

April 20, 2026

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Submitted to Regulations.gov, Docket ID FSIS-2025-0012

Re: Maximum Line Speed Rates for Young Chicken and Turkey Establishments Operating Under the New Poultry Inspection System; Proposed Rule

The undersigned, Carisa Harris-Adamson, PhD, CPE, and Robert Harrison, MD, MPH, submit these comments on the proposed rule “Maximum Line Speed Rates for Young Chicken and Turkey Establishments Operating Under the New Poultry Inspection System” (“Proposed Rule”), published by the Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA).¹ The Proposed Rule relies, in part, on the results of the Poultry Processing Line Speed Evaluation Study (“PULSE Study”), which we conducted with a team of fellow investigators.² We thank FSIS for the opportunity to comment on this important subject, and for the chance to explain why **the results of our study *do not* support the Proposed Rule.**

I. Interest of Commenters and Summary of Comments

We are co-principal investigators for the study. Dr. Harris-Adamson is a Professor in the Department of Medicine at the University of California, San Francisco (UCSF), the Director of the Center for Occupational and Environmental Health at the University of California, Berkeley (UCB), and the Director of the UCSF/UCB Human Factors and Ergonomics Graduate Training

¹ Maximum Line Speed Rates for Young Chicken and Turkey Establishments Operating Under the New Poultry Inspection System, 91 Fed. Reg. 7926 (proposed Feb. 19, 2026) (to be codified at 9 C.F.R. pt. 381) [hereinafter Proposed Rule].

² Carisa Harris-Adamson et al., *Poultry Processing Line Speed Evaluation Study (PULSE)* (Jan. 9, 2025), [hereinafter PULSE Study].

Program. Her research focuses on understanding and preventing work-related injuries, and she has published extensively on topics relating to occupational health and ergonomics.

Dr. Harrison is a Clinical Professor in the School of Medicine at UCSF, and founded the UCSF Occupational Health Services, where he has treated thousands of patients with work-related injuries. Dr. Harrison has served on the California Occupational Safety and Health Administration (Cal/OSHA) Standards Board, and authored numerous publications in occupational medicine.

Our PULSE Study results provide further evidence of what has been studied and well understood for decades: that workers in American poultry slaughter establishments suffer from high rates of work-related pain and are at high risk of developing musculoskeletal disorders (MSDs). Both the current evisceration line speed limit of 140 birds per minute (bpm) and the proposed limit of 175 bpm are significantly associated with high MSD risk and high levels of moderate to severe work-related pain among production workers. Until this epidemic of MSD risk and work-related pain is properly mitigated, **FSIS should not approve or facilitate increased line speeds in poultry establishments.**

We are concerned that FSIS is about to make the problem even worse, because its **Proposed Rule fundamentally misunderstands and mischaracterizes the scope and results of the PULSE Study.** FSIS is ignoring the existing, unacceptable level of pain and MSD risk workers experience and mischaracterizes our central concern: that when evisceration line speed increases at an establishment, additional workers *must* be added to perform manual processing tasks, or other adjustments *must* be made to avoid increased MSD risk. This is because “**piece rate**” – the number of repetitive, forceful motions each worker performs, or pieces each worker handles, per minute – **highly correlates to MSD risk.** The Proposed Rule acknowledges this association but does not propose requiring poultry establishments to make adjustments to ensure the piece rate is set at safe levels. In other words, if a facility increases its evisceration line speed while keeping staffing levels the same, the piece rate will increase, and so will MSD risk. The Proposed Rule also fails to properly contextualize our study and its scope, including the fact that it did not include *any* analysis of turkey slaughter establishments.

Our PULSE Study findings do not support raising evisceration line speed limits; doing so without monitoring piece rate will make an already hazardous job more hazardous. FSIS should not use them for that purpose, as it attempts to do in its Proposed Rule. Before increasing line speeds, the unacceptably high level of MSD risk and worker pain at the current maximum line speeds must be addressed. FSIS should require poultry establishments to implement the recommendations from our study, which align with established industry best practices. Raising line speed limits without making these changes will place poultry processing workers, already disproportionately suffering from work-related pain and injuries, at even greater risk.

II. FSIS has long disregarded the high risk of MSDs in poultry slaughter and processing establishments, as well as the relationships between line speed, staffing levels, and MSD risk.

The Proposed Rule fails to acknowledge the relationships between evisceration line speed (which affects the number of chickens processed per day), piece rate (a function of job-specific line speed and staffing), and MSD risk. Poultry processing work is strenuous, repetitive, and fast. In crowded, noisy conditions, workers must receive live chickens and turkeys and then hang them on a line in shackles. The birds are then killed, defeathered, and eviscerated by machines before being immersed in a bath. Afterward, workers must rehang the birds and then place them into a cone line where they butcher them by hand—cutting off wings and legs, separating breast from back, and trimming skin, fat, and pieces of bone.

In evaluating poultry slaughter and processing, there are two key measurements: evisceration line speed and piece rate. Evisceration line speed is the number of birds per minute that pass through the fully mechanized evisceration process, thereby determining the throughput of birds (the number of chickens processed per day). The job-specific line speeds determine how many hours it will take to process the eviscerated birds. Given a job-specific line speed, staffing levels determine the piece rate, which is statistically significantly associated with MSD risk. Therefore, to mitigate MSD risk, FSIS should include hazard assessment (or job-specific piece rate) requirements in any proposed evisceration line speed regulation.

Piece rate and evisceration line speed are inextricably linked and interdependent.

The reason is straightforward. As evisceration line speed increases, more birds can be hung and processed per minute. Poultry establishments can respond in various ways. If they keep job-specific staffing levels and shifts constant and don't make other adjustments (such as automation), increasing evisceration line speed will necessarily raise piece rate—and MSD risk—for individual workers. In other words, in order to keep the piece rate constant, establishments increasing evisceration line speeds *must* make adjustments. Piece rate is a measure of how effectively establishments manage increased evisceration line speeds, and it is essential for evaluating MSD risk between establishments.

- a. High risk of MSDs and work-related pain are endemic in the poultry processing industry and have been for decades, even at current line speeds.*

Workers in poultry slaughter and processing establishments face serious occupational hazards, including a high risk of MSD, and significant work-related pain. They are at particular risk for developing disorders of the hand, wrist, and forearm, such as carpal tunnel syndrome (CTS), as their job roles often require them to engage in repeated high-force pinching and

gripping, and to engage in such movements at high speeds for prolonged periods of time.³ These workplace hazards have existed for decades, as numerous studies have shown. Examples of these studies are summarized below:

- A 1990 Health Hazard Evaluation Report by the National Institute for Occupational Safety and Health (NIOSH) evaluated cumulative trauma disorders (CTDs) of the neck and upper extremity among employees at two poultry processing establishments. At one establishment, 36% of participants had work-related CTDs in the preceding year based on questionnaire results, and 20% had current work-related CTDs based on questionnaire and physical exam.⁴ For the other establishment, 20% of participants had work-related CTDs in the preceding year based on questionnaire results, and 8% had current work-related CTDs based on questionnaire and physical exam.⁵ At both establishments, most of these CTDs “involved the hand and/or the wrist.”⁶
- A 2007 study on workplace illnesses and injuries among Latino poultry processing workers found that 59.5% of workers in the study “reported experiencing one or more of the five symptoms of possible occupational injuries or illnesses” in the past 30 days.⁷
- A 2007 study of women employed in poultry processing found that 18% of the workers participating in the study met the criteria for a current MSD.⁸ 98.3% of the workers were Black.⁹ The study’s “analyses indicate[d] a significant burden of upper extremity musculoskeletal symptoms and disorders among these women employed in poultry processing.”¹⁰
- A 2007 study analyzing musculoskeletal conditions among women working in poultry processing as compared to a community comparison group found that “the prevalence of upper extremity and neck symptoms was 2.4 . . . times higher among women working in poultry processing.”¹¹
- A 2009 study comparing women employed in poultry processing to a community comparison group found that the poultry processing workers had a higher

³ PULSE Study, at 9.

