

October 25, 2021

OSHA Docket Office
Docket No. OSHA–2007–0003
RIN 1218-AC98
U.S. Department of Labor
Room N–2625, 200 Constitution Avenue, NW.
Washington, DC 20210

via www.regulations.gov

Re: Mechanical Power Presses Update Request for Information [Docket No. OSHA–2007–0003]

On behalf of the Precision Metalforming Association (PMA) and its members, please accept these comments regarding the Department of Labor’s (DoL or Department) Occupational Safety and Health Administration (OSHA or Agency) Request for Information (RFI) regarding the Mechanical Power Presses Update [RIN 1218-AC98]. PMA believes that the outdated standards do not reflect today’s precision metalworking operations. Below, please find answers to select questions posed in the July 28, 2021 RFI.

PMA is the full-service trade association representing the \$137-billion metalforming industry of North America—the industry that creates precision metal products using stamping, fabricating, spinning, slide forming and roll forming technologies, and other value-added processes. Its more than 850 member companies also include suppliers of equipment, materials, and services to the industry.

A. Hazards and Incidents

1) Is there more recent information about the risks and hazards associated with the operation of power presses?

The OSHA IMIS database contains the inspection reports for all of OSHA’s accident investigations from 1984 to mid-2020, including data on workplace injuries and fatalities on metalworking presses – including mechanical power presses, hydraulic presses, and press brakes. The database includes investigation reports from state OSHA agencies as well as federal OSHA and should provide more complete and some more recent data than Table 1 in the RFI, which is based on accident reports to federal OSHA required by 29 CFR 1910.217(g).

Risks and hazards associated with the operation of presses have not changed, although the cause of injury may have changed somewhat since manual operations have declined and automated operations have increased. In automated press production systems, injuries may occur on associated automation equipment as well as the press. Injuries on automated press production systems are more likely to occur when incorrect job setup procedures are used and when clearing a jam or trying to resolve another production system problem.

2) Based on a review of accident and injury data (see Table 1), OSHA has identified finger and fingertip amputations, crush injuries, lacerations, and fractures as the main types of injuries caused by mechanical power presses. Please supply any additional information on these and other injuries associated with power presses.

Information in OSHA's IMIS database indicates that the nature of the risks and hazards has not changed. Data from 2016 to 2020 indicates that manual press operations have more injuries during production, with crushing, amputation, and laceration having the same prevalence as indicated by Table 1 of the RFI document. In automated press production systems, injuries may occur on associated automation equipment as well as the press.

3) How frequently are workers using power presses injured? How frequently are workers using power presses severely injured? How frequently are workers using power presses fatally injured?

See answers to questions 1 and 2 for where relevant statistics may be obtained. Power press fatalities are extremely rare, with approximately one fatality per year occurring on mechanical power presses, according to IMIS data from 1989 to 2020. Fatalities related to power press production systems are rare and usually related to non-production tasks.

4) Do injury rates and severity vary based on the type of press used or other factors?

Yes. Historical reports related to injuries on mechanical power presses reported under 1910.217(g) indicate that press cycles initiated by operator foot controls produced more injuries than those cycles initiated by hand controls. These reports also indicate that full-revolution clutch presses had a significantly higher number of injuries than part-revolution clutch presses. Only a small number of full-revolution clutch presses remain today, which is one factor that has led to a decreased number of injuries over time.

The injury rate on full-revolution clutch presses was also exacerbated by the fact that most were used in manual single-stroke hands-in-die operations with lesser electrical control requirements than for those for part-revolution clutch presses required in 1910.217(c)(5) and with more limited and effective point-of-operation safeguarding means.

5) Have injury rates associated with the use of power presses increased or declined over time? If so, why?

PMA believes that injury rates have declined over time. As noted in question 4, historically, full-revolution clutch presses had significantly more injuries per press than part-revolution clutch presses, and only a small percentage of full-revolution presses remain in use today. Also, the use of foot controls for cycling on mechanical power presses produced more injuries than hand controls, and the use of foot controls on part-revolution clutch presses has been drastically reduced.

It is also believed that replacement and refurbishment of older presses with equipment from manufacturers that meet newer ANSI B11.1 standard requirements are a factor in reduced injury rates. Productivity increases associated with intelligent controls and increasing automation employed for press production systems have contributed to a reduction in the overall number of power presses used by industry.

B. Power Presses Standards

6) Should OSHA use ANSI B11.1 as the basis for a standard update?

