot report, he testified that delays were used.

⁷⁶ See R. 53.

⁷⁷ Testimony of W. Britton [3:37].

The Division's contention is that Southeast was in violation of these provisions, because while loading was ongoing, Mr. Purvis was operating an excavator within fifty feet of the rock face, to remove rock at the base of the face.⁷⁸

Southeast denied this, asserting that on the day of Shot No. 45, it did not use the excavator to remove rock from the prior shot from the base of the face while the holes were being loaded, and that Mr. Purvis did not operate the excavator within fifty feet of the face while the holes were being loaded.⁷⁹

The evidence on this point consists of written statements from Mr. Shockley and Mr. Purvis, and testimony from Mr. Britton. Mr. Shockley's written statement was that the "excavator was against the face of the shot."⁸⁰ Mr. Purvis's written statement was this:

I was digging out previous shot while the shot was being loaded. Working on face underneath load out was in 20 feet with bucket, while shot was being loaded.^[81]

Mr. Britton testified that the excavator was more than fifty feet away, "so he [Mr. Purvis] could swing [the bucket]."⁸² In addition, Mr. Britton testified that the rock had been cleared away from the face for relief on the previous day, and that on the day of the shot the excavator was being used to deliver gravel for use in stemming.⁸³

Everyone agrees that the excavator was in use in the vicinity of the face while the holes were being loaded. There is a discrepancy as to what was being done. Mr. Purvis's statement is that he was "digging out the previous shot", which sounds more as if he was clearing rock from the base of the face than as if he was picking up previously-cleared rock and loading it to be hauled away. Mr. Britton, however, testified that the excavator was being used to bring in gravel for stemming. Mr. Shockley's statement, which describes the excavator as being "against the face," fits with either digging out the prior shot, or aiding in stemming. Since Mr. Purvis is the person who was actually operating the equipment, his description of what was occurring is the most persuasive of the three. It may be that the excavator was used to deliver gravel for

⁷⁸ See R. 60 ("Excavation operations were ongoing to remove debris rock from face of shot during the loading of explosives."); R. 69 ("Excavation operations to remove materials for relief were being performed at the time explosives were being loaded into the bore holes.").

⁷⁹ Southeast's answer to the citation focused on the relief digging. It disputed the Division's initial contention that the excavator was being used to remove rock for relief, asserting that work had been done the previous day. Answer, Citation 1, Item 2b. See also Answer, Citation 1, Item 2a ("Equipment was more than 50 ft. from the [word missing]. Loaded holes other than when we were setting blasting mats. There is no other way to set them.").

⁸⁰ R. 77.

⁸¹ R. 98.

⁸² Testimony of W. Britton [3:42].

⁸³ Testimony of W. Britton [3:38-3:39].

stemming, but whether or not that is so, the preponderance of the evidence is that it was being used to clear rock as well.⁸⁴

Turning from the purpose for which the excavator was being used to its distance from the loading operation, the evidence as a whole indicates that although the excavator's treads may have been more than fifty feet from the rock face, the bucket was picking up rock within fifty feet of the face. Mr. Shockley's statement clearly indicates that the excavator was within fifty feet, and nothing in Mr. Britton's testimony suggests otherwise. Mr. Purvis's statement suggests that the excavator's treads were more than fifty feet from the rock face, but does not suggest that the bucket was also that far away. Whether the excavator was being used to clear away rock for relief, as the Division initially asserted, or, as Mr. Purvis's statement suggests and as Mr. McGraw asserted at the hearing, to load rock for removal, the preponderance of the evidence is that the bucket came within fifty feet of the rock face when used for clearing rock. The regulation prohibits operation of equipment within fifty feet, and this does not mean that it is permissible to reach within fifty feet with an excavator bucket, if only the cab is outside that distance limit. Thus, the preponderance of the evidence is that Southeast operated the excavator in violation of subsection (h).