⁴ Stuart Kiken et al., Ctr. for Disease Control and Prevention, Nat’l Inst. for Occupational Safety and Health, *Health Hazard Evaluation Report: HETA-89-307-2009: Perdue Farms, Inc.; Lewiston, North Carolina; Robersonville, North Carolina*, 1 (Feb. 1990).

⁵ *Id.*

⁶ *Id.*

⁷ Sara A. Quandt et al., *Illnesses and Injuries Reported by Latino Poultry Workers in Western North Carolina*, 49 Am. J. Indus. Med. 343, 346 (2006).

⁸ H. J. Lipscomb et al., *Are We Failing Vulnerable Workers? The Case of Black Women in Poultry Processing in Rural North Carolina*, 17 New Sols. 17, 22 (2007).

⁹ *Id.* at 23.

¹⁰ *Id.* at 31.

¹¹ H. J. Lipscomb et al., *Musculoskeletal Symptoms Among Poultry Processing Workers and a Community Comparison Group: Black Women in Low-Wage Jobs in the Rural South*, 50 Am. J. Indus. Med. 327 (2007).

prevalence of poor physical health related quality of life (35.5% vs 14.7%), and higher rates of moderate to severe upper-extremity musculoskeletal symptoms (34.4% vs. 10.7%).¹²

- A 2012 study found a high prevalence of CTS among Latino poultry processing establishment workers, with 8.7% of workers assessed having definite CTS (compared to 4.0% for Latino non-poultry manual workers), and 59.2% having possible or definite CTS (compared to 35.0% for Latino non-poultry manual workers).¹³
- A 2012 study on how work organization hazards (such as poor management safety commitment) relate to MSD risk among immigrant Latino workers in poultry processing establishments and in other manual labor found that “[a]pproximately 40% of workers reported a poor safety climate¹⁴ in their workplace,” and that workers in poultry establishments reported “more frequent exposure to awkward postures and repetitive movements than nonpoultry workers.”¹⁵ The study’s results “suggest[ed] that the organization of work in poultry processing is more pathogenic than other manual occupations held by immigrant Latinos.”¹⁶
- A 2013 study found that Latino poultry workers and manual laborers experienced high rates of epicondylitis (tennis elbow), rotator cuff syndrome, and low back pain. Specifically, 17.2% reported low back pain, 14.7% experienced rotator cuff syndrome, and 5.8% experienced epicondylitis.¹⁷
- A 2013 study on upper body musculoskeletal symptoms in Latino poultry processing workers and a community comparison group found that 35% of all participating workers “reported symptoms of ache, pain, discomfort, or numbness at their upper and/or lower back in the past year that lasted greater than 1-day and a similar percent reported these symptoms at their wrists/hands,” and “the prevalence of symptoms was somewhat greater among poultry workers than among other manual workers.”¹⁸

¹² C. S. McPhee & H. J. Lipscomb, *Upper-extremity Musculoskeletal Symptoms and Physical Health Related Quality of Life Among Women Employed in Poultry Processing and Other Low-Wage Jobs in Northeastern North Carolina*, 52 Am. J. Indus. Med. 331 (2009).

¹³ Michael S. Cartwright et al., *The Prevalence of Carpal Tunnel Syndrome in Latino Poultry Processing Workers and Other Latino Manual Workers*, 54 J. Occupational & Env’t Med. 198, 198–201 (2012).

¹⁴ Joseph G. Grzywacz et al., *Work Organization and Musculoskeletal Health: Clinical Findings from Immigrant Latino Poultry Processing and Other Manual Workers*, 54 J. Occupational & Env’t Med. 995, 997 (2012). Specifically, when asked, “[h]ow much do supervisors seem to care about your safety?” approximately 40% selected, “they are only interested in doing the job fast and cheaply.” *Id.*

¹⁵ *Id.*

¹⁶ *Id.* at 999.

¹⁷ Daryl A. Rosenbaum et al., *Prevalence of Epicondylitis, Rotator Cuff Syndrome, and Low Back Pain in Latino Poultry Workers and Manual Laborers*, 56 Am. J. Indus. Med. 226, 229 (2013).

¹⁸ Mark R. Schulz et al., *Upper Body Musculoskeletal Symptoms of Latino Poultry Processing Workers and a Comparison Group of Latino Manual Workers*, 56 Am. J. Indus. Med. 197, 201 (2013).

- A 2014 Health Hazard Evaluation Report by NIOSH evaluated MSDs and traumatic injuries among workers at a poultry processing establishment before (baseline) and after (follow-up) an increase in evisceration line speed (“2014 NIOSH Report”).¹⁹ The baseline line speed was 90 bpm, and the follow-up line speed was 175 bpm.²⁰ Of the 131 participants evaluated at both baseline and follow-up, 39% reported hand or wrist symptoms at both evaluations.²¹ Of these 131 participants, 11% (baseline) and 17% (follow-up) reported that a physician had diagnosed them with CTS.²² At baseline, 41% of participants “worked in jobs that had levels of hand activity and force above the American Conference of Governmental Industrial Hygienists’ (ACGIH) threshold limit values (TLV),” which predicts CTS.²³ This report was produced at the request of FSIS as part of an evaluation of the impacts of increasing line speed limits on worker safety.²⁴
- A 2014 study on the one-year incidence of CTS in Latino poultry processing workers and other Latino manual workers found that incidence of CTS in workers’ wrists was higher in poultry processing workers than in non-poultry manual workers (19.8% vs. 11.7%), and that poultry workers were 89% more likely to develop CTS over one year.²⁵
- A 2015 Health Hazard Evaluation Report by NIOSH evaluated CTS and other MSDs among employees at a poultry processing establishment.²⁶ The study found that 81% of the jobs that were “evaluated had average levels of hand activity and force above the [ACGIH] action limit,” and 59% of the jobs “evaluated had average levels of hand activity and force above the [ACGIH] [TLV].”²⁷ This TLV

¹⁹ Kristin Musolin et al., Ctr. for Disease Control and Prevention, Nat’l Inst. for Occupational Safety and Health, *Evaluation of Musculoskeletal Disorders and Traumatic Injuries Among Employees at a Poultry Processing Plant, Health Hazard Evaluation, Report No. 2012-0125-3204* (Mar. 2014) [hereinafter 2014 NIOSH Report].

