



STRIKE MASTER® CASE STUDIES: PROVEN LIGHTNING PROTECTION ACROSS INDUSTRIES

Lightning poses a serious and costly risk to modern infrastructure, from renewable energy and communications systems to industrial facilities. Each strike threatens uptime, safety, and asset integrity—causing extensive damage, equipment loss, and operational disruption.

LBA's Strike Master® patented lightning protection systems deliver engineered, field-tested solutions designed to prevent outages before they occur. Combining advanced dissipater technology with established engineering standards such as NFPA 780, Strike Master® provides a reliable and scalable defense against even the most severe storm environments.

The following case studies illustrate how Strike Master® systems have been successfully deployed across diverse applications, including large-scale solar farms, defense communication networks, and petrochemical operations, delivering measurable results in safety, reliability, and cost efficiency.

Case Study 1: Protecting a Solar Farm with Strike Master® Lightning Protection

The Challenge

A large solar farm in the Southeast U.S., spanning more than 100 acres, had experienced multiple weather-related outages during summer storm seasons. While no direct lightning strike had yet caused a catastrophic failure, engineers identified a high risk to the farm's inverter stations and combiner boxes, which are particularly vulnerable to surges. A single strike could have disabled a large portion of the site, potentially leading to six-figure repair costs and weeks of downtime.

Traditional tall towers were not practical because of the site's layout and expansion plans. The operator needed a permanent but adaptable solution that could scale with future solar farm growth.





The Solution

The project team installed Strike Master® fixed-base patented lightning masts around the central inverter fields. Engineered using the rolling sphere method outlined in NFPA 780, each mast established a wide zone of protection that shielded nearby equipment. Multiple units were strategically placed to overlap zones of protection, ensuring comprehensive coverage of high-value electronics without excessive infrastructure costs.

Unlike conventional rods, the Strike Master® dissipater technology reduces the buildup of electrical potential, lowering the chance of a strike forming in the first place.

The Results

- Zero lightning-related downtime reported in the first two storm seasons following installation.
- Avoided equipment damage that historically had cost peer operators \$250,000+ in repair and lost energy revenue.
- Protection system scaled efficiently when the farm expanded its generating capacity the following year.

Note: Utility-scale solar projects worldwide, including those managed by leading energy companies and defense contractors, use lightning dissipaters and fixed mast systems to safeguard panels and inverter infrastructure.

Case Study 2: Safeguarding Field Communications with Strike Master® Patented Portable Mast

The Challenge

A defense communications team operating in a storm-prone desert region relied on portable satellite dishes to maintain secure uplinks. These dishes were often deployed in open terrain with no natural shielding—making them prime lightning targets. A single strike could not only destroy the dish but also cut off mission-critical communications during operations.

The team required a lightweight, rapidly deployable solution that could be transported via helicopter or vehicle, assembled quickly by a small crew, and repositioned as operations moved.



The Solution

The team deployed the Strike Master® patented portable lightning mast system. Delivered in rugged kits, the mast was airlifted with communications equipment and assembled by two technicians in less than one hour. Once erected, the mast established a zone of protection around the satellite dish.

The system's dissipater air terminal not only redirected strikes safely to ground but also minimized the buildup of static charges—further reducing the likelihood of a direct hit.

The Results

- Maintained continuous communications throughout a high-frequency lightning season.
- No outages or dish replacements required, whereas similar operations without protection had experienced costly equipment failures.
- Portable masts were re-deployed across multiple sites, reducing duplication and saving operational costs.

Note: Portable mast systems like Strike Master® have been trusted by military, emergency response agencies, and broadcasters to protect sensitive satellite and antenna equipment in field deployments worldwide.

Case Study 3: Shielding Industrial Stacks with Strike Master® Lightning Protection

The Challenge

A petrochemical facility in the Gulf Coast region operated a series of tall exhaust stacks critical to its refining process. Due to their height and isolation, these stacks were natural targets for lightning. Repeated strikes over several years had caused concrete cracking and corrosion,



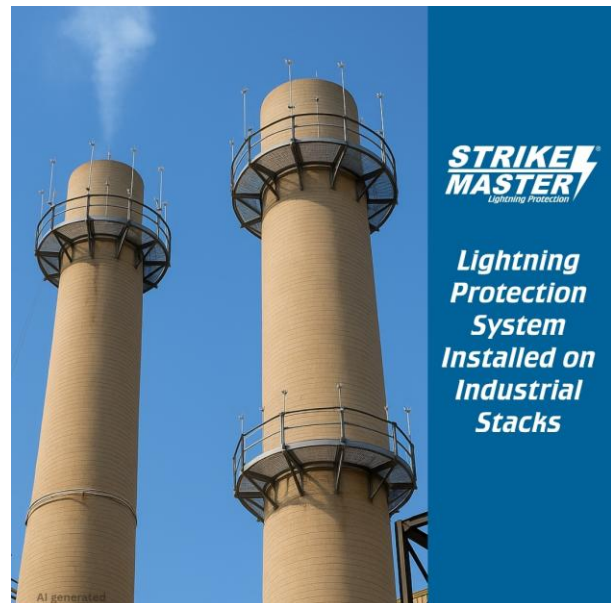
increasing maintenance costs and raising safety concerns about potential fires from flammable gas emissions.

The facility needed a durable, permanent lightning protection system that would integrate with existing infrastructure and withstand harsh industrial conditions.

The Solution

Engineers installed Strike Master® patented lightning masts adjacent to each major stack. The masts were designed to be the preferred strike termination points, capturing lightning energy and safely conducting it to ground.

By using multiple masts strategically placed around the stacks, the facility achieved full coverage while minimizing the need for intrusive modifications to the stacks themselves. This approach also allowed for easier future maintenance and inspections, since the lightning protection could be serviced independently from the stack structure.



The Results

- Reduced lightning-related damage to stacks by over 90% in the first three years.
- Lowered annual maintenance costs by eliminating repeated concrete patching and reinforcement.
- Improved worker safety and compliance with NFPA lightning protection standards.

Note: Similar lightning dissipater mast systems have been implemented at refineries, chemical plants, and industrial complexes worldwide to protect tall stacks and flare towers from repeated lightning damage.

Conclusion

These real-world examples highlight the versatility and performance of Strike Master® lightning protection technology in both fixed and portable configurations. Whether securing mission-



critical communications, protecting high-value energy assets, or safeguarding industrial infrastructure, each installation reinforces the same outcome: dependable protection and long-term resilience.

Strike Master® systems continue to prove their value in the field—minimizing downtime, preventing damage, and ensuring compliance with industry lightning protection standards. Backed by decades of expertise and innovation from LBA Group, Strike Master® stands as a trusted solution for organizations seeking to mitigate lightning risk and maintain operational continuity in any environment.

Contact Us

Learn more, request a quote, or connect directly with our engineering team today:

Email: lbagr@lbagroup.com

Phone: 252-757-0279

Online Request Form: [Request Information or a Quote](#)