Even if subsection (h) is disregarded, the evidence supports the conclusion that Southeast was in violation of subsection (i). That regulation prohibits any work "activity" in the "blast area" while loading operations are proceeding. Since subsection (h) specifically prohibits the operation of equipment within 50 feet of loaded holes, the intent of subsection (i) appears to be to limit any work activity, even if it does not entail operating equipment, in a larger area, beyond the fifty foot limit where operating equipment is prohibited. In this particular case, it is clear that even if the equipment was not being operated within fifty feet of loaded holes, there was a significant work activity (loading rock) occurring within the "blast area."

⁸⁴ Because the excavator was being used to clear rock, it is not necessary to determine whether using it to deliver gravel for stemming would have been in violation of subsection (h). See R. 74 (Letter of Interpretation, June 22, 1999) ("You ask if the standard allows you to use a payloader for stemming operations"; "The only exempted equipment is that which is used to load explosives into boreholes."); R. 76 (Occupational Safety and Health Administration Memorandum, August 26, 1981) (subsection (h) "does not include equipment such as a backhoe used in the placement of blasting mats."). See also, Letter of Interpretation, April 1, 1982 ("The first two parts of paragraph (h) address first any...equipment not required for that part of the work related to loading the holes or blast preparation, such as fly rock prevention."). Southeast's answer asserted that the firm could use equipment to place blast mats after holes have been loaded, and that "[t]here is no other way to set them." See Answer, Citation 1, Item 2a. To the extent that subsection (h) does not prohibit the use of equipment to place blast mats, that exemption presumably applies only if the mats are being placed over loaded holes. In this case, the mats, if placed, would have been hung over the face, not on top of the holes, and thus they presumably could have been placed before holes were loaded. In any event, no mats were used, so there is no need to address this issue.

C. Blast Records

29 C.F.R. §1926.905(t) provides:

The blaster shall keep an accurate, up-to-date record of explosives, blasting agents, and blasting supplies used in a blast and shall keep an accurate running inventory of all explosives and blasting agents stored on the operation.

The Division obtained three different shot reports, one from Southeast, one from the blasting consultant, and one from Ketchikan Public Utilities. There were substantial and significant discrepancies in these reports. The Division contends that because of these discrepancies, Southeast is liable for violation of the regulation.⁸⁵

At the hearing, Southeast asserted that the records it maintained that were signed by the blaster were accurate, and that the discrepancies between its records and the shot reports the Division obtained from other sources are immaterial.⁸⁶

The Division did not establish that the shot reports maintained and signed by Mr. Britton were inaccurate in any respect. In particular, the shot report for Shot No. 45 is consistent with the delivery reports of the explosives vendor. On the other hand, it is apparent that Mr. Britton's shot report contains material discrepancies from the other two shot reports, which the Division obtained from the blasting consultant and Ketchikan Public Utilities. Given the absence of any inaccuracies in the signed blast report, and the patent discrepancies between that report and the other reports obtained by the Division, whether Southeast is in violation of the regulation depends on whether it is liable for discrepancies appearing on the latter two shot reports.

The regulation at issue is squarely directed at the blaster. It requires that the blaster "keep" accurate records. Mr. Britton, through Southeast, kept an accurate record of the explosives used, as is reflected on the signed shot report. The shot reports provided by the blasting consultant and Ketchikan Public Utilities were not signed by Mr. Britton and they were not kept by him. The Division did not establish the manner in which either the blasting consultant or Ketchikan Public Utilities obtained them. Mr. Maclean and Mr. Britton testified that Mr. Maclean prepared preliminary shot reports for review by Mr. Britton, who made changes as appropriate and signed a final shot report. Absent any evidence of a discrepancy between the signed reports and the delivery sheets, to assert that the signed report for Shot No. 45 is inaccurate is to assert that Mr. Britton simply doctored it to reflect what he knew from the

⁸⁵ See R. 80.

⁸⁶ See also Answer, Citation 1, Item 3 ("We do have accurate records at the end of each day of blasting. The blaster and the powder delivery company go over what was used at the end of each day. The information is than [*sic*] given to the surveyor and he then enters all of the information into our blasting program.").

delivery sheets. The evidence does not support such an assertion. We conclude that the Division has not shown a violation of this regulation.⁸⁷

D. Location of Employees and Equipment

29 C.F.R. §1926.909(b) provides:

(b) Before a blast is fired, a loud warning signal shall be given by the blaster in charge, who has made certain that all surplus explosives are in a safe place and all employees, vehicles, and equipment are at a safe distance, or under sufficient cover.