²⁰ *Id.* at 2–3.

²¹ *Id.* at 15.

²² *Id.* at 14.

²³ *Id.* at i, 4.

²⁴ Modernization of Poultry Slaughter Inspection, 79 Fed. Reg. 49566, 49596 (Aug. 21, 2014) (codified at 9 C.F.R. pts. 381 and 500). Results of this study are also described in Kristin Musolin et al., *Prevalence of Carpal Tunnel Syndrome Among Employees at a Poultry Processing Plant*, 45 *Applied Ergonomics* 1377, 1379 (2014) (finding that 42% of the participants had evidence of CTS, and 67% of participants reported hand or wrist symptoms in the past 12 months).

²⁵ Michael S. Cartwright et al., *One-year Incidence of Carpal Tunnel Syndrome in Latino Poultry Processing Workers and Other Latino Manual Workers*, 57 *Am. J. Indus. Med.* 362 (2014).

²⁶ Jessica G. Ramsey et al., Ctr. for Disease Control and Prevention, Nat’l Inst. for Occupational Safety and Health, *Evaluation of Carpal Tunnel Syndrome and Other Musculoskeletal Disorders among Employees at a Poultry Processing Plant, Health Hazard Evaluation, Report No. 2014-0040-3232* (Mar. 2015, revised June 2015).

²⁷ *Id.* at i.

was validated by a large cohort study, and predicts CTS.²⁸ Additionally, 34% of participants had evidence of CTS.²⁹

- A recent analysis of the PULSE Study data found that “U.S. poultry processing workers performing shackle-line tasks showed wrist velocities indicating they are at high risk of developing CTS.”³⁰

This list is not exhaustive; it does not include, for example, studies about the many other workplace hazards in poultry slaughter and processing, including knives and other sharp tools causing lacerations and amputations.³¹ We understand other worker safety experts and advocates are submitting comments to the Proposed Rule that provide yet more evidence of the occupational hazards poultry processing workers face, even at line speeds of 140 bpm.

- b. Slaughter line speeds have historically focused on providing FSIS inspectors adequate time to examine carcasses for food safety standards, not on worker safety.*

The high rates of MSD and work-related pain we and others have observed are not surprising given that the speed of poultry slaughter and processing has long been determined only by efficiency and food safety aims, and not by what is safe for workers. The Poultry Products Inspection Act charges USDA with protecting consumer health and welfare by ensuring that poultry and poultry products are “wholesome, not adulterated, and properly labeled and packaged,”³² including by tasking FSIS inspectors with “post mortem inspection of the carcass of each bird processed.”³³ Traditionally, these inspections were conducted by federal inspectors at fixed points along the slaughter line, with line speed determined by the number of carcasses inspectors could inspect per minute.³⁴

USDA first developed these speeds roughly 60 years ago, after issuing reports on methods and equipment for eviscerating chickens efficiently. In a 1962 report, USDA stated that the method of “establishing the most economical line speeds for labor utilization is to arrive at

²⁸ *Id.* at 3; see also R. Bonfiglioli et al., *Validation of the ACGIH TLV for Hand Activity Level in the OCTOPUS Cohort: a Two-Year Longitudinal Study of Carpal Tunnel Syndrome*, 39 *Scandinavian J. Work, Env’t & Health* 155 (2013) (the large cohort study).

²⁹ Ramsey (2015), *supra* n. 26 at i. The results of this study are also explored in Kirstin M. Musolin & Jessica G. Ramsey, *Carpal Tunnel Syndrome Prevalence: an Evaluation of Workers at a Raw Poultry Processing Plant*, 23 *Int’l J. Occupational & Env’t Health* 282 (2017).

³⁰ A. Mehrotra et al., *The Association between Piece Rate and Mean Wrist Angular Velocity among U.S. Poultry Processing Workers* (accepted to the Human Factors and Ergonomics Society ASPIRE Conference, October 2026, Reno, NV).

³¹ See, e.g., Emmanuel Kyeremateng-Amoah et al., *Laceration Injuries and Infections among Workers in the Poultry Processing and Pork Meatpacking Industries*, 57 *Am. J. Indus. Med.* 669 (2014).

³² 21 U.S.C. § 451.

³³ 21 U.S.C. § 455(b).

³⁴ Modernization of Poultry Slaughter Inspection, 77 *Fed. Reg.* 4408, 4410 (proposed Jan. 27, 2012) (to be codified at 9 C.F.R. pts. 381 and 500).

the production level where the most birds possible are processed properly per man-hour of labor expended.”³⁵ A few years later, USDA published another report to determine what line speeds would allow for adequate inspection of the poultry carcasses while ensuring productivity and maximum levels of worker and inspector “utilization.”³⁶ For both reports, worker safety considerations were not a factor; the focus was on how employers could increase efficiency.

In the decades since, worker safety has remained a low priority for USDA, while maximum line speeds have increased dramatically, from around 20 bpm in the 1960s to the current limit of 140 bpm. And, as one author put it, “[t]he high rate of occupational injury in poultry processing derives most directly from the constant pressures to increase or maintain high line speeds.”³⁷ In setting line speeds, USDA has never accounted for the disproportionately high levels of MSD risk and work-related pain among poultry processing workers. The Proposed Rule continues that trend.

- c. *OSHA’s oversight does not relieve FSIS of the need to consider worker safety in poultry processing establishments, particularly when OSHA has failed to address widespread harms.*

In the Proposed Rule, FSIS points to the Occupational Safety and Health Administration (OSHA) as the agency “responsible for [poultry] establishment worker safety issues.”³⁸ The Occupational Safety and Health Act imposes a general duty on employers to provide workplaces “free from recognized hazards that are causing or are likely to cause death or serious physical harm to” employees.³⁹ But that shouldn’t mean that FSIS can take actions that could increase hazards to workers. FSIS is the agency that regulates poultry evisceration line speed limits, so it must be responsible for ensuring those limits are safe for workers. The Proposed Rule’s reliance on OSHA is especially problematic given that agency’s track record on this issue and given FSIS’s and OSHA’s longstanding failure to work collaboratively to protect poultry processing workers from chronically unsafe workplaces. In short, OSHA lacks the capacity to monitor the poultry industry, so FSIS should not implement regulations that depend on it to do so.

³⁵ Rex E. Childs & Roger E. Walters, Agricultural Marketing Serv., U.S. Dep’t of Agric., *Marketing Research Report No. 549, Methods and Equipment for Eviscerating Chickens* 41 (Oct. 1962). For a larger discussion of the early development of line speeds, see Marc Linder, *I Gave My Employer a Chicken That Had No Bone: Joint Firm-State Responsibility for Line-Speed-Related Occupational Injuries*, 46 Case W. Rsr. L. Rev. 33, Section IV.

³⁶ Rex E. Childs, Agricultural Research Serv., U.S. Dep’t of Agric., *Marketing Research Report No. 813, Efficiency in Poultry Evisceration and Inspection Operations* 1, 9 (June 1968).

