



October 26, 2021

Lisa Long  
OSHA Directorate of Standards and Guidance  
U.S. Department of Labor  
*Via electronic submission to [www.regulations.gov](http://www.regulations.gov)*

RE: Docket No. OSHA-2007-0003, RIN 1218-AC98

Dear Ms. Long:

I am writing on behalf of the Industrial Fasteners Institute (IFI) regarding the Request for Information (RFI) related to the Mechanical Power Press standard. IFI represents fastener manufacturers both large and small, as well as suppliers of equipment such as presses. Below we have provided answers to the questions outlined in the RFI on which we had relevant information.

### **Background on the Fastener Industry**

IFI has served the fastener manufacturing industry since 1931, bringing together the senior management of fastener manufacturers and our suppliers to share best practices; work together on common problems and opportunities; and address the issues of concern to fastener users, the government and the public at large. IFI has 124 members, including 69 corporate members with 56 subsidiaries, and 55 associate supplier members. Our members' facilities are located all over the United States with concentrations in California for aerospace; Michigan, Indiana, Ohio and Illinois for automotive; and the same plus Pennsylvania, New England and the South for industrial products.

IFI represents approximately 85% of fastener production capacity in North America. In the U.S., the fastener industry employs approximately 42,000 people at about 850 different manufacturing facilities. Individual companies range in size from around \$10 million in sales to several companies with more than \$1 billion in sales. Many of these companies are family-owned, small to mid-sized businesses. The industry runs the gamut from basic metalworking manufacturing to highly automated facilities producing products with complex designs and engineering. Many fasteners are proprietary designs covered by one or more patents.

### **IFI Responses to OSHA RFI Questions**

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

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. 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.

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

See Answer to #1.

- 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?**  
Power press fatalities are extremely rare, with approximately one fatality per year occurring on mechanical power presses, according to OSHA data from 1989 to 2020. See answers to questions 1 and 2 for where relevant statistics may be obtained.
- 4. Do injury rates and severity vary based on the type of press used or other factors?**  
Yes, they vary. OSHA's historical data regarding injuries on mechanical power presses indicate that press cycles initiated by operator foot controls produced more injuries than those cycles initiated by hand controls. These data also indicate that full-revolution clutch presses had a significantly higher number of injuries than part-revolution clutch presses. IFI believes there are only a small number of full-revolution clutch presses remaining today, which is one factor that has led to fewer injuries over time.
- 5. Have injury rates associated with the use of power presses increased or declined over time? If so, why?**  
IFI believes that injury rates have declined over time due to advanced safety features such as light curtains. 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 the newer ANSI B11.1 standard requirements are a factor in reduced injury rates.
- 6. Should OSHA use ANSI B11.1 as the basis for a standard update?**  
If OSHA determines that the Mechanical Power Press standard at 1910.217 needs to be updated, then it should carefully review the ANSI B11.1 standard for use as the bases of a revised OSHA standard. While IFI generally agrees that government agencies should always rely on voluntary industry standards when possible, there are areas that will need to be carefully analyzed if OSHA adopts the ANSI B11.1 standard. IFI provides further information on some of these areas in the answers to questions below.
- 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 metal fabricators such as fastener manufacturers to obtain flexibility in production operations not available with part-revolution clutch power presses.
- 8. If OSHA bases a revised standard on ANSI B11.1, should OSHA add explanatory material in the form of non-mandatory appendices?**  
Yes. For manufacturers that have been using the OSHA standard and not the ANSI standard, there will be the need for additional education materials and time to review the new 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. For manufacturers that have been using the OSHA standard and not the ANSI standard, there will be the need for additional education materials and time to review the new requirements.
- 10. What material, if any, should be in the appendices?**  
IFI recommends including examples, definitions, illustrations, and contact information for companies to contact for help in complying with the updated standard.

**11. If OSHA updates the standard to be consistent with the ANSI 11.1-2009 or its equivalent, should OSHA exclude all of the machines that ANSI B11.1-2009 excludes?**

If OSHA is going to revise the Mechanical Power Press standard to be consistent with ANSI 11.1-2009, it should be as consistent with the ANSI standard as possible. Incorporating an industry standard and then making changes causes confusion and additional costs. The machinery excluded in the ANSI standard would be at a minimum covered by 1910.212 for general machinery, and in some cases by 1910.218 for forging presses. The only possible exception is a bulldozer press which could be included in an updated OSHA standard (and future updates to the ANSI standard) because its physical makeup is almost identical to a mechanical power press. The only difference is the system is just laid back either on an angle or horizontal.