The Division asserted that Southeast violated this regulation, in that the excavator and one employee, Mr. Bradley, the videographer, were not at a safe distance or under sufficient cover.⁸⁸ Southeast asserted that its employees were at a safe distance or under cover.⁸⁹

With respect to the excavator, the evidence establishes that it was parked directly in front of and in close proximity to the blast area, well within 100 feet of the blast. The regulation requires that equipment be kept at a “safe distance”. A safe distance, for equipment, would be a distance at which the equipment may reasonably be expected not to incur physical damage if the blast proceeds as planned. In this particular case, in our view, the excavator was not parked at a safe distance from the blast area. Damage to equipment from dust or particulate matter may not be readily apparent, and to park the excavator so close to the blast area that even a normal blast could reasonably be expected to result in it being pelted with dust and small fragments was contrary to the intent of the regulation.

With respect to Mr. Bradley, the evidence indicates that he was that he was at least 150 feet from the rock face, and more likely about 250 feet away.⁹⁰ Mr. Bradley was, at the least, adjacent to a dumpster, which afforded a substantial degree of shelter in the event of a mishap, as

⁸⁷ We note that our determination is limited to compliance with 29 C.F.R. §1926.905(t). We express no opinion as to whether Southeast, or Mr. Britton, may have violated some other regulation, or any requirements as to record-keeping imposed by Ketchikan Public Utilities.

⁸⁸ R. 23 (Citation 1, Item 4) (“Excavator equipment was in proximity of blast area, was hit with fly rock. Employee was in proximity of blast area, was hit with light fragments.”). The Division did not assert that Southeast had failed to sound a whistle. *See*, Division’s Supplemental Responses to First Discovery Requests, No. 5.

⁸⁹ Answer, Citation 1, Item 4 (“Prior to blasting the blaster in charge would make sure that the area was clear of all persons.”).

⁹⁰ *See* R. 52 (seismograph at “Garage at Verney house” was 147 feet from the blast; “House” was 246 feet away). Based on a review of the various photographs, it seems likely that Mr. Bradley was at the referenced “house” rather than the “garage”. The distance included the width of the cut, the diagonal width of the intersection, an adjacent building, and a building-wide driveway. *See also* R. 33 (Mr. Bailey notes that “[s]tructures are within 250 feet of the blast area.”). The record does contain any evidence that Mr. Bailey measured any of the relevant distances.

occurred in this instance. Based on the evidence in the record, we are unable to conclude that Mr. Bradley was not at a safe distance, or under sufficient cover.

E. Safety Program

29 C.F.R. §1926.21(b)(2) provides that an employer must instruct its employees “in the recognition and avoidance of unsafe conditions and the [safety] regulations applicable to his work environment.” In addition to this general obligation, 29 C.F.R. §1910, Subpart Z, establishes safety standards governing toxic and hazardous substances to which employees may be exposed in the workplace. A key component of Subpart Z is the requirement for a written hazard communication program under 29 C.F.R. §1910.1200. The purpose of the program, as described in 29 §1910.1200(a)(1), is:

To ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communications programs, which are to include container labeling and other forms of warning, material safety data sheets [MDMS] and employee training.

Specifically, 29 C.F.R. §1910.1200(e)(1) provides:

(e)(1) Employers shall develop, implement, and maintain at each workplace, a written hazard communication program which at least describes how the criteria specified in paragraphs (f), (g), and (h) of this section... will be met.⁹¹

The Division asserts that Southeast violated the general requirement to instruct employees regarding workplace safety and applicable regulations,⁹² and that it violated the specific requirement for a written hazard communications program because it did not have on site a written program addressing the handling of explosives.⁹³

At the hearing, Southeast asserted that it met the general requirement because it conducts regular safety meetings.⁹⁴

The Division’s argument with respect to the general safety requirement was essentially that because violations had occurred, Southeast’s safety program must have been deficient. The evidence was undisputed that Southeast conducted weekly safety meetings, however, and the

⁹¹ This standard governs the construction industry. *See* 29 C.F.R. §1926.59.