³⁷ M. Linder, *Playing Chicken with People: the Occupational Safety and Health Consequences of Throughput Über Alles*, 25 Int’l J. Health Servs. 633, 649 (1995), quoting David Griffith, *Jones’s Minimal: Low-Wage Labor in the United States* 176–177 (State University of New York Press 1993).

³⁸ Proposed Rule, at 7933.

³⁹ 29 U.S.C. § 654.

Indeed, despite extensive evidence that workers in the poultry processing industry are at high risk of MSDs, **OSHA has no specific ergonomic standards for the industry.**⁴⁰ OSHA has published *guidance* on preventing musculoskeletal injuries in poultry processing, but that isn't legally binding on poultry processing establishments.⁴¹ Thus, based on our experience in the PULSE Study, the poultry processing establishments are not implementing long-standing, published recommendations. A 2017 U.S. Government Accountability Office (GAO) report published concluded that “worker safety and health problems persist” at meat and poultry establishments despite OSHA’s enforcement efforts, and that improvements are needed to protect worker safety in the industry.⁴² The report also noted that “[c]ollaboration between OSHA and FSIS is limited.”⁴³ Therefore, FSIS should not be making a regulation that could increase hazards, expecting OSHA to ensure those hazards are mitigated.

OSHA has not even fully accounted for the scope of the problem, in part because recordkeeping for workplace injuries at poultry processing establishments is often unreliable. We observed that firsthand during our visits to the poultry slaughter establishments for the PULSE Study. Compounding the issue, OSHA does not regularly inspect poultry slaughter establishments to assess ergonomic risks to workers. Instead, it responds to incident reports, which is problematic because poultry establishments often do not log incidents correctly. One report analyzing information collected by OSHA during inspections at meat and poultry establishments found more than twice as many recordkeeping errors related to incidents resulting in days away from work, restricted work activity, and/or job transfer than for OSHA inspections in other sectors.⁴⁴ The 2014 NIOSH Report referenced above similarly found recordkeeping errors in poultry establishments, as well as underreporting of injuries on OSHA Logs. While 22 workers in the study reported work injuries in the past 12 months, researchers found only five incident reports of work-related injuries on file in the OSHA Logs and onsite medical clinic data from that time period.⁴⁵

Moreover, as the 2017 GAO report noted, some of the recordkeeping issues appear to be the result of intentional underreporting by establishments. At one establishment, GAO noted

⁴⁰ *Poultry Processing*, U.S. Dep’t Labor Occupational Safety Health Admin., <https://perma.cc/8838-83NB> (last visited Apr. 20, 2026).

⁴¹ *Prevention of Musculoskeletal Injuries in Poultry Processing, OSHA 3213-12R 2013*, U.S. Dep’t Labor Occupational Safety Health Admin. (2013).

⁴² U.S. Gov’t Acct. Off., *Workplace Safety and Health: Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants*, GAO-18-12, 49 (2017) [hereinafter 2017 GAO Report].

⁴³ *Id.*

⁴⁴ Kathleen M. Fagan & Michael J. Hodgson, *Under-Recording of Work-Related Injuries and Illness: An OSHA Priority*, 60 J. Safety Rsch. 79, 80 (2017). OSHA investigations specifically identified onsite medical units “as a new obstacle to accurate recordkeeping,” noting that “the EMTs and LPNs staffing these onsite medical units had little to no nursing or medical supervision, functioned without appropriate, up-to-date protocols and provided care beyond their scopes of practice,” resulting in workers being prevented from accessing “higher level medical care” and their cases being “kept off the employer’s recordkeeping log.” *Id.* at 80-81.

⁴⁵ 2014 NIOSH Report, *supra* n. 19, at 18.

“workers recalled incidents in which supervisors told injured workers they were not hurt and to go back to work rather than report their injury.”⁴⁶ Even apart from being dissuaded, workers “are reluctant to report injuries, illnesses, and hazards because they fear losing their jobs.”⁴⁷ Pervasive underreporting of workplace injuries⁴⁸ exacerbates the issues created by recordkeeping errors.

In sum, OSHA has demonstrably failed to ensure that poultry slaughter establishments institute appropriate ergonomic standards to reduce MSD risk for workers. Based on the PULSE Study findings, it is clear that poultry establishments are not following OSHA recommendations to reduce that risk, even though those recommendations are readily available and have been implemented in many other industries. Indeed, in its 2014 rule creating the New Poultry Inspection System (NPIS),⁴⁹ FSIS acknowledged the serious workplace hazards in poultry establishments and the need to collaborate with OSHA to protect workers, stating that it has “taken action to encourage establishments to comply with OSHA requirements,” and that it “recommends that establishments develop plans to implement OSHA’s recommendations.”⁵⁰ Yet 12 years later, high levels of MSD risk and work-related pain remain pervasive. FSIS’s encouragement has been ignored.⁵¹ Thus, FSIS’s “commend[ing]” OSHA guidance and our study recommendations to poultry establishments in the Proposed Rule will not change hazard levels or MSD risk to workers.⁵² FSIS cannot justify lifting line speed limits by gesturing to another agency that it knows has, for decades, been ineffectual in ensuring that poultry processing establishments reduce the MSD risk of their workers.

⁴⁶ 2017 GAO Report, *supra* n. 42, at n. 66.

⁴⁷ *Id.* at 49.

⁴⁸ As described in Section III.c, our PULSE Study found that nearly half of study participants who reported moderate to severe work-related pain in the previous year did not report their pain to their supervisor or the establishment nurse.

⁴⁹ The development of the NPIS, and how it relates to the current Proposed Rule, is described in more detail in Section III.a.

⁵⁰ Modernization of Poultry Slaughter Inspection, 79 Fed. Reg. 49566, 49596–97 (Aug. 21, 2014) (codified at 9 C.F.R. pts. 381 and 500).

⁵¹ For example, in conducting the PULSE Study, we did not observe a single establishment that implemented OSHA’s recommendations for reducing ergonomic risks and implementing an appropriate medical response protocol.

⁵² Proposed Rule, at 7933.

III. From evaluating over a thousand workers from eleven poultry slaughter and processing establishments, we found an extremely high baseline level of MSD risk and pain, and a statistically significant increase in MSD risk with higher piece rates.

a. FSIS commissioned the PULSE Study in response to years of related rulemaking and litigation.

FSIS commissioned the PULSE Study after 25 years of pilot programs, rulemaking, and litigation involving increases in poultry evisceration line speeds.

These began in 1997 with the Hazard Analysis and Critical Control Point Systems (HAACP)-Based Inspection Models Project (HIMP) pilot program in 1997.⁵³ In 2012 FSIS used the results of that program to suggest increasing maximum line speeds under the proposed NPIS, to 175 bpm for young chicken slaughter establishments and 55 bpm for turkey slaughter establishments under the NPIS.⁵⁴ FSIS ultimately granted a waiver to the 20 chicken slaughter establishments already operating at a maximum evisceration line speed of 175 bpm to continue operating at that line speed.⁵⁵ FSIS studied whether higher evisceration line speeds increased *Salmonella* contamination risks but did not examine their impacts on worker health and safety.⁵⁶

Then, in 2022, after litigation by the United Food and Commercial Workers International Union, FSIS reviewed the poultry evisceration line speeds in light of the “Time Limited Trials” (TLTs) occurring in New Swine Slaughter Inspection System (NSIS) establishments.⁵⁷ FSIS thus began requiring poultry establishments with evisceration line speed waivers to submit monthly worker safety information to be used in research on the effects of increased evisceration line speeds on worker safety. But when that information proved insufficient to the task, FSIS contracted with us and a research team at UCSF to design and conduct the PULSE Study.

