

Batteries: What the Headlines Leave Out

Understanding the real risk, and how modern facilities manage it

High-profile battery fires at data centers in South Korea and Europe have fueled a narrative that lithium-ion backup systems are inherently dangerous. The incidents are real. The conclusions being drawn from them are worth examining more closely.

First, some context. Traditional batteries still account for the majority of data center Uninterruptible Power Supply (UPS) installations worldwide. According to industry research, traditional batteries represent the majority of the data center battery market as of 2025, though lithium-ion adoption is accelerating rapidly.²³

The industry is beginning to adopt lithium-ion technology for new installations because it occupies 60-70% less space, requires less maintenance, and lasts significantly longer. When properly deployed with modern monitoring and suppression systems, lithium-ion batteries have a strong safety record, and the risk factors that do exist are well understood and actively managed.

Modern data centers using lithium-ion systems employ real-time temperature and voltage monitoring that detects the early warning signs of thermal runaway before it becomes a problem. Specialized fire suppression and physical separation, whether batteries are in dedicated rooms or deployed at the rack level, provide a layered defense that contains and limits any event that does occur.

These facilities are built from the ground up to house mission-critical equipment. For example, advanced fire suppression isn't an add-on. It's a design requirement. DataBank also works closely with local fire departments, including familiarizing first responders with facility infrastructure prior to commissioning and providing code access to facility gates.

The incidents that make headlines typically share a common thread: older installations, inadequate safety systems, or failures in maintenance protocols. That's a very different story than the one most people picture.

23. Grand View Research, [Data Center Battery Market Report](#), 2025.

BUILT FOR THE WORST CASE

Advanced fire suppression in a data center isn't an add-on. It's a design requirement, built in from day one.

Generator Emissions: A Matter of Proportion

Regulated, tested, and running far less than you might think

When Winter Storm Uri knocked out power across Texas in February 2021, the facilities that kept hospitals communicating, financial systems running, and emergency services coordinated were the ones with robust backup power in place. That capability does not happen by accident. For data centers housing critical infrastructure, reliable on-site generation is not optional. It is a requirement.

Data centers maintain backup generators — diesel or natural gas — that are tested monthly to confirm they'll work when actually needed. Critics have pointed to those tests as an ongoing environmental burden. The numbers tell a more proportionate story.

Most data center generators run approximately 20 hours per year for testing and maintenance. Six of those hours involve no-load confidence testing, meaning emissions during that time are near zero. Loaded testing accounts for up to 12 additional hours per year. Data centers are also subject to air quality regulations and permitting that limit generator runtime to approved levels.

The industry is also actively working to reduce that footprint further. Selective Catalytic Reduction (SCR) systems reduce particulate matter and nitrogen oxides from generator exhaust. Natural gas generators, renewable diesel, and battery storage systems are all being adopted to shrink the environmental impact of backup power over time.

Reliable backup power is not optional for a facility housing critical infrastructure. The question is how to provide it as cleanly as possible, and that work is already underway.

LESS DIESEL THAN A SEMI-TRUCK USES IN A FEW WEEKS

Most data center generators run fewer than 20 hours per year, six of which involve no-load testing with near-zero emissions. At that runtime, a single large backup generator consumes roughly the same amount of diesel in an entire year as one semi-truck does in a few weeks on the highway.

Based on approximately 1,000–2,000 gallons of diesel consumed at 20 hours of annual runtime, compared to an estimated 15,000+ gallons consumed annually by a long-haul semi-truck.