Yes. PMA believes that OSHA should adopt the latest ANSI B11.1 standard, which is comprehensive and proven effective. It also is important in that it includes requirements for increasingly popular servo presses and requirements for the composite press production system, including automation, among others.

7) Are there provisions in the ANSI standard not in the OSHA standard that are important for providing worker protection?

Yes. There are new and updated provisions involving the safeguarding of power press production systems, including requirements for direct drive servo presses, which are increasingly being purchased and used by stampers to obtain flexibility in production operations not available with part-revolution clutch power presses.

8) If the agency bases a revised standard on ANSI B11.1, should OSHA add explanatory material in the form of non-mandatory appendices?

Yes. Standards language is always enhanced by explanation and examples that clarify and help users/employers comply with the intent of requirements.

9) Would employers find a non-mandatory appendix useful if it addressed similar subjects as the explanatory text in the latest ANSI standard?

Yes, a non-mandatory appendix would be useful if it addressed similar explanatory text in the ANSI B11.1 standard.

10) What material, if any, should be in the appendices?

All annexes and explanatory content in the latest ANSI B11.1 standard should be considered to be included in the appendices.

11) If OSHA updates the standard to be consistent with the provisions of ANSI B11.1-2009 or its equivalent, should OSHA exclude all of the machines that ANSI B11.1-2009 excludes?

Yes. These other machines are excluded either because they are not constructed like mechanical power presses or they are not used like mechanical power presses.

12) If so, why?

The ANSI B11.1-2009 standard is extensive in its safety requirements for mechanical power presses. Adding other machines to these requirements would expand the size of the standards and add difficulty and confusion for employers to discern which requirements apply to each machine. Any update should maintain the current scope.

13) Alternatively, should OSHA continue to exclude only the machines currently excluded by the OSHA standard?

No. PMA believes that OSHA should exclude all of the machines that the latest ANSI B11.1 standard excludes.

14) Should OSHA exclude any other machines that ANSI B11.1-2009 does not specifically exclude?

PMA is unaware of other machines that should be excluded.

16) Is your firm currently complying with the ANSI B11.1 standard?

Many PMA members use the ANSI B11.1 standard since it is more detailed and provides guidance that OSHA's standard does not. If OSHA updates its 1910.217 standard based on the latest ANSI B11.1 standard, PMA recommends an appropriate phase-in period to allow employers to review the requirements and make any updates if needed in order to comply.

17) Is compliance with any of the provisions in the ANSI standard prohibitively costly? If so, please specify which provisions are prohibitively costly.

No. Manufacturers already incur costs related to safety and controls and many report that they already comply with the existing ANSI standard. Should OSHA expand the scope or extend beyond the ANSI standard, that could possibly lead to prohibitive costs.

18) Do you believe it would be less costly for your firm to comply with the ANSI standard as opposed to OSHA's existing standard?

PMA members report that yes, it is less costly to comply with the ANSI standards, likely due to their reflecting the realities of today's machines and operational changes since the inception of the OSHA standard.

19) If so, in what areas do you anticipate savings, including reduced compliance costs and/or improved efficiency?

OSHA standards that include increased clarity with additional specific information on what constitutes compliance with a requirement can reduce citations and associated costs where the requirement is not met because it is not understood. Risk assessment and risk reduction requirements for hazards related to complex press production system automation can reduce injuries and associated costs. Requirements for stop controls and the performance of safety-related systems (aka "control reliability") for all production operations instead of just hand-in-die operations is consonant with international standards can save costs related to injury and help standardize production systems for companies with global manufacturing facilities.

C. Standards Other Than ANSI Consensus Standards

PMA believes that OSHA should model any updated standards on the latest ANSI standard.

D. Presses Other Than Mechanical Power Presses

20) Should these presses be covered under a new standard written in the fashion of the existing mechanical power presses standard, § 1910.217?

Hydraulic and pneumatic presses are currently covered under the requirements of OSHA's 1910.212 standard. If OSHA seeks to develop a standard for these types of presses, PMA suggests using the ANSI B11.2 standard as a guide.

21) Should OSHA base any new requirements for hydraulic and pneumatic presses on ANSI B11.2-2013 (R2020), Safety Requirements for Hydraulic and Pneumatic Power Presses?

Yes

22) Does compliance with the ANSI B11.2-2013 (R2020) consensus standard provide adequate protection for workers using hydraulic and pneumatic presses?

Yes

23) Are there any ANSI B11.2-2013 (R2020) provisions or other protections critical to protecting workers that OSHA should include if the agency decides to propose a rule addressing non-mechanical power presses?