⁵³ *Id.* at 7928.

⁵⁴ Modernization of Poultry Slaughter Inspection, 77 Fed. Reg. 4408, 4423 (proposed Jan. 27, 2012) (to be codified at 9 C.F.R. pts. 381 and 500).

⁵⁵ Modernization of Poultry Slaughter Inspection, 79 Fed. Reg. 49566, 49583 (Aug. 21, 2014) (codified at 9 C.F.R. pts. 381 and 500).

⁵⁶ *Id.* at 49573.

⁵⁷ Proposed Rule, at 7932. The TLTs were established in response to a court decision determining that an FSIS rule eliminating evisceration line speeds in swine slaughter establishments unlawfully failed to consider worker safety.

- b. *The PULSE Study was designed to assess how increased evisceration line speeds and piece rate affect the risk of MSDs and work-related pain for poultry processing workers.*

Our task in the PULSE Study “was to evaluate the association between evisceration line speed and the risk of adverse health effects for poultry processing workers.”⁵⁸ As described in Section II, **increased evisceration line speeds will result in increased piece rate unless control measures are implemented**; therefore, we also examined the association between piece rate and MSD risk. Specifically, we aimed to estimate the effects of evisceration line speed and piece rate on the risk of developing MSDs⁵⁹ among workers in poultry processing establishments operating across a range of evisceration line speeds. Through the study, we also aimed to estimate the prevalence of moderate to severe upper extremity pain among those workers.⁶⁰ And we assessed the reporting and medical management of work-related pain and injuries at establishments operating over a range of line speeds.⁶¹

In designing, conducting, and analyzing the results of the PULSE Study, we relied upon our years of experience teaching, investigating, and publishing in the fields of ergonomics and occupational medicine. We stand behind the PULSE Study and the validity of its results, which drew not only on this professional expertise but also on the expertise of our several co-authors, who have more than 200 years of experience in occupational exposure assessment and occupational medicine research. The PULSE Study has several strengths, including a large study worker sample from multiple poultry processing establishments, a high participation rate (96.6%), and highly detailed individual ergonomic exposure measurements, which used validated, objective methods to quantify hand force, hand repetition rate, and duty cycle (the amount of time spent exerting a hand force).⁶²

However, there were some limitations. Although we requested that each worker be measured twice, once while their establishment operated at 140 bpm and a second time when their establishment operated at 175 bpm, the establishments were unable or unwilling to do so. This within-subjects study design would have increased our power to detect a statistically significant difference. In lieu of this, this study was a between-subjects design comparing

⁵⁸ PULSE Study, at 15.

⁵⁹ The metric used was the ACGIH Threshold Limit Value for Hand Activity PFI-TLV score, described in more detail below.

⁶⁰ *Id.*

⁶¹ *Id.* The study also aimed to estimate the effects of evisceration line speed on airborne antimicrobial concentrations and the prevalence of respiratory symptoms among workers in establishments operating over a range of line speeds. *Id.* These comments focus on the portions of the study related to MSD risk and work-related pain.

⁶² *Id.* at 48.

workers at establishments operating at a single evisceration line speed. Despite the reduction in power, there was still a statistically significant association between piece rate and MSD risk.⁶³

Also, although the stated task was to study the association between evisceration line speed and the risk of adverse health effects for *poultry* processing workers, we only visited and assessed workers in chicken slaughter establishments. We neither visited nor collected any data from turkey slaughter establishments or turkey processing workers.

At each chicken establishment, we conducted a three-day site visit to collect data. We selected ten upper extremity-intensive jobs and randomly selected workers performing those jobs to participate.⁶⁴ 1,047 workers completed the Work and Health Survey.⁶⁵ We conducted a medical interview with 508 workers who reported work-related musculoskeletal pain or respiratory symptoms in the survey.⁶⁶ We also conducted a video-based ergonomic assessment of 480 workers, 277 of whom also wore instruments to measure the biomechanical demands of their jobs.⁶⁷

We then used validated risk assessment tools to interpret workers' MSD risk while performing various tasks within the slaughter establishments.⁶⁸ We measured this by calculating a ratio of the worker's actual hand activity and force exertion to ACGIH's threshold limit value for Hand Activity.⁶⁹ This produces what's called a "Peak Force Index Threshold Limit Value" (PFI-TLV) score. The PFI-TLV is a widely accepted measurement used in ergonomics and occupational medicine to assess MSD risk.⁷⁰ PFI-TLV has been validated in a large cohort study and is associated with increased risk of CTS, as confirmed by nerve conduction studies.⁷¹ Jobs with a PFI-TLV score of 1.0 or less are categorized as acceptable risk jobs, while jobs with a

⁶³ A within-establishment design would have more robustly measured impact because the only variable that would change between treatment (175 bpm) and control (140 bpm) is the evisceration line speed. The between-establishment design introduced potential confounding variables such as knife sharpness, worker predisposal to MSDs, and staffing levels. However, the companies selected for the study were unable or unwilling to modify their processes within establishments to allow for a within-establishment design.

⁶⁴ *Id.* at 17.

⁶⁵ *Id.* at 26.

⁶⁶ *Id.*

⁶⁷ *Id.* at 19, 36. A description of the exposure measurement methods used can be found in Appendix 3 of the PULSE Study.

⁶⁸ *Id.* at 19. The Revised NIOSH Lifting Equation (RNLE) Composite Lifting Index (CLI) was used to estimate work-related low back pain risk for one job where lifting was the primary activity (Stacking). *Id.* at 20. Inputs for the RNLE were determined from video analysis, direct measurements, and known box weights. *Id.* The calculated CLI score was compared to a limit of 1.5. *Id.*

⁶⁹ ACGIH is a non-governmental non-profit organization that provides science-based recommendations for industrial hygienists to assist in the control of workplace hazards. *About ACGIH*, ACGIH, <https://perma.cc/6GAR-CXYW> (last visited Apr. 20, 2026).

⁷⁰ ACGIH TLV is "used as a gold standard" in evaluating MSD risk. Francesca Graziosi et al., *Criteria for Assessing Exposure to Biomechanical Risk Factors: A Research-to-Practice Guide—Part 2: Upper Limbs*, 15 *Life* 109, 3 (2025).

