UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

SECRETARY OF LABOR, Complainant, v. HART METALS, INC., Respondent.	: : : : : : : :	DOCKET No. 01-1038

APPEARANCES:

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For the Complainant

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For the Respondent

BEFORE: G. MARVIN BOBER
Administrative Law Judge

DECISION AND ORDER

Procedural History and Jurisdiction

This proceeding is before the Occupational Safety and Health Review Commission ("the Commission") pursuant to section 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 *et seq.* ("the Act"). At all times relevant to this proceeding, Respondent Hart Metals, Inc. ("Hart") operated a plant which processed magnesium ingots and powders and other commercial products in Tamaqua, Pennsylvania. At the time of the OSHA inspection, Hart employed 40 workers at this plant. Hart admits in its Answer that it uses tools, equipment and materials which originate from locations outside the state of Pennsylvania. I therefore find that Hart is an employer engaged in a business affecting interstate commerce and that the Commission has jurisdiction over the subject matter and the parties within the meaning of section 3(5) of the Act.

This case arose as a result of an explosion which occurred in the maintenance shop of Hart's Tamaqua facility on January 20, 2000. Following the inspection, OSHA issued to Hart a nine-item serious citation and 14 item willful citation. The case was assigned Dockett No. 00-1177. Prior to the trial, all but two items were resolved through a written settlement agreement dated February 21, 200.1 The remaining contested items are Citation 1, Item 5a, which alleges a serious violation of 29 C.F.R.§ 1910.178(c)(2)(vi)(a), and Citation 1, Item 9, which alleges a serious violation of 29 C.F.R.§ 1910.307(b). These items were severed from the settled citation items, and were assigned the current dockett number. The administrative trial in this matter was conducted on May 21 and 22, 2001. Both parties have submitted post-hearing briefs.

Background

The remaining citation items relate to alleged hazardous conditions in two areas at the Hart facility.[1] A "chipper" in each area uses rotating drums and blades to break magnesium ingots into smaller chips. The chipper in the "C" area ("chipper C") also uses hammer mills. The chippers can produce several different sizes of particulate, depending on the size of the product required. According to Rick Miller, Hart's assistant plant manager, the smallest size of magnesium particulate produced is "70 mesh," which is approximately 200 microns. (Tr. 37-38, 55, 166-168).

The "A" area is on the fourth floor of a masonry structure at the facility, and is completely enclosed. The chipper located there ("chipper A") is attached to a containing system which conveys the magnesium product from the chipper, through a pneumatic tube, across the floor and out the window. The "C" area is a covered "lean to" that is open to the elements on three sides. The magnesium products produced by chipper C are conveyed to a "super sack," (a 55 gallon drum) through a tube. The super sacks seal around the tube, and the tubing is clamped onto the drum. (Tr. 23, 49-50, 55, 108, 138, 142 166-168).

Hart instituted and enforced certain safety procedures in the "C" area. The particulate from the hammer mills is kept at 26 ounces per square foot in order to keep it under the explosive range of magnesium. Once the super sacks are filled, the screening operation is shut down, and the area is checked for any spills or leaks. The area is then cleaned of any material that was inadvertently

[1] Neither area was in any way involved in the explosion which generated the inspection.

dropped on the ground. After a designated period of time, which is determined by the size of particulate being produced, the chipper screening operator then uses a forklift to remove the filled drums from the chipping area. The forklift is not permitted to enter the area to either furnish fresh ingots or to remove loaded drums until after these safety measures have been observed. Further, the evidence demonstrates that Hart kept supervisors present in the "C" area "around the clock" to ensure compliance with these rules. (Tr. 23, 138, 142-147, 163, 167-170, 174, Exh. R-3).

The OSHA Inspection

OSHA Assistant Area Director ("AAD") Donald Newell, who conducted the OSHA inspection, testified that he observed metallic powder in the equipment and in the loading area next to a storage drum in the "C" area. (Tr. 65, 95). He also testified that the "A" area contained ordinary electrical equipment, such as incandescent lights with exposed bulbs, wall receptacles and snap switches. AAD Newell opined that these were dangerous because dust could accumulate in the sockets, snap switch boxes or wall receptacles. He also said that the dust particles in the "A" and "C" areas were roughly the same size. (Tr. 100-102, 105-106).

AAD Newell did not conduct any air sampling studies to determine how much ambient magnesium dust was present and did not take any wipe samples in either area. During his five day inspection, he did not observe any conditions which caused magnesium dust to be airborne in either area. (Tr. 105-108).