PMA believes using the provisions currently in the ANSI B11.2 standard would be appropriate.

25) Do you currently follow other ANSI consensus standards corresponding to any other types of presses (for example, ANSI B11.4, Safety Requirements for Shears)?

Some PMA members are following other ANSI consensus standards, such as ANSI B11.3, Power Press Brakes; and B11.4, Shears, among others.

26) Are any provisions in this ANSI standard especially costly or difficult to comply with?

For the B11.1-2009 mechanical power press standard, none of the provisions are especially difficult to comply with, but some are more expensive than others for legacy machines that have not yet been brought into compliance with 29 CFR 1910.217.

27) If so, which ones?

Clause 8.8 of the ANSI B11.1-2009 standard is a requirement that is similar to OSHA's 1910.217(b)(13) requirement for "control reliability."

As pointed out in the answer to question 26, the cost of complying with Clause 8.8 would be greatest for legacy mechanical power presses that have not been updated to comply with OSHA's 1910.217 standards for part-revolution clutches. The complete control and safeguarding systems might have to be replaced. However, the cost of complying with the ANSI B11.1-2009 standard for a legacy press would not be much more than to bring it into compliance with 29 CFR 1910.217.

Also, since 1975, thousands of presses have been updated to the OSHA "control reliability" requirements and may only need minor modifications to emergency stop actuators and safeguarding systems to comply with B11.1-2009.

In addition, ANSI B11.1 has required the clause for "Performance of the safety-related functions" since the 2001 version. Most press, press control, and safeguarding manufacturers have provided new presses and safeguarding components that comply with this clause.

There are many manufacturers of off-the-shelf safeguarding components that meet the ANSI B11.1-2009 standard that provide cost-effective compliance.

E. Presence-Sensing Device Initiation

28) Should OSHA revise or eliminate its requirements regarding the use of PSDI systems?

Yes, if OSHA decides to keep PSDI as a production mode, it should revise requirements to eliminate third-party validation. Validation should be self-certified by the user.

29) Should OSHA base its PSDI requirements on the PSDI requirements in ANSI B11.1- 2009?

Yes

35) Should OSHA eliminate the third-party validation requirement?

Yes

F. Existing Presses

40) How many power presses do you use at your facility?

The number of presses used by PMA member companies varies greatly, with some only using a few and others using well upwards of 50. A recent survey of PMA members with 27 responses showed companies had on average 29 mechanical presses.

41) What type of presses are they (mechanical, hydraulic, and pneumatic), and, if any are mechanical, how many do you use and what percentage of those mechanical power presses have part-revolution clutches? The agency seeks comment on the service life of mechanical power presses.

PMA member companies use all types of presses, with mechanical power presses being used the most but hydraulic and pneumatic are also found in these facilities. Servo presses are also increasingly being used by PMA members. Seventy-eight percent of the 27 companies that responded to PMA's survey replied that 100% of their mechanical power presses have part-revolution clutches.

42) What type of press would you purchase to replace a mechanical power press?

Most manufacturers would tend to replace a mechanical power press with a newer mechanical power press, possibly including a servo drive.

43) What proportion of those mechanical power presses would you replace with presses equipped with part-revolution clutches?

Nearly all presses are equipped with part-revolution clutches or servo-drive technology.

44) If OSHA based a new standard on ANSI B11.1-2009 (R2020), how many presses currently in use would be out of compliance?

A survey with 27 responses revealed that 85% of companies follow the ANSI standards.

45) Would you upgrade any of your presses to meet the ANSI B11.1 consensus standard, or would you replace the presses?

This would be evaluated on a case-by-case basis by the individual user; however, PMA believes that the vast majority of member companies already have their presses meet the ANSI B11.1 consensus standard.

46) What percentage of your presses would you upgrade versus replace?

This would be evaluated on a case-by-case basis by the individual user and based on the specific machine.

47) Should OSHA require that only competent persons perform these tasks?

Yes

48) If so, how should OSHA define the term “competent person” with respect to mechanical power presses?

OSHA should refer to the definition in the latest ANSI B11.1 standard.

G. Modifying and Repairing Existing Presses; Records of Maintenance

49) Should OSHA require documentation and, if so, should OSHA require document retention and access?

OSHA 1910.217 currently has a documentation requirement for maintenance on power presses. PMA believes that maintaining documentation is appropriate for a certain time frame, such as three years.

50) Who should maintain the documentation: the manufacturer, the owner, or a third party?

The owner should maintain documentation.