⁷¹ PULSE Study, at 19. *See also* 2014 NIOSH Report, *supra* n. 19, at 3; Bonfiglioli (2013), *supra* n. 28.

score above 1.0 are categorized as hazardous jobs.⁷² For the ergonomic assessment, we evaluated 30 unique tasks within 10 job categories.⁷³

Using all these data, we then analyzed the effects of evisceration line speed and piece rate on PFI-TLV scores for each task.⁷⁴

- c. The PULSE Study found that piece rate is highly associated with MSD risk, and found high levels of MSD risk and work-related pain among workers at poultry slaughter establishments at all studied evisceration line speeds.*

The key finding of our PULSE Study was that piece rate was strongly associated with MSD risk (as quantified by the PFI-TLV score). Thus, while we did not find a direct association between evisceration line speed and MSD risk,⁷⁵ we did find an important relationship because of how evisceration line speed can affect piece rate, as explained above. As we noted, **increasing evisceration line speed, without adjusting job-specific line speeds and/or staffing levels to control piece rate, will “result in an increase in MSD risk.”**⁷⁶

We also found disturbingly high levels of MSD risk and work-related pain among the workers. An overwhelming majority—81%—of workers across all establishments in the jobs we evaluated had an unacceptably high MSD risk (a PFI-TLV score above 1.0).⁷⁷ A PFI-TLV score of 1.0 indicates a two-fold increase in the risk of CTS. Worse, 20% of workers had a PFI-TLV score *above 2*. Those workers have a *three-fold* increased risk of CTS.⁷⁸ The high prevalence of hazardous PFI-TLV scores is unique to this industry and exceeds the hazards we have observed in other industries.

Our PULSE Study also found high levels of work-related pain. Nearly half of workers (40%) across all establishments, regardless of evisceration line speed, reported experiencing moderate to severe work-related upper extremity pain during the past 12 months.⁷⁹ Despite these high levels of pain, we also found that nearly half (43%) of those who reported experiencing this pain did not report their pain to their employer.⁸⁰ These results are congruent with many previous studies, including those described above in Section II. The high amount of underreporting of pain, coupled with the prolonged and inappropriate use of first aid, explains the lower-than-expected recordable injury rates.

⁷² PULSE Study, at 20.

⁷³ *Id.* at 21.

⁷⁴ *Id.*

⁷⁵ *Id.* at 46.

⁷⁶ *Id.* at 30.

⁷⁷ *Id.* at 46.

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

IV. The Proposed Rule ignores and misrepresents our study results, which in fact provide a clear basis for FSIS to decline to increase line speed limits unless establishments are also required to control piece rate.

- a. The Proposed Rule omits key findings from the PULSE Study and does not correctly characterize our central conclusion—that increasing evisceration line speed, without requiring control measures, is likely to increase piece rate and thus MSD risk.*

In the Proposed Rule, FSIS claims that “the available evidence demonstrates that limiting establishments’ line speeds is not an effective mechanism for reducing worker injuries” and that “[b]ecause line speeds do not meaningfully impact worker safety, the proposed increase in poultry establishment line speeds should not represent a marked change to establishment worker safety.”⁸¹ FSIS concludes that our “study’s findings provide no basis for USDA to decline to increase the limit on NPIS establishment line speeds.”⁸²

We disagree. **Our PULSE Study findings provide a clear basis for FSIS to decline to increase evisceration line speed limits; increasing evisceration line speed without requiring an increase in staffing will result in higher piece rates, which we clearly showed are statistically significantly associated with increased MSD risk.** The agency should be asking why, even at the current limit of 140 bpm, the MSD risk for so many poultry processing workers is unacceptably high. And although we found an association between piece rate and MSD risk, not evisceration line speed, it does not follow that “line speeds do not meaningfully impact worker safety.” Because, again, piece rate is closely linked to evisceration line speed. **If line speeds are increased without appropriate adjustments to control piece rate, poultry processing workers will have an increase in MSD risk.** So while “establishments can maintain or even reduce piece rate by adding staff or redistributing tasks, even as [evisceration] line speed increases,”⁸³ the Proposed Rule misses the mark because it lacks any guardrails to ensure establishments *will* control piece rate after increasing evisceration line speeds.

Indeed, FSIS omitted one of our central findings: that 81% of poultry processing workers had a PFI-TLV score above 1.0 across establishments operating at all studied line speeds, placing those workers at an unacceptably high risk of MSDs.⁸⁴ As a result, **we conclude that “all establishments should mitigate MSD risk by increasing job-specific staffing levels” and/or**

⁸¹ Proposed Rule, at 7933.

⁸² *Id.*

⁸³ *Id.* at 7932.

⁸⁴ PULSE Study, at 46.

decreasing job-specific line speeds.⁸⁵ Instead, the Proposed Rule allows establishments to increase the hazard to workers who are already in unacceptably hazardous jobs.

The Proposed Rule also appears to gloss over important details of our study results regarding the relationship between evisceration line speed and MSD risk. We found that establishments in the highest tertile of evisceration line speed had the highest piece rate for five out of nine job categories.⁸⁶ Although for some job categories (such as Live Hang, Chiller Rehang, and Coning), establishments were able to adjust job-specific line speeds and staffing such that piece rate did not increase with the evisceration line speed increase, for other job categories, we did not observe that to be the case. Even with increased staffing, piece rate increased with higher evisceration line speed for Breast Processing, Shoulder/Wing Processing, and Tender/Wing Processing.⁸⁷ FSIS should proceed with caution to avoid oversimplifying our study results and overestimating establishments' ability to increase evisceration line speed while maintaining or reducing piece rate. It may be *possible* for establishments to reduce PFI-TLV scores below 1.0 while simultaneously increasing evisceration line speed, but FSIS must require this in the Proposed Rule.

This is especially true given that increasing staffing may become more, not less, challenging for poultry slaughter establishments. As our PULSE Study demonstrated, the poultry processing industry heavily relies on immigrant labor.⁸⁸ Among the workers participating in the PULSE Study, about half were born outside the United States, and about half reported that a language other than English was their primary language.⁸⁹ The current administration's immigration enforcement policies could make hiring and retaining workers even more difficult in an industry where labor supply is already tight, and turnover is high.⁹⁰ If evisceration line speeds increase, but poultry establishments are not able to hire and retain enough workers, establishments may find it difficult or expensive to properly control piece rates—and workers will suffer. Given this, **FSIS can't credibly claim the Proposed Rule won't negatively affect workers.**

⁸⁵ *Id.* (emphasis added).

⁸⁶ *Id.* at 75.

⁸⁷ *Id.* at 46, 75.

⁸⁸ Surveys administered by the U.S. Census Bureau indicate that 37.5% of animal slaughtering and processing workers in the U.S. were born outside the United States (and this figure is likely an underestimate, as it excludes the percentage of the workforce that is undocumented). Angela Stuesse & Nathan T. Dollar, *Who are America's Meat and Poultry Workers?*, Working Econ. Blog (Sept. 24, 2020), <https://perma.cc/E7NL-E9GH>.

⁸⁹ PULSE Study, at 27.

⁹⁰ Matt Reynolds, *US Meat, Milk Prices Should Spike if Donald Trump Carries Out Mass Deportation Schemes*, Wired (Dec. 11, 2024), <https://perma.cc/VSH9-X6GE>.

b. The Proposed Rule does not address the PULSE Study's scope, which makes FSIS's analysis of the study results fundamentally flawed.

