OSHA Compliance in Data Centers

January 28, 2026 Mini Kapoor, Jeffrey Moerdler

PRACTICES Labor and Employment, OSHA

Increasing demand for artificial intelligence, cloud computing and other technologies has accelerated the proliferation of data centers across the country. To continue to meet this demand, equally important as increasing the number of data centers is the safe operation of data centers. To ensure safe operation, it is vital to understand the potential safety hazards in a data center environment and OSHA's regulatory requirements to minimize exposure of employees to such hazards. Below is a summary of top safety topics that likely should be addressed in data centers.

1. ***Hazard assessment:*** A comprehensive and up-to-date hazard assessment customized to the data center layout and equipment at issue is an important first step. Data centers include many specialized mechanical equipment areas and server rooms that pose potential hazards specific to those areas. Such areas typically include an electrical meter and switchgear room that controls, among other things, the distribution of power to the data center, one or more climate-controlled server rooms that house computer servers, storage systems and networking devices, and a networking operations area for monitoring the data center operations. Additionally, data centers generally include electrical distribution equipment, heat rejection equipment and fuel and water storage areas that support the data center operations. A comprehensive hazard assessment should address the potential safety risks posed by each area in the data center. In sum, the hazard assessment should identify safety risks in each area of the data center, evaluate their likelihood and severity and implement engineering and administrative safety controls and PPE requirements to mitigate those risks.

2. ***Electrical safety:*** Exposure to electricity is a potential hazard in a data center environment. An effective and well-implemented OSHA-compliant electrical safety policy in data centers would be prudent. The policy should include frequent and regular inspection of the electrical infrastructure to identify any equipment damage. All employees as well as any tenants and other occupants at the workplace must be trained in awareness of electrical hazards, including arc flashes, and safe work practices. Needless to state that only employees certified for electrical work should be conducting such work. Tasks involving energized systems should be avoided unless in compliance with the OSHA's "qualified persons" requirements. Where such tasks are required, OSHA-recommended safety guidelines including appropriate PPE must be used. Where feasible, insulated tools and equipment such as low-voltage panelboards, breakers and switches that reduce potential for exposure to live equipment should be utilized.

3. ***Control of hazardous energy:*** OSHA's requirements for equipment lock-out-tag-out (LOTO) should be strictly followed to control hazardous energy before any repair or maintenance work is conducted. Employees working on and around electrical equipment must be trained on workplace LOTO procedures. Where applicable, equipment-specific LOTO procedures should be developed and relevant employees should be trained in those procedures. Training should be updated, as required, with changes or addition of equipment at the data center.

4. ***Fire prevention and suppression:*** An OSHA-compliant fire prevention plan is also likely to be an essential requirement. Among other things, the plan should identify the major fire hazards in the workplace, proper handling and storage procedures for hazardous materials, potential ignition

© 2026 Haynes Boone

sources and their control and the type of fire protection equipment necessary to control each major hazard. Fire prevention measures may include the establishment of hot work zones and procedures to ensure that combustible material is kept away from the hot work zones. Thermal imaging could be used to identify overheating of equipment. Regular fire drills should be conducted to ensure that employees are aware of the evacuation path and procedures and that an unobstructed evacuation path is being maintained. Adequate fire suppression systems must be in place. Such systems may include a building-level suppression system that may include a fire sprinkler system, a room-level suppression system that may include clean agent fire extinguishers suitable for electrical fires and a server rack-level fire extinguishing system.

5. ***Fall protection:*** Data center employees may be required to work at elevated platforms such as cooling racks located on rooftops or other equipment located at elevated platforms. Such areas should be inspected for safe access such as through OSHA-compliant ladders, scaffolds and guardrails. Employees accessing such areas must receive fall protection training and should be equipped with and trained in the use of the appropriate fall protection devices such as harnesses and lanyards to prevent injuries in case of a fall.

6. ***Material handling and ergonomics:*** Data centers should be equipped with appropriate material handling devices, such as forklifts, to move heavy or awkward objects. OSHA-compliant training and the required operator certification should be implemented for the use of such devices. For any manual lifting, employees should be trained to engage in proper lifting techniques including working in teams to reduce the potential for strain on their back and other parts of the body. Additionally, it would be prudent to train employees in situational awareness when engaging in manual lifting.

7. ***Walking-working surfaces:*** Data centers are equipment-heavy workplaces and may have narrow aisles, access areas and raised floor transitions. It is important to keep all such areas free of debris and slip-and-trip hazards through effective cable management and good housekeeping practices. All stairs, ramps and platforms should have OSHA-compliant slope, tread uniformity and load capacity.

8. ***Noise control:*** Data center equipment such as servers and cooling systems may generate high levels of noise. A noise assessment should likely be conducted to determine whether an OSHA-required hearing conservation program is needed. Engineering and administrative controls would likely then need to be implemented to minimize potential noise exposure. Any necessary ear protection should be provided for employees, and where feasible, a soundproofing system should be installed.

9. ***Permit-required confined space:*** OSHA requires an assessment of the workplace to determine if any spaces are permit-required confined spaces. Certain areas of the data centers may fall under OSHA's definition of permit-required confined spaces. One such area may be cooling towers in a data center that employees may need to enter and work in. OSHA has specific requirements for work in permit-required confined spaces including a site-specific confined space program, a permit system, monitoring of the potential hazards in the confined space and role-specific requirements for (a) personnel entering the confined space, (b) attendants who do not enter the confined space but monitor from outside and (c) supervisors who control confined space work. In sum, it is important to assess confined spaces in the data center that employees may need to enter and work in and ensure that an OSHA-compliant confined space program is implemented.

10. ***Audits:*** It would be prudent to conduct safety audits on a periodic basis to identify any gaps in safety. Any deficiencies in safety should be promptly corrected, and any new hazards should be addressed. OSHA has specific requirements for certain audits, and they should be complied with.

© 2026 Haynes Boone

Efforts should also be made to proactively assess means to improve safety such as by incorporating safer processes, tools and technologies in the workplace.

While the above safety requirements and considerations apply to data center operations, some or all of them may be equally applicable during the construction of data centers. It is essential to ensure that the applicable OSHA requirements are complied with during the construction of data centers.

In sum, it is important to understand the inherent safety hazards in a data center environment and ensure that OSHA-compliant policies and procedures are established to mitigate the potential of exposure from such hazards.

© 2026 Haynes Boone