H. Reporting and Recordkeeping Requirements

52) Should OSHA retain these requirements?

No.

53) Should OSHA modify these requirements and, if so, how?

The special reporting requirements are duplicative and unnecessary as the information is already reported. The additional reporting does not improve workplace safety.

I. Affected Industries and Economic Impacts

54) Do the job titles listed above encompass all power press workers?

PMA believes that the job titles listed in Table 2 of the RFI encompass the vast majority of power press workers. Press operators and setters are titles of workers who routinely work on power presses.

55) If not, what job categories or job titles should OSHA include?

In some companies, die makers and their apprentices may also use power presses—but not “routinely”—for proving out new dies. They would not be running production.

56) What are the job titles of workers who use power presses at your facility?

Typically, PMA member companies use the titles of press operator, machine operator, and die setter.

57) Would you classify your facility's power press workers in one of the occupations listed above or is there a more appropriate occupational category for them?

PMA believes that power press workers in the industry would be classified under the occupational codes listed in Table 2 of the RFI. Occupational code 51-4031 covers most of the metal forming industry, especially metal stamping companies. Metal fabricators would fall under 51-4199 and 51-4031 since many fabricators use small presses (hydraulic and mechanical) for forming and punching.

58) How many total workers are at your establishment and how many of those workers use power presses as part of their job?

The average PMA member company has approximately 80-100 workers, and we estimate that roughly 20-25 percent of those workers use power presses as part of their job.

59) What types of power presses do they use (mechanical, pneumatic, hydraulic, or other)?

PMA member companies use all types of presses, including pneumatic and hydraulic, with mechanical power presses being used the most.

60) If those employees work on mechanical power presses, how many (or what percentage) of those presses have part-revolution clutches?

Nearly all presses are equipped with part-revolution clutches or servo-drive technology.

61) Are there any affected industries that the agency has not included in Table 3?

None that PMA is aware of.

63) What type of press do you typically purchase to replace a mechanical power press?

Most manufacturers would tend to replace a mechanical power press with a newer mechanical power press, possibly including a servo drive.

64) What proportion of those replacement mechanical power presses are replaced with presses equipped with part-revolution clutches?

Most manufacturers would tend to replace a mechanical power press with a newer mechanical power press, possibly including a servo drive.

65) Would small entities face economic or technological feasibility concerns in complying with a revised standard that references current consensus standards?

New requirements without an adequate transition time may place a significant burden on small entities. Often a challenge for smaller manufacturers is awareness, especially of new rules or regulations. Businesses of all sizes, but smaller companies in particular, rely on trade associations such as PMA to keep them informed about current and new standards.

66) If OSHA promulgated standards similar to the mechanical power presses standard for hydraulic and pneumatic presses, would this raise any economic or technological feasibility concerns specific to small businesses?

Yes. Variations in hydraulic power press construction are far more numerous than those of mechanical power presses, ranging from those so simple as to have a motor-driven pump and a manually operated valve to operate as single cylinder for limited application, to extremely complex multi-action and multi-cylinder driven by the interaction of as many as 20 or 30 valves in their hydraulic circuit.

The ANSI B11.2 2020 Revision for hydraulic presses applies primarily to the more complex hydraulic presses used for production by applying only to "hydraulic/pneumatic power presses, which transmit force to cut, form, or assemble metal or other materials by means of tools or dies attached to or operated by plungers or slides." The hydraulic presses that don't use tooling are typically the smaller, simpler

presses that are occasionally used in a machine or tool shop to press shafts into bearings or other repair purposes and are excluded from the provisions of the standard.

Small businesses are disproportionately impacted by economically or technologically feasible factors. In many cases, the standard being developed does not improve safety nor accomplish its intended goal.

67) If you identify as a small entity in your industry, what is the basis for that identification?


The vast majority of PMA members average 75-100 employees, well below the 500 threshold set by the Small Business Administration for NAICS 332119, Metal Crown, Closure, and Other Metal Stamping (except Automotive). For those companies with more than 500 employees, they are often classified under 336370, Motor Vehicle Metal Stamping, which includes companies with up to 1,000 employees in the SBA definition of a small entity.

68) Are there any other issues related to mechanical, hydraulic, or pneumatic power presses that OSHA should address? Include issues remaining from, or not sufficiently addressed in, the 2007 ANPRM.

If OSHA adopts and continues to conform to the latest ANSI standard, this would also cover the servo presses, which PMA members report are increasingly in use in their facilities.

Thank you for your consideration of these comments.

Sincerely,



David Klotz
PMA President