The Proposed Rule's failure to address the PULSE Study's scope, discussed in Section III, above, also undermines FSIS's confident pronouncement that "line speeds do not meaningfully impact worker safety." For example, the Proposed Rule fails to account for the healthy worker survivor effect and for operational differences between chicken establishments related to knife sharpening or automation, which were beyond the scope of the PULSE Study.

However, the most glaring issue is the Proposed Rule's treatment of turkey processing establishments. Again, we did not visit or study any turkey processing establishments. The PULSE Study results cannot be generalized to turkey processing. They in no way indicate that the effects of evisceration line speed increases at turkey processing establishments would be comparable to the effects at chicken processing establishments. In fact, we have reason to believe they would be distinct because turkeys are much heavier than chickens. Many jobs in turkey processing would likely require workers to exert more force while performing the same basic movement. The amount of force exerted during a task is directly relevant to MSD risk.

Notwithstanding this, the Proposed Rule appears to use our study as justification to raise the turkey evisceration line speed from 55 bpm to 60 bpm—or at the very least, the Proposed Rule wrongly suggests our study covered both types of poultry processing establishments. But our PULSE Study results don't support increasing the turkey evisceration line speed, nor does any other evidence we're aware of. And as the Proposed Rule notes, only two turkey processing establishments have been granted line speed waivers to operate up to 60 bpm, one of which is no longer operating.⁹¹ Yet the Proposed Rule notes that there are currently 22 turkey establishments operating under NPIS, and proposes that all of them be permitted to raise their evisceration line speeds to 60 bpm.⁹² That proposal appears to be based solely on food safety-related (SIP) data from the two NPIS turkey establishments with line speed waivers, with no relevant worker safety data. Given the high rates of MSD risk and work-related pain we observed in the chicken processing establishments, we are concerned the Proposed Rule could have negative, unquantified impacts on turkey processing workers.

c. Further research we conducted using OSHA injury data illustrates the Proposed Rule's dangers.

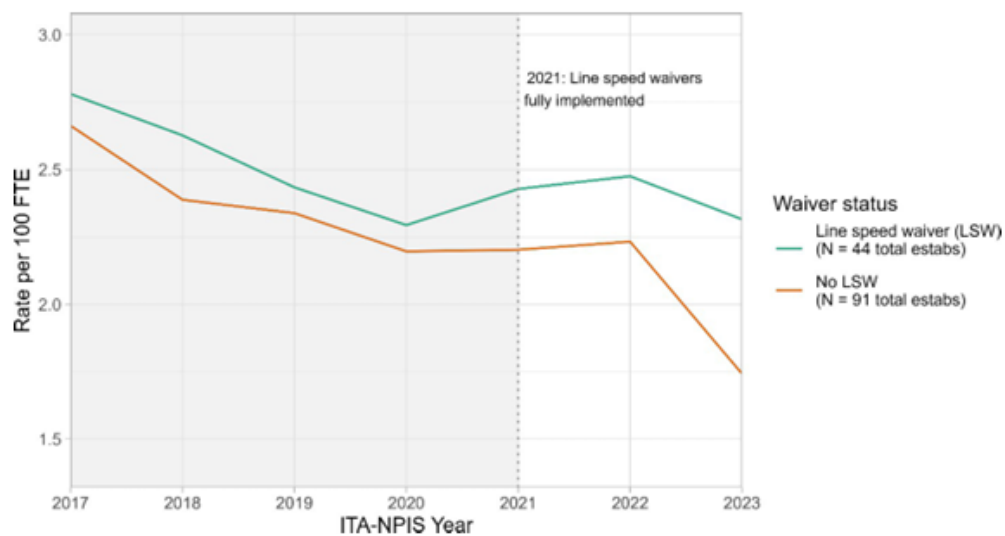
A recent study we conducted with other researchers, published by the California Department of Public Health, further illustrates the Proposed Rule's shortsightedness. Using OSHA establishment-level injury tracking data, we studied the difference in worker injury rates

⁹¹ Proposed Rule, at 7935.

⁹² *Id.*

between poultry processing establishments that had received a line speed waiver (with a limit of 175 bpm) and those that did not have such a waiver (with a limit of 140 bpm). We found further evidence supporting an association between increased evisceration line speeds and decreased worker safety.⁹³ The study found that establishments with line speed waivers reported higher average injury rates than establishments without waivers for all study years (2017–2023), as shown in the graph below.⁹⁴

Figure 1. Average rate of total injuries per 100 full-time equivalent (FTE) workers at poultry slaughter establishments by line speed waiver recipient status, ITA-NPIS annual summary data, 2017-2023.



Additionally, we found that workers at establishments with line speed waivers had higher proportions of repetitive motion injuries—a subset of MSDs—than workers at establishments without waivers (52.8% versus 33.6%).⁹⁵ And at establishments with line speed waivers, a significantly higher proportion of the reported injuries were sprains, strains, tears, and other soft-tissue and joint injuries (approximately 34% of reported injuries), compared to establishments without line speed waivers, in which such injuries made up less than a quarter of reported injuries.⁹⁶

The results of this study further undercut FSIS’s contention that “line speeds do not meaningfully impact worker safety.”⁹⁷

⁹³ Stella Beckman et al., *Poultry Slaughter Establishment Injury Rates in the US Occupational Health and Safety Administration’s Injury Tracking Application, 2017-2023*, California Department of Public Health 1 (Apr. 2026).

⁹⁴ *Id.* at 1, 4.

⁹⁵ *Id.* at 7.

⁹⁶ *Id.*

⁹⁷ Proposed Rule, at 7933.

- d. FSIS failed to consider current and increased healthcare cost consequences from the Proposed Rule.*

Finally, in the Proposed Rule, FSIS has failed to account for the MSD risk and work-related pain documented in our study (and many others) among poultry processing workers. The Proposed Rule's evaluation of costs and benefits fails to consider costs for poultry processing workers.⁹⁸

These costs are not theoretical. Studies have documented that the costs of additional workplace injuries at slaughter and processing establishments fall upon the workers who have to live with debilitating disabilities (and may not be able to rejoin the workforce), on our healthcare system, and on poultry companies themselves, in the form of higher workers' compensation payments. For example, in a chapter co-authored by Dr. Harris-Adamson, the estimated median cost per CTS case in Washington state between 2002 and 2010 was \$17,536, based on workers' compensation data.⁹⁹ Adjusted for inflation, that is roughly \$26,000 per CTS case today.

As discussed in Section III.c, the PULSE Study found that across the studied evisceration line speeds, including at 140 bpm, 81% of poultry establishment workers in the jobs we evaluated had an unacceptably high MSD risk, with at least a two-fold increase in the risk of MSDs like CTS, and 40% experienced moderate to severe work-related upper extremity pain.¹⁰⁰ Thus, even at current line speeds, MSDs already cost workers and society. If FSIS finalizes the Proposed Rule without the necessary guardrails (e.g., requiring jobs with a PFI-TLV at or below 1.0), more workers may experience MSDs, thereby increasing these costs. FSIS must consider those costs in any accounting of the Proposed Rule's costs and benefits.