**12. If so on #11, 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.

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

If OSHA is going to revise the Mechanical Power Press standard to be consistent with ANSI 11.1-2009, it should be as consistent with the ANSI standard as possible. Incorporating an industry standard and then making changes causes confusion and additional costs. The machinery excluded in the ANSI standard would be at a minimum covered by 1910.212 for general machinery, and in some cases by 1910.218 for forging presses.

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

IFI not aware of any others that need to be excluded.

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

Some IFI members may 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 ANSI B11.1, IFI recommends an appropriate phase-in period of several years 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 ones.**

Since most new control systems and safeguarding systems comply with the ANSI B11.1-2009 standards, cost would primarily be associated with retrofitting older press production systems to comply with the additional ANSI B11.1 provisions. The typical life cycle of a mechanical press can be 50 years, so it may be necessary to grandfather older machines that are meeting the current 1971 OSHA standard. Older machines may be perfectly safe and functioning properly but since their wiring was done before the current ANSI standard was issued, then it would be unreasonable to expect a costly, unnecessary upgrade. It would also be helpful if there was someone to consult with from OSHA/ANSI to get definitive answers to interpretations of different provisions or ways to satisfy those requirements, especially without flagging that you are not meeting a requirement and then receiving a fine. IFI has outlined below some of the provisions in OSHA and ANSI standards that could be problematic and costly to implement.

*Bearing failure being predictable in 5.1: this would be very time consuming to do especially on internal bearings.*

*6.1.2 – falling hazard: You can't contain a flywheel, gear, or other large spinning press component or cost and size to build such a contraption would be impractical.*

*6.2.7 - Older presses that have run for years with no issues may not have this and would be very costly and time consuming to convert the controls and wiring to meet this. In OSHA 1910.217(b)(7)(xi) it*

*allows for exceptions to valves installed prior to 8/31/1971, some manufacturers might find it costly to convert all of their old valves to new ones.*

*6.6.2.1 – ability to contain piston and rod of air counterbalance could be very difficult depending on the design of the press and could lead to needing the whole counterbalance system redesigned leading to prohibitive costs.*

*6.6.2.3- Not all presses have check valves in counterbalance from factory so cost to install (or install pressure sensor) could be prohibitive.*

*7.1 – meeting these electrical codes could be very costly for older facilities and presses especially those prior to the standards adoptions.*

*7.1.1.5 – older facilities could face hardship to upgrade all of their lighting to meet the ANSI / IESNA RP-7 standard.*

*7.3.3 – to permanently fasten the presses to the floor which previously are not would require exorbitant costs for rigging, concrete work, buried rods, downtime, etc. not to mention the wasted cost of current isolator pads and machine feet that are used.*

*8.1 – cost to conduct a risk assessment especially for smaller facilities could be costly from a manpower/payroll standpoint.*

*8.6.3.11 – current OSHA complaint presence sensing safeguarding light curtains do not all have ability to show which areas are blanked.*

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

No, compliance to the ANSI standard would cost more depending on what controls and safety items must be retrofitted on older presses

**20. Should these presses be covered under the new standard written in the fashion of the existing mechanical power press standard 1910.217?**

Hydraulic and pneumatic presses are currently covered under the requirements of OSHA's 1910.212 for general machinery standard. If OSHA seeks to develop a separate standard for these types of presses, IFI 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)?**

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?**

IFI believes using the provisions currently in the ANSI B11.2 standard as a guide 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)?**

IFI has members that use OSHA as their standard and some that use ANSI. In the case of machines that are not covered by a specific standard beyond the general machinery standard, ANSI can be relied on for additional guidance.

**28. Should OSHA revise or eliminate its requirement regarding the use of PSDI systems?**

Yes, no 3<sup>rd</sup> party certification should be required. 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, they are similar in many ways but 3<sup>rd</sup> party certification is not required.

**30. Are there any types of operations that should not allow PSDI?**

It is possible they could be used on very small parts where the operator's hands would be in the point of operation. If a part sensor is used as a secondary "trip" sensor for the PSDI, the operator's hands would still be in danger while that sensor is being met so only the PSDI system and clutch system is keeping their hands safe. If the part was longer there, the operator's hand would not be directly in the point of operation so if a failure occurred in the PSDI system, then their hands would possibly not be harmed.

**33. Are there any types of power presses that should not allow PSDI?**

While there are not many full revolution presses still in use today, PSDI should not be used on these types of machines.

**34. If so (to #33), which ones and why?**

Because even if the operator gets back into the light curtain after the initiation of the cycle the press would not stop.

**35. Should OSHA eliminate the third-party validation requirement?**

Yes, since nobody is certified to do this, then no one can currently use PSDI.

**36. If OSHA were to eliminate the existing requirements for PSDI systems, would you incorporate this technology on your power presses?**

IFI believes its members would investigate these systems and potentially use them if they ensured worker safety.