⁹² *See* R. 93 (“failure to ensure employees are instructed in recognition and avoidance of unsafe conditions and the regulations applicable to the work environment”; “employees [were not] instructed of hazards applicable to their work duties such as the provisions of standards at the time of loading of explosives”).

⁹³ Citation 2, Item 1 (“failure to ensure a written Hazardous Program exists at each work site”).

⁹⁴ Southeast’s Answer did not assert a defense to Citation 2. In response to discovery requests submitted by the Division, Southeast claimed to have a written “safety plan” at its office.

Division did not point to any specific deficiencies in Southeast's safety program other than that it did not have a written hazard communications program.

With respect to that specific allegation, the Division's argument presumes that explosives subject to the requirements of 29 C.F.R. §1910.109⁹⁵ are also subject to the hazardous materials requirements of 29 C.F.R. §1910.1200.⁹⁶ Southeast did not argue to the contrary, and its employees testified that they were unaware of the existence of any such plan. Absent any dispute as to the applicability of 29 C.F.R. §1910.1200, in light of the testimony and the absence of any affirmative evidence that Southeast had a written hazards communication program posted on site, the preponderance of the evidence is that Southeast is liable for violation of 29 C.F.R. §1910.1200.⁹⁷

F. Penalty

The Division assessed a penalty of \$3,450 for the violations of 29 C.F.R. §1926.900(h) (\$2,100), 29 C.F.R. §1926.905(h) (\$450), 29 C.F.R. §1926.905(i) (\$450), and 29 C.F.R. §1926.909(b) (\$450). The Division established violations of all four of those regulations, and Southeast did not assert that, if the violations were proved, the penalty should be lowered.

IV. **Conclusions of Law**

Southeast violated 29 C.F.R. §1926.900(h) because it did not take sufficient special precautions to limit fly rock. It violated 29 C.F.R. §1926.905(h) and (i) because its employers operated equipment within fifty feet of holes and engaged in work activities in the blast area while holes were being loaded. It violated 29 C.F.R. §1926.909(b) because equipment was left in proximity to the blast area. It violated 29 C.F.R. §1910.1200(e)(1) because it did not post a written hazards communication program at the work site. The Division did not establish that Southeast violated 29 C.F.R. §1926.905(t) or 29 C.F.R. §1926.21(b)(2). Southeast is subject to imposition of a penalty pursuant to AS 18.60.095.

V. **Order**

1. Citation 1, Items 1 and 4, and Citation 2, Items 2a and 2b, and Citation 2, Item 1 are **AFFIRMED**.

⁹⁵ See 29 C.F.R. §1910.109(a)(3) (defining "explosive" as materials "the primary or common purpose of which is to function by explosion.").

⁹⁶ 29 C.F.R. §1910.1200(c) (defining "explosive" as "a chemical that causes a sudden, almost instantaneous, release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature.").

⁹⁷ Explosives "the primary or common purpose of which is to function by explosion" are governed by the extensive requirements set forth in 29 C.F.R. §1910.109. See 29 C.F.R. §1910.109(a)(3). We express no opinion as to whether those requirements supersede the requirements of 29 C.F.R. §1926.1200 with respect to those materials.

3. Citation 1, Item 3, and Citation 2, Item 2 are **VACATED**.
3. A penalty of \$3,450 is **ASSESSED**.

DATED: November 6, 2012

By: ALASKA OCCUPATIONAL SAFETY AND HEALTH REVIEW BOARD

Signed

Timothy O. Sharp, Chairperson

Signed

Tomas A. Trosvig, Member

Signed

James Montgomery, Member

RIGHT TO APPEAL
[AS 18.60.097]

A person affected by an order of the Occupational Safety and Health Review Board may obtain judicial review of the order by filing a notice of appeal in the Superior Court as provided in the Alaska Rules of Appellate Procedure. The **notice of appeal must be filed in the Superior Court within 30 days** from the date that the decision appealed from is mailed or otherwise distributed to the appellant. **If a notice of appeal is not timely filed, the order becomes final and is not subject to review by any court.**

[This document has been modified to conform to the technical standards for publication.]