One year after fatal Clairton explosion, federal report confirms warnings were ignored for decades

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One year after the explosion at US Steel's Clairton Coke Works outside Pittsburgh killed steelworkers Steven Menefee and Timothy Quinn, the US Chemical Safety and Hazard Investigation Board (CSB) has issued its final report which shows the disaster was both foreseeable and preventable.

Two days after the August 11, 2025 explosion, the World Socialist Web Site described the deaths as an act of social murder—the consequence of subordinating workers' lives to corporate profit. The facts uncovered in the CSB's 86-page report substantiates that assessment.

The explosion occurred at approximately 10:47 a.m. when a cast-iron isolation valve on the Battery 13 coke oven gas system fractured during maintenance. Approximately 19 pounds of highly flammable coke oven gas escaped and ignited, killing Menefee and Quinn, injuring 11 people, five seriously, and causing an estimated $52.5 million in damage.

Workers were using pressurized water to clean material from the valve so it could close completely. US Steel Mon Valley Works Vice President Kurt Barshick later said trapped water generated approximately 3,000 pounds per square inch of pressure inside a valve rated for only 50 psi.

The CSB found workers had used this method on an ad-hoc basis for at least three years, without a written US Steel procedure or hazard analysis.

Workers buried beneath the wreckage

The location of workers during the explosion was itself the result US Steel ignoring a safety warning for more than two decades.

Menefee and Quinn were working in or near separate control rooms directly above the coke oven gas piping. One victim was not recovered for roughly nine hours. Four US Steel workers were seriously injured, including two in a break room in the same transfer area. A Veolia contractor was also hospitalized.

The CSB calls the issue "facility siting"—whether occupied structures are safely located and built in relation to equipment capable of explosions, fires or toxic releases. At Clairton, routinely occupied buildings were less than 20 feet above coke oven gas piping and were not blast-resistant.

The CSB concluded that relocating or strengthening them could have prevented or reduced the two deaths and two serious injuries.

During a 2003 Process Hazard Analysis, a US Steel team recommended a facility-siting study to determine whether occupied structures were dangerously located near the coke oven gas system. Clairton management rejected it, maintaining that the system was not explicitly covered by OSHA's Process Safety Management standard and applying only those elements it considered appropriate.

Seven years later, a coke oven gas explosion at Clairton injured 14 US Steel employees and six contractors, 12 of whom were hospitalized. Yet US Steel still did not conduct the siting study or make the changes needed to protect workers.

The CSB calls the rejected 2003 recommendation and the 2010 explosion major missed opportunities before the fatal 2025 disaster.

Workers had been warning about these conditions

The CSB's findings confirm what Clairton workers told the WSWS immediately after the explosion.

"This could have been prevented," one worker said. Workers described hazards reported repeatedly while repairs were postponed. One said management would promise to address problems later: "Well, they didn't. And this is what happens." Another said equipment was patched together instead of properly repaired because, "They just didn't want to spend the money."

Workers also described relentless pressure to maintain production. One explained that pressure from upper management passed down through supervisors until "the correct way of doing things gets rushed."

Another worker described what should have been done before work proceeded. "What they should have done is isolate the entire section of pipe, pump nitrogen into it to push out the gases, and replace the broken valve," he told the WSWS. US Steel, he said, "didn't want to shut it down for 12 or 15 hours to do a proper purge."

The CSB substantially confirms his central point. Instead of this procedure, workers used pressurized water to clean the valve seats.

Antiquated cast iron left in explosive gas service

The CSB also documents US Steel's continued use of brittle cast-iron valves in highly flammable coke oven gas service. Industry guidance has long warned about cast iron's lack of ductility and sensitivity to thermal and mechanical shock.

US Steel engineering documents from the 1990s specified carbon-steel bodies for 18-inch gate valves in coke oven gas service. The Battery 13 valve was cast iron and manufactured in 1953. Senior engineers told investigators those documents were not maintained or enforced.