The Expert Testimony

John Cholin

John Cholin, a fire protection engineer associated with J.M. Cholin Consultants, testified on behalf of the Secretary. He inspected the premises and examined the magnesium particulate produced in both areas. He observed an ordinary propane-powered, non-Ex-rated forklift outside the "C" area.[2] He also observed ordinary, non-airtight electrical receptacles and ordinary, unsafe electric lights in the "A" area. (Tr. 40-43, 51-52).

Cholin stated that the samples of particulate produced in both areas fell below the national consensus standard. At least ten to fifteen percent of the particulate he examined was consistent with

[2] The "EX" designation is defined at 29 C.F.R. §1910.178(b)(7).

the National Fire Protection Act ("NFPA") designation of 200 mesh, or 74 micron size, and would be classified under that Act as ignitible dust. (Tr. 39-40, 48-49, 55, 60-61, 65-68). Cholin also stated that the NFPA identifies a concentration of 30 grams per cubic meter as the minimum ignitable concentration for 200 micron magnesium particulate. To the naked eye, a concentration of this amount would appear to be an opaque light cloud, and Cholin did not see anything approximating this condition while at the Hart plant. (Tr. 60-61)

Cholin further testified both areas would be classified as Class 2, Division 1, Group E under designations established by the National Electric Code ("NEC") because magnesium particulate was present and the areas had potential for dust dispersion. (Tr. 40-41, 49-51). He explained that magnesium is particularly hazardous because it releases more energy per unit of mass than other types of small particulate, and that it introduces an electrical ignition mechanism not present in cellulose dusts. (Tr. 41-42).

Cholin opined that it was possible for a chipper or fan to throw a blade in the "C" area, and cause the release of combustible dust into the atmosphere. He also testified that the forklift operator could drop a super sack or accidentally drive the truck into a support column, which could also result in the release of Magnesium dust into the atmosphere. Cholin further opined that with time, dust particles will accumulate in the electrical receptacles in the A area, and will cause arcing, resulting in an explosive fire. (Tr. 44, 52).

Jeffrey Olcott

Jeffrey Olcott, a certified industrial hygienist, testified on behalf of Hart. (Tr. 178-180).[3] Olcott visited the Hart plant on January 22, 2001, and performed a time-weighted air sample study to determine the concentration of airborne particulate in both "A" and "C" areas. (Tr. 193-197). He used five air monitoring pumps, two for each chipper and one for a background study. He operated the pumps over an eight-hour period, submitted the results to a laboratory for analysis, and incorporated the results in his report. These results indicated that the filters nearest chippers A and

[3] Olcott is employed by an occupational environmental health and safety company and has a Masters degree in occupational safety and health as well as extensive experience in the analysis of explosive dust particles. The Secretary's argument, that Olcott was unqualified to render an opinion relating to fire hazard recognition, is accordingly rejected. See *Daubert v Merrell Dow Pharmaceutical, Inc.* 509 U.S. 579 (1993).

C reported, respectively, a production of .03 and .193 milligrams of magnesium particulate per cubic meter. According to Olcott, both amounts were well below the concentration required to produce an explosion. Olcott stated that the magnesium particles were too large to remain airborne and he opined that a build up of magnesium particulate that could cause an explosive concentration was not possible. He pointed out that the most magnesium particulate chipper C can produce at any one time is 15 pounds and that, even if all 15 pounds were released instantaneously, an explosive atmosphere would still not result because of the low level of concentration and the size of the particulate. (Tr. 178-180, 193-197, 205-210).

George Boyd

George Boyd, a private consultant and a safety director for a construction company, also testified on Hart's behalf.[4] Boyd stated that Olcott's data suggested that the amount of airborne magnesium particulate in the "A" area was practically undetectable and much lower than the concentration necessary to create an explosive atmosphere. Boyd further stated that Olcott's study indicated that there were no airborne particles in the "C" area during the eight-hour sampling period. (Tr. 278-307, 313-315).

Boyd also visited areas "A" and "C" at the facility. With respect to area "A," Boyd testified that he did not detect ambient magnesium dust at the plant or inside the control panels to the electrical equipment. With respect to Area "C," Boyd testified that when the chipper is running and the hammer mill and screen are in operation, the area should be classified as explosive. When the chipper is not in operation, however, there is no potential for an explosive atmosphere because Hart uses and enforces safety procedures which prevent the potential for the release of dust in the atmosphere. The chute is disconnected from the super sack and any spillage is cleaned up before the forklift is allowed to enter the area. Further, the forklift is operated by the same employee who operates the chipper, and there is thus no danger that the it will be driven into the area prematurely. Boyd noted that, in any event, the product produced by chipper C is too large to cause an explosive atmosphere. (Tr. 307-308, 312, 316-318, 331-337).

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[4] Boyd worked as an OSHA compliance officer for nine years and has an extensive background in industrial safety. (Tr. 278-305).

