

**From:** [vandinh.tran@veganfinance.org](mailto:vandinh.tran@veganfinance.org)  
**To:** [FSIS Petitions - FSIS](#)  
**Subject:** Requests that FSIS conduct rulemaking to require swine slaughter establishments that use carbon dioxide stunning to install video cameras inside their stunning areas  
**Date:** Saturday, May 20, 2023 4:25:23 PM  
**Attachments:** [image002.png](#)  
**Importance:** High

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Dear USDA representatives,

Research on CO2 stunning and slaughter methods has reported a range of latencies to animal loss of consciousness resulting from CO2 exposure in commercial slaughterhouses, from an average of 14 seconds to 66 seconds. One factor is the percentage of CO2 at the bottom of the pit. For example, Verhoeven et al (2016) observed that pigs stunned with 80 percent CO2 took an average of 47 seconds to lose consciousness, while those stunned with 95 percent CO2 took an average of 33 seconds.

The European Food Safety Authority (EFSA) identifies three different mechanisms that can cause discomfort and excitement in pigs stunned or killed with CO2 gas: “(1) pain due to formation of carbonic acid on respiratory and ocular membranes, (2) production of so-called air hunger and a feeling of breathlessness and (3) direct stimulation of ion channels within the amygdala associated with the fear response.” These mechanisms cause a variety of behaviors commonly reported in research on this area—which would signal pig excitement and/or discomfort to FSIS inspectors—including retreat and escape attempts, crawling, jumping, muscular contractions and gasping prior to loss of posture, lacrimation (the secretion of tears), vocalization, salivation, and head shaking/lateral head movements.

While some pig slaughter plants in the United States use video recording equipment, very few, if any, appear to use video cameras inside the gondolas used in CO2 gas slaughter systems. A review of FSIS noncompliance reports since 2016 reveals that some pig slaughter plants use cameras to monitor the areas around the gondola or chamber. For example, FSIS inspectors in pig slaughter plants have recorded humane handling violations in the alleyways and push gate systems near the CO2 stunner in the form of overuse of electric prods, inappropriate treatment of nonambulatory animals, and overly aggressive driving. In each of these incidents, the records indicate that cameras installed in the vicinity of the CO2 chamber documented the noncompliant behavior. This suggests that cameras installed inside gondolas would be equally effective in enabling inspectors to record instances of inhumane slaughter and respond with appropriate enforcement actions. However, there do not appear to be any records indicating that slaughter facilities have installed cameras inside the gondolas themselves. Nor does there appear to be any publicly available information regarding whether any companies that operate pig slaughter facilities in the United States use video cameras or other surveillance equipment within CO2 systems. AWI requested this information from askFSIS, but the agency declined to provide an answer. By contrast, several other countries require video monitoring of CO2 gas slaughter systems. For example, Spain requires slaughterhouses to

install video surveillance systems that “cover the facilities in which live animals are found, including unloading areas, driving aisles, and areas where stunning and bleeding to death activities are carried out . . . .” This includes “areas that are difficult for staff to access, including confined spaces, [and] installations that make up the stunning system . . . .” Similarly, in England and Scotland, regulations require the installation of closed circuit television (CCTV) systems in slaughterhouses that provide “a complete and clear image of killing and related operations in all areas of the slaughterhouse where live animals are present,”<sup>58</sup> including “in areas where it is difficult for inspectors to access, for example in cramped killing areas and gas stunning systems.” And in Israel, laws have mandated the use of CCTV in slaughter plants since 2015. Video footage is viewed by slaughter plants supervision teams and transmitted live to a central control room at the Ministry of Agriculture’s Veterinary Services to deter violations of animal welfare laws. Facilities are required to install cameras that film at all times and in every area where animals are handled up to their slaughter. Similarly, the World Organization for Animal Health recommends that “[i]t should be possible to inspect the CO<sub>2</sub> chamber whilst it is in use . . . .”

A recent incident in the United States illustrates how installing cameras in gondolas used in CO<sub>2</sub> gas systems could help plant inspectors assess whether the slaughter is humane. On January 18, 2023, Wired magazine published an article about an undercover investigator who placed hidden cameras inside a CO<sub>2</sub> gas stunning gondola in a meatpacking plant in Los Angeles owned by Smithfield Foods. The recordings showed that, as the gondola was lowered into the CO<sub>2</sub> pit, “the pigs began to squeal and thrash violently around in the cage, struggling to escape and convulsing for nearly a minute before finally laying still.” During this time—approximately three minutes—the pigs remained enclosed in the gondola and out of view of plant inspectors. The recordings were the first of their kind in the United States to be released to the public showing what pigs can experience during CO<sub>2</sub> stunning at a slaughterhouse.



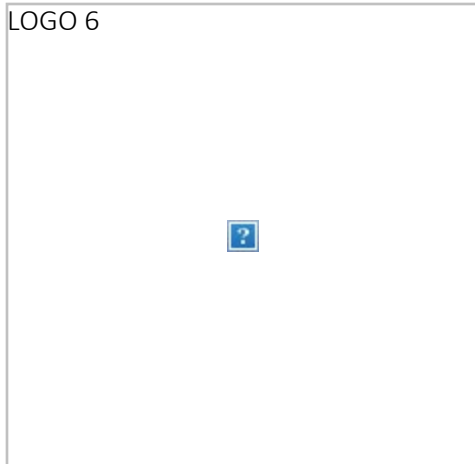
Pigs inside of a gondola descending into the CO<sub>2</sub> pit of a stunning system at Smithfield Foods slaughter plant.

#### FSIS Must Mandate the Installation of Cameras or other Monitoring or Recording Equipment Inside of Gondolas Used in CO<sub>2</sub> Gas Systems to Ensure Compliance with Humane Slaughter Requirements.

It appears that the interiors of most, if not all, gondolas used in CO<sub>2</sub> gas slaughter systems in the United States are currently entirely unobservable while they are in use. To ensure that slaughter plant inspectors are able to determine whether the slaughter of pigs by CO<sub>2</sub> is being conducted

humanely, as they are required to do by law, FSIS should amend its CO2 regulation. The amendment should require the installation of video cameras inside the gondolas to make certain that the interiors of the gondolas, and all animals they are holding, remain visible and observable at all times.

*Best regards,*  
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