**38. Do you agree that PSDI devices would improve productivity?**

Yes. The operator would not need to do additional movements to trip the press, making the cycle time faster and causing less fatigue over time.

**39. If so (to #38), to what extent?**

IFI is not aware of any members using PSDI technology.

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

The number of presses used by IFI member companies varies, with some only using a few and others using more than 80.

**41. How many do you use and what percentage of those mechanical power presses have part-revolution clutches?**

IFI members use all types of presses.

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

IFI members would purchase another mechanical power press, a servo press, or a hydraulic press.

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

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

- 45. Would you upgrade any of your presses to meet the ANSI B11.1 consensus standard or would you replace the press?**  
This would be evaluated on a case-by-case basis and would depend on several factors such as the overall condition of the press, the size of the press, the availability of the same type or size of press, and the cost to upgrade versus the cost to purchase a new press.
- 46. What percentage of your presses would you upgrade versus replace?**  
See Answer to #45.
- 47. Should OSHA require that only “competent persons” perform these tasks?**  
Yes, but IFI has concerns about who will determine competency. If a shop or person needs to be “OSHA certified”, then how will they become that? IFI has concerns that a certification requirement may drive rebuilders out of business unless it was free or of little cost. This is already a specialized business field with limited companies.
- 48. If so (to #47), how should OSHA define the term “competent person” with respect to mechanical power presses?**  
IFI recommends basing the definition on years of experience, testing/training, on-the-job plus minimum number of hours.
- 49. Should OSHA require documentation and, if so, should OSHA require document retention and access?**  
Yes. OSHA 1910.217 currently has a documentation requirement for maintenance on power presses. IFI 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.
- 51. Are employees aware of these specific reporting requirements, and that they are additional to BLS occupational injury data collections and OSHA SIR reporting?**  
Yes.
- 52. Should OSHA retain these requirements?**  
Yes.
- 53. Should OSHA modify these requirements and, if so, how?**  
IFI recommends that the definition of an amputation be clarified to mean bone removal, not just skin removal. Skin removal should be classified as an evulsion. IFI is also concerned that these reporting requirements result in a database that can be used to target certain industries or businesses. All sectors should have to report equally.
- 54. Do the job titles listed [in Table 2] encompass all power press workers?**  
Yes.
- 56. What are the job titles of workers who use power presses at your facility?**  
IFI members use the job titles of press operators, maintenance, die setters, tool and die makers, and machinists.
- 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?**  
IFI member companies would use the categories found in Table 2.

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

IFI member companies range in size from less than 100 employees to over 500. Generally speaking, 50% or more of an employee base in a fastener manufacturing facility use power presses as part of their job.

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

IFI members use all types of presses with mechanical and direct drive servo 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?**

IFI is not aware of any.

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

The typical life cycle of a mechanical power press can be 50 or more years with proper maintenance, repairs, and operation within the press' intended limits. The purchase of a new press of any kind is a large capital expense.

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

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

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

Yes, IFI is concerned that some of the hardware needed to convert older presses to be ANSI-compliant is very expensive. In addition, not all companies will have the trained personnel to complete the conversion, especially in the current labor market.

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

IFI believes the issues would be the same as with updating the Mechanical Power Press standard and it would provide some equity if each kind of press had similar standards.

**67. If you identify as a small entity in your industry, what is the basis for that identification (for example, reliance on SBA size standard)?**

Over 50% of IFI members identify as small businesses based on the SBA size standard of less than 500 employees.

**68. Are there any other issues related to mechanical, hydraulic, or pneumatic power presses that OSHA should address?**

IFI would like to note that the requirements in OSHA 1910.217(b)(1) and ANSI B11.1 section 8.2 that state a hazard caused by a broken or falling machine component(s) must be guarded against is not practical in all instances. The ability to contain a flywheel or bull gear that is rotating with enough force to power a mechanical press would require a guard as large as the press itself or larger. This is not financially or physically feasible. Also, the requirement in section ANSI B11.1 section 7.3.3 requiring anchoring to prevent walking should have a note in the clarification section that specifies the use of isolator pads and/or a base system large enough to remove risk of tip over. Not all presses need to be physically anchored to the floor to be sufficiently held in place.

## **Conclusion**

IFI appreciates the opportunity to provide comments on this RFI and looks forward to working with OSHA as it moves forward in this process.

If you have any questions regarding these comments, please feel free to contact me at [dwalker@indfast.org](mailto:dwalker@indfast.org) or our Washington Representative, Jennifer Baker Reid at [jreid@thelaurinbakergroup.com](mailto:jreid@thelaurinbakergroup.com).

Sincerely,

A handwritten signature in black ink that reads "D.J. Walker". The signature is fluid and cursive, with a long horizontal stroke at the end.

Dan Walker  
Managing Director