Findings of Fact and Conclusions of Law

Evidentiary Issue raised During Trial

At the trial, the Secretary objected to the admission of the report, as noted above, of Jeffrey Olcott, and the issue of the report's admissibility was reserved. The record shows that Hart retained RT Environmental Services, Inc. ("RT") and that RT, in turn, retained Olcott to perform the necessary study of Hart's facility and to produce a written report. Although Olcott did so, Exhibit R-5, the final report, is on RT's letterhead and gives no indication that Olcott wrote it. In addition, Olcott's initial report to RT did not address the potential for an explosive atmosphere in the tested areas, while R-5 does. The changes to the initial report came about after George Boyd reviewed it and suggested to Gary Brown at RT that inquiries be made as to whether Olcott's data could be used to determine if an explosive atmosphere was present in the chipper areas. Following conversations with Brown, Olcott revised his report to address this issue. (Tr. 240-241, 248, 306-307, ALJ Exhs. 6-7)

It is clear from the record that Olcott adopted the statements in the revised report as his own before the final report was issued. I find, therefore, that the report was appropriately authenticated as containing his own conclusions and opinions and that the report was thus properly admissible at trial. *See* Fed. R. Evid. 901. RT's interference with the preparation of the report, however, calls into question the strength of the conclusions in the report and the veracity of Hart's expert witnesses. In this regard, I note that despite Brown's testimony that he contacted Olcott because RT did not have available an expert to perform the requisite study, (Tr. 240-241), RT apparently believed it had sufficient expertise to suggest changes to the report. I note also that while Olcott purportedly revised the report based on his own opinion, he testified at the trial that after he delivered the revised report, he contacted RT to make sure that the new interpretation was "correct." (Tr. 371). Thus, while the report had been admitted into the record, under the circumstances, it will be accorded little weight.

The Secretary's Prima Facie Case

To prove a violation of an OSHA standard, the Secretary has the burden of establishing that "(1) the standard applies, (2) the employer violated the terms of the standard, (3) Respondent's employees had access to the violative condition, and (4) the employer had actual or constructive

knowledge of the violative condition." *Gary Concrete Prod., Inc.,* 15 BNA OSHC 1051, 1052 (No. 86-1087, 1991).

Citation 1, Item 5a

Citation 1, Item 5a alleges that the "C" area at Hart's facility was not in compliance with 29 C.F.R. § 1910.178(c)(2)(vi)(a). The cited standard provides that:

> Only approved power operated industrial trucks designated as EX shall be used in atmospheres in which combustible dust is or may be in suspension continuously, intermittently, or periodically under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures, or where mechanical failure or abnormal operation of machinery or equipment might cause such mixtures to be produced.

The Secretary does not contend that combustible dust is or may be in suspension continuously, intermittently, or periodically under normal operating conditions in area "C" at the facility. Rather, the Secretary contends that, as a result of a potential mechanical failure or abnormal operation of machinery or equipment, an explosive or ignitable mixture may be produced. As set out above, Cholin gave examples of some incidents which could result in the production of an ignitible mixture. (Tr. 44). In addition, Cholin's examination of a sample of magnesium particulate taken from the "C" area establishes that the mixtures produced there may be combustible. Cholin's testimony thus demonstrates the possibility of an abnormal occurrence which could cause the production of a combustible mixture. The Secretary has shown that the standard applies, and, because it is undisputed that the forklift in question was not EX-rated, the Secretary has also shown that the terms of the standard were violated.[5]

As to employee exposure, however, the evidence overwhelmingly demonstrates that Hart maintained and enforced safety measures which ensure that there is no possibility that the forklift

[5] Olcott testified that the particulate his sampling retrieved was not combustible. As indicated above, however, Olcott's conclusions have been given little weight because of the questionable manner in which his report was prepared. Moreover, there was no evidence relating to what size mesh chipper C was set at on the day of Olcott's study. Further, it is admitted that no abnormal event occurred during Olcott's sampling. (Tr. 152, 213-214). Accordingly, Hart's contention that the terms of the standard were not violated is rejected.

is operated in the "C" area at any time when dust can be released into the atmosphere, even in the event of mechanical failure or abnormal operation of machinery.[6] I therefore find that the Secretary has not demonstrated that, in this particular location, Hart employees were be exposed to the cited hazard. The Secretary has thus failed to establish her prima facie case, and this citation item is vacated.[7]

Citation 1, Item 9

Citation 1, Item 9 alleges that the "A" area was not in compliance with 29 C.F.R. § 1910.307(b). The cited standard requires as follows:

> Equipment, wiring methods, and installations of equipment in hazardous (classified) locations shall be intrinsically safe, approved for the hazardous (classified) location, or safe ... for the hazardous (classified) location.