When the valve was repaired in 2013, both internal gates were found cracked and replaced, but the 60-year-old cast-iron body was returned to service for another 12 years.

Only five weeks before the explosion, a worker discovered coke oven gas leaking through a hairline crack in another cast-iron valve downstream. US Steel patched it with a metal repair compound and planned to replace it during an August outage along with at least three other valves.

Even after the blast, US Steel replaced some damaged valves—including the Battery 13 isolation valve—with cast-iron valves.

OSHA and the failure of regulatory oversight

Following the 2010 explosion, OSHA reached a 2012 settlement requiring US Steel to establish procedures for isolating and purging coke oven gas and giving OSHA access to Clairton to verify compliance. In 2013 OSHA rescinded the interpretation US Steel had relied upon to claim exemption from the Process Safety Management standard.

Yet through the remainder of the Obama administration, Trump's first administration, the Biden administration and into Trump's second term, the siting hazard remained uncorrected. Only after Menefee and Quinn were killed did OSHA cite US Steel for Process Safety Management violations and propose penalties totaling just $118,214.

At the same time, the Trump administration has sought to eliminate funding for the very agency whose final report now documents how the Clairton deaths could have been prevented. As the WSWS reported in August 2025, the administration proposed eliminating funding for the Chemical Safety Board while the agency was investigating the explosion. This was averted only by Congressional action to fund it through the end of this September.

The USW apparatus bears responsibility

The United Steelworkers covered Clairton workers while these deadly conditions persisted. USW Local 1557 was formally recognized as the employee representative in the 2012 OSHA settlement, and US Steel was required to notify the union of its abatement activities.

Yet the bureaucracy did not organize workers to compel the elimination of these dangers or shut down unsafe operations until defective equipment was replaced. Instead, it left ultimate authority over production and safety in management's hands.

On the first anniversary of the deaths, the USW again pledged to work "constructively" with management. Its statement did not even name Menefee and Quinn, referring instead to "two dedicated union brothers." Now, as in previous contract negotiations, the USW leadership again claims safety is one of its highest priorities.

The record at Clairton exposes that claim. The USW serves not as an independent organization fighting for workers' safety, but as a trusted partner of US Steel.

Serious incidents have continued since Clairton. On July 11, 62-year-old electrician Mitcheal Nelson was electrocuted at US Steel's Granite City Works in Illinois while attempting to shut off a transformer that malfunctioned during a storm. The official investigation is continuing.

Build rank-and-file committees to take control of safety

The CSB report confirms the dangers were known to management. US Steel rejected the 2003 siting recommendation, 20 workers were injured in a similar explosion in 2010, and the company continued using antiquated cast-iron valves despite its own engineering guidance.

Yet production continued. Menefee and Quinn were killed because known dangers were allowed to remain while safety was subordinated to production, cost and profit. That is the essence of social murder.

Following the explosion, the International Workers Alliance of Rank-and-File Committees called for an independent rank-and-file investigation into the Clairton disaster, independent of US Steel management, the USW bureaucracy and government agencies. The CSB's findings reinforce the necessity of that initiative and of placing control over workplace safety directly in workers' hands.

Steelworkers cannot entrust their lives to US Steel and Nippon Steel management, government regulators that failed to enforce safety requirements, or a USW bureaucracy that collaborates with management.

Workers must establish rank-and-file committees, independent of the USW apparatus, to take control of workplace safety. They should demand full access to inspection reports, maintenance records, hazard analyses and internal safety studies, and the unconditional authority to stop production when unsafe conditions exist, without retaliation or loss of pay.

Dangerous or obsolete equipment must be removed from service before production resumes. No production target or corporate deadline can take precedence over workers' lives.

The CSB has documented the warnings that preceded the deaths of Steven Menefee and Timothy Quinn. The task is to prevent management and the union bureaucracy from continuing to decide whether workers must risk their lives to keep production running.