

# New Court Ruling Could Mean Big Process Safety Management Liabilities

Hazards are ever-present in the steel plant environment, and a heightened awareness and emphasis on safety is a necessary priority for our industry. This monthly column, coordinated by members of the AIST Safety & Health Technology Committee, focuses on procedures and practices to promote a safe working environment for everyone.



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On 27 October 2020, the U.S. Court of Appeals for the 10th Circuit made an important ruling that could have significant impacts to the U.S. Occupational Safety and Health Administration (OSHA) Process Safety Management (PSM) facilities throughout the U.S.

The OSHA PSM rules — issued in 1992 — mandate that facilities with more than 10,000 lbs. of flammable liquids, along with 137 other highly hazardous chemicals, complete certain risk management protocols in the interest of safety.

The court ruled<sup>1</sup> that the OSHA PSM regulations<sup>2</sup> applied to a boiler that exploded at a refinery, even though it did not contain any highly hazardous chemicals. The boiler was deemed part of a process covered by the regulation because it was interconnected with steam piping to two vessels that contained flammables that were “PSM-covered processes” and because the boiler was “located such that a highly hazardous chemical could be involved in a potential release.”

This ruling could make for additional liabilities to PSM facilities that did not in the past consider boilers and fired equipment as “PSM-covered processes.” Central boiler plants providing steam to hazardous chemical operations that triggered a facility’s PSM requirement may now need to be considered for compliance as “covered processes” according to this ruling.

## Industry Impacts

**Steel Industry** — In many cases, integrated steel facilities, like refineries, have central boilerhouse facilities that distribute steam for miles to various process areas. In some cases,

there are several central boiler facilities that are interconnected. PSM-related processes — for example, coke byproducts plants — using this steam would then trigger the central boiler plant facilities to now be PSM-covered processes.

**Liquefied Natural Gas** — Liquefied natural gas (LNG) facilities use several types of fired processes for vaporization. These fired devices and pipeline heaters could be interpreted to connect to the LNG piping and vessels in the same manner as the boiler at the refinery. This could mean that all LNG-related fired equipment could now be considered PSM-covered processes.

**Refineries and Chemical Manufacturing Fired Heaters** — It could be interpreted that if boilers and steam systems are connected to PSM processes then surely fired heaters with hazardous materials directly circulating within tubes within the heaters make these devices also PSM-covered processes.

**Typical Equipment Impacts** — If fired equipment and systems were not considered PSM-covered facilities, there could be considerable work ahead for compliance.

Compliance requirements are covered in detail in the OSHA PSM Standard, but at a minimum it means things like the following for each boiler system or fired device:

1. Documentation including materials of construction, piping and instrumentation diagram (P&ID) drawings and design standards used.
2. The need to conduct a process hazard analysis (PHA) using one of the approved methods for

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the central boiler facilities and/or fired heaters or devices.

3. The need to explicitly identify codes and standards used in designs.
4. Evidence of maintenance, safety-related inspections and testing programs.
5. Detailed operating procedures including start-up/shutdown, normal operations and emergency operations.
6. Training of employees on maintenance and procedures.
7. Evidence that equipment complies with generally accepted good engineering practices.
8. Piping and instrumentation diagrams.
9. Identification of previous incidents that may have had catastrophic consequences.
10. Administrative and engineering controls that could be applied to limit hazards, and consideration for the consequences of the failure of these controls.

### What Do You Need to Do Now?

Your facility was required to have completed PHAs on all covered facilities and processes. These PHAs are supposed to be reviewed and updated at least every five years according to OSHA:

- 1910.119(e)(6): At least every five years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team meeting the requirements in paragraph (e)(4) of this section, to assure that the process hazard analysis is consistent with the current process.
- 1910.119(e)(7): Employers shall retain process hazards analyses and updates or revalidation for each

process covered by this section, as well as the documented resolution of recommendations described in paragraph (e)(5) of this section for the life of the process.<sup>2</sup>

These documents should be found and it should be determined whether the boiler and/or fired systems that might now be “covered processes” were indeed considered so in the past. If these devices were not considered, they should be a part of your program and steps should be taken to complete all the compliance requirements the standard demands.

Ignorance of the law and inaction are never effective defenses. Failure to comply with these requirements creates additional liabilities that could be a problem if an incident were to occur. It is often the case that when industrial accidents occur, OSHA findings play a key role in civil findings. Compliance should not be viewed as something that would be costly or burdensome.

In many cases, safety code compliance for fired equipment can provide five key components of value: safety, reliability, environmental benefits, asset life extension and maintenance efficiencies. These components of value can far exceed compliance costs if they are implemented properly and a long-term perspective is taken.

### References

1. *Scalia v. Wynnewood Refining*, No. 19-9533 (10th Cir. 2020), <https://law.justia.com/cases/federal/appellate-courts/ca10/19-9533-2020-10-27.html>.
2. 1910.119 — Process Safety Management of Highly Hazardous Chemicals, 2020, U.S. Department of Labor, <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.119>. ♦

### Did You Know?

#### ArcelorMittal Signs MOU for Biogas Project

ArcelorMittal will partner with a company that specializes in pyrolysis to build a biogas production plant in Europe, the steelmaker recently announced.

In a statement, ArcelorMittal said its European long products unit has signed a memorandum of understanding with Norway-based Vov ASA and its ETIA subsidiary to cooperate on the preliminary work, including financing and engineering.

“The biogas will be made using Vov’s patented ‘biogreen’ pyrolysis technology, which involves heating sustainable biomass at high temperatures. The gases emitted during this process are then captured and processed into biogas, which will directly replace the use of natural gas in the Rodange plant’s rolling mill reheating furnace. Byproducts such as biocoal will also be created during the process, and reused within ArcelorMittal, directly replacing the use of coal,” ArcelorMittal said.

The biogas plant would be built at ArcelorMittal’s Rodange facility in Luxembourg and the partners are targeting a 2023 start-up.

“We see significant potential in the use of biogas as a replacement for natural gas within ArcelorMittal Europe – Long Products’ facilities, and in helping us to achieve our ambition of being carbon-neutral by 2050. This technically challenging project is truly groundbreaking, in its ability to create synthetic gas for industrial use, from sustainable biomass,” said Vincent Cholet, chief technical officer for ArcelorMittal Europe – Long Products.