There is no dispute that the lights, wall receptacle and snap switch in the "A" area were not approved for a hazardous location. Rather, Hart disputes that the Secretary established the necessity for providing approved equipment. The cited standard, however, is prescriptive; if an area falls within a hazardous classification, it is incumbent on the employer to ensure that the electrical equipment is safe and approved for the location. In this regard, the Secretary presented evidence that the "A" area is a Class II, Division 1 hazardous area. This classification is defined at 29 C.F.R. §1910.399(a)(i) as:

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[6] Contrary to the Secretary's contention, there is no evidence that any of the super sacks have ever been or can be broken from falling off the forklift, or that, by running into a support column, the forklift would loosen sufficient magnesium dust to cause an explosion. These "possibilities" are completely unsupported by any proof. Other possibilities suggested by the Secretary would not occur because chipper C stops operating before the forklift enters the area. Cholin's statements to the contrary (Tr. 63, 357) are similarly unsupported by any proof.

[7] The Secretary urges that *Reich v. Con Agra Flour Milling Co.* 25 F.3d 653 (8th Cir. 1994) supports her position. I disagree. The forklift in *Con Agra* removed both closed and broken 50 to 100 pound bags of flour and was operated in conditions where flour dust was suspended in the atmosphere. In reversing the Commission's decision, which had vacated the citation, the Eighth Circuit found relevant the fact that Con Agra's evidence did not prove that its procedures to avoid the problem of bags falling and breaking were in place before the inspection. *Id.* at 656-657. This is contrary this case, where the procedures avoided exposing any employees to a potential hazard.

> [A] location, (a) In which combustible dust is or may be in suspension in the air under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures; ... or (c) in which combustible dusts of an electrically conductive nature may be present.

The Secretary showed that magnesium dust is electrically conductive, and Hart failed to offer any rebuttal proof. (Tr. 31-32, Exh. C-3). The Secretary further showed that magnesium dust was present in the "A" area; Cholin testified that a product sample taken from chipper A revealed the presence of magnesium dust. The "A" area was thus appropriately identified as a classified hazardous location and the cited standard therefore applies. Non-compliance with the standard's terms has been demonstrated in that the electrical equipment was not approved for the classified location.

Relying on Olcott's findings, as well as magnesium product that was offered into evidence, Hart argues that no magnesium dust was present in the "A" area because the particles produced there are too large to be considered dust. (Exh. R-2A). As set out above, however, Olcott's report has been accorded little weight. Further, I observed the respective demeanor of both Olcott and Cholin and I found Cholin to be the more credible witness. Cholin testified that a sample from the "A" area contained magnesium dust, and Hart has simply not rebutted the evidence that magnesium dust may be present regardless of the size of the product. (Tr. 152).

Alternatively, Hart argues that the Secretary failed to establish that dust was ambient, in the air, or present in the electrical equipment or wires. Under subpart (c) of the standard, however, there is no requirement that the Secretary show that the dust is suspended in the air or within the workings of the electrical equipment. Noncompliance with the standard is shown merely by proof that the dust *"may be* present at the *location"* (Emphasis supplied).

There is no dispute that employees use chipper A. Hart employees are thus exposed to the condition. Moreover, Hart had or should have had knowledge of the violation. Hart was clearly aware of the dangers of magnesium dust; the safety program instituted in area "C" is proof of this awareness. Further, because a cloud of magnesium dust had previously detonated in Hart's atomization area, I find that Hart was also aware of the hazard of magnesium dust being present in an enclosed space. (Tr. 23). Hart should therefore have inspected the electrical equipment to

determine whether it was intrinsically safe or approved for the location. The Secretary has demonstrated the alleged violation.

This citation item has been classified as serious, and I find this classification appropriate; AAD Newell testified that the hazard creates the potential for severe burns, contusions, or death if an explosion were to occur. (Tr. 104). The Secretary has proposed a penalty of $875.00. The violation was given a high severity, based on the serious nature of the potential injuries, but with a low likelihood of occurrence. Adjustments were made based on size and good faith, resulting in the proposed amount. I find the proposed penalty appropriate, and accordingly, a penalty of $875.00 is assessed.

ORDER

Based on the foregoing decision, the citation items are disposed of and penalties are assessed as follows:

Citation Item	**Violation**	**Disposition**	**Classification**	**Penalty**
Citation 1 Item 5a	29 C.F.R.§1910.178(c)(2)(vi)(a)	Vacated	Serious	
Citation 1 Item 9	29 C.F.R. § 1910.307(b)	Affirmed	Serious	$875.00

/s/

G. MARVIN BOBER
Judge, OSHRC

Dated: 24 SEP 2001
Washington, DC