V. FSIS should require that any increase in line speeds be conditioned on poultry slaughter establishments implementing appropriate piece rates and established best practices to reduce the currently unacceptable levels of MSD risk among their workers.

- a. Poultry processing establishments should be required to implement established best practices to reduce PFI-TLV scores to 1.0 or lower, thereby reducing MSD risk among workers.*

Our PULSE Study recommendation is simple: poultry processing establishments should reduce the PFI-TLV score to 1.0 or lower for all poultry processing jobs by implementing job-specific piece rates as presented in the study, along with long-established meatpacking best

⁹⁸ *Id.* at 7935–40.

⁹⁹ Carisa Harris-Adamson, Stephen S. Bao & Bradley Evanoff, *Musculoskeletal Disorders, in Occupational and Environmental Health: Recognizing and Preventing Disease and Injury* 435 (B. S. Levy et al. eds., 7th ed. 2018).

¹⁰⁰ PULSE Study, at 46.

practices.¹⁰¹ Establishments can reduce PFI-TLV scores by reducing work pace (through decreasing job-specific line speeds, increasing staffing, or both), reducing hand force (e.g., ensuring that workers use appropriately sharpened knives and rotate knives throughout the shift), and allowing workers adequate recovery times.¹⁰² A 2026 study used data from the PULSE Study to develop a model for poultry establishments, describing the staffing level required to keep PFI-TLV scores at or below 1.0 across a range of evisceration line speeds for Live Hang and Chiller Rehang Jobs.¹⁰³ Requiring a risk-based approach to optimize line operations will reduce the risk of MSDs for thousands of workers.

Many of these recommendations aren't novel. Best practices to reduce hand force exertion have long been available. Indeed, OSHA has published guidance in this area since 1993, and most recently in 2013.¹⁰⁴ OSHA advises meat and poultry establishments to implement an ergonomics program and "a medical surveillance program for musculoskeletal disorders to monitor employee health and determine the effectiveness of exposure prevention and medical management strategies."¹⁰⁵ OSHA also tells establishments to keep "[c]omplete, descriptive, and accurate injury and illness records."¹⁰⁶ As described in Section II, NIOSH, too, has recommended that poultry processing establishments reduce worker safety hazards by "[d]esign[ing] job tasks so that they are below the AL of the ACGIH TLV to minimize the risk for developing carpal tunnel syndrome."¹⁰⁷

Yet by and large, **poultry establishments have not followed established recommendations.** Despite decades of research showing the severity of MSD risk among poultry processing workers and recommendations on how to reduce it, the industry remains extremely hazardous, as the PULSE Study results demonstrate. Thus, the Proposed Rule's "encourage[ment]" to "establishments to consider the report recommendations"¹⁰⁸ will not be effective in reducing MSD risk. If FSIS raises the chicken evisceration line speed limit to 175 bpm without these requirements, we have every reason to believe establishments will increase their line speeds without following our, OSHA's, or NIOSH's recommendations. **FSIS should only consider allowing line speeds to increase *after* an establishment shows that MSD risk is controlled (i.e., each job has a PFI-TLV at or below 1.0).** Including this requirement in the Proposed Rule will **benefit workers and companies that reduce hazards** for their workers. In other words, the Proposed Rule disadvantages companies that take care of their workers and

¹⁰¹ *Id.* at 49–51.

¹⁰² *Id.* See also Harris-Adamson (2018), *supra* n. 99, at 449–55 (discussing MSD prevention measures).

¹⁰³ Frederick Houghton et al., *Probabilistic Modeling of Distal Upper Extremity Exposure in the Poultry Industry* (accepted to the Human Factors and Ergonomics Society ASPIRE Conference, October 2026, Reno, NV).

¹⁰⁴ *Prevention of Musculoskeletal Injuries in Poultry Processing*, OSHA 3213-12R 2013, U.S. Dep't Labor Occupational Safety Health Admin. (2013).

¹⁰⁵ *Id.* at 7.

¹⁰⁶ *Id.* at 6.

¹⁰⁷ 2014 NIOSH Report, *supra* n. 19, at 20.

¹⁰⁸ Proposed Rule, at 7932.

disincentivizes others from hiring more workers to reduce the piece rate, thereby lowering the PFI-TLV and, in turn, MSD risk.

In the Proposed Rule, FSIS claims it lacks the statutory authority to impose safeguards to reduce workplace hazard.¹⁰⁹ The Proposed Rule also claims that FSIS has no obligation to consider the impacts on poultry slaughter establishment workers. This position is inconsistent with FSIS's funding of the PULSE Study and partial reliance on the PULSE Study's conclusions. It is illogical for FSIS to use the PULSE Study to support its rulemaking while also denying any responsibility to consider worker safety.

We are aware of comments on the Proposed Rule by worker advocates and legal experts who contend that FSIS is wrong about its statutory authority. These commenters claim that FSIS has the authority and the obligation to consider worker safety when determining whether and how to set evisceration line speed limits. We commend those comments to the agency since they are consistent with the FSIS actions in funding and relying on the PULSE Study's conclusions, albeit only part of the conclusions.

b. FSIS should not remove the annual attestation requirement for poultry processing establishments, and should instead expand it.

Finally, FSIS should not remove the annual "attestation" requirement, as the Proposed Rule suggests. Currently, NPIS establishments must annually attest to FSIS that they "maintain[] a program to monitor and document any work-related conditions of establishment workers," which must include "[p]olicies to encourage early reporting of symptoms of injuries and illnesses" and "[m]onitoring on a regular and routine basis of injury and illness logs."¹¹⁰

Establishments don't have to submit proof or details of such a program or policies to FSIS—only to attest that they exist. Given the observed problems with inadequate recordkeeping and underreporting of workplace injuries in the poultry processing industry, this requirement has clearly been insufficient. To remove even this limited requirement, when underreporting remains pervasive and grave workplace hazards persist, is unjustified and would further frustrate efforts to obtain reliable information about worker safety in this industry.

FSIS should instead expand the attestation and require establishments to provide additional information about worker safety, such as including the number of first-aid reports, the duration of first-aid, the number of first-aid cases that received medical treatment, the number of first-aid cases resolved, and the number of first-aid recurrences. Ergonomic risk evaluations and

¹⁰⁹ *Id.* at 7932–33.

¹¹⁰ 9 C.F.R. § 381.45.

risk mitigation plans, including any policies to educate workers about MSD symptoms and prevention, should also be included.

VI. Conclusion

The Proposed Rule takes our PULSE Study as a green light to raise poultry processing line speed limits nationwide, when in fact our study results are a flashing red light that should alarm FSIS, OSHA, and the poultry processing industry. Our results contribute to the large body of evidence from decades of research indicating that poultry processing workers are exposed to unacceptable levels of ergonomic hazard and face unconscionably high MSD risk. Instead, FSIS could propose a rule requiring establishments to implement best practices to control ergonomic hazards before allowing them to increase evisceration line speed. Doing so would reward companies that choose to prioritize worker safety, rather than put them at a disadvantage, and would ensure that actions by FSIS are not causing undue harm to workers.

Sincerely,



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