



# **SCIENTIFICALLY PROVEN LIGHTNING PROTECTION AND MONITORING**

# SCIENCE-BASED LIGHTNING PROTECTION FOR CRITICAL SITES

Industry-standard lightning protection and grounding systems effectively provide reliable protection for traditional structures. Yet NFPA, LPI, and UL standards are not always sufficient to address the lightning protection and monitoring vulnerabilities of non-conventional facilities such as:

- **Aviation and space launch facilities**
- **Shipyards and transportation infrastructure**
- **Stadiums and special event venues**
- **Wind turbine and solar farms**
- **Mines and gas/oil production and storage**
- **High-tech manufacturing facilities**
- **Military installations**

The size, complexity, value, and vulnerability of assets such as these require sophisticated, customized solutions that are based on advanced scientific knowledge, rigorous testing, and state-of-the-art engineering. They need, that is, the experience and expertise of Scientific Lightning Solutions, LLC. (SLS).



## About SLS

SLS has unmatched talent from the scientific, engineering, and lightning protection industries. In addition to proven experience solving many of the most complex lightning protection challenges, SLS has access to the world's only live lightning test facility, proprietary analysis and design software, and exclusive fast-data acquisition and monitoring technologies and equipment. Our reach is nationwide and global.

SLS' solutions apply principles and techniques based on peer-reviewed research and applied science in lightning protection and monitoring, triggered lightning, advanced electronics, fast data acquisition, smart sensors, and related technologies. SLS does not endorse any of the so-called lightning "prevention" or "dissipation" claims, which have been thoroughly discredited time and again.

# CAPABILITIES

SLS has the tools and expertise to design and implement a complete array of lightning protection and monitoring solutions:



## **Triggered lightning tests of equipment and systems**

SLS has access to the world's only live lightning test laboratory. Our team of specialty engineers can trigger live lightning experiments to analyze and solve lightning related problems.



## **Overhead shielding and complex catenary wire systems**

SLS has developed proprietary software to design lightning shielding for situations where traditional lightning protection cannot be implemented.



## **Protection for hazardous materials and high value assets**

Using sophisticated science-driven risk assessment tools, SLS assists in determining the most appropriate methods for protecting critical assets from lightning.



## **Lightning detection instrumentation and monitoring**

SLS has developed ground-based equipment to detect and monitor the location and occurrence of lightning with never-before-seen precision.



## **Specialized grounding systems**

We provide in-depth risk analysis and design strategy to assure that especially vulnerable facilities are effectively protected.



## **Personnel protection**

Protecting people presents complex vulnerabilities that require unique engineered solutions based on applied science.



## **Lightning risk analysis and mitigation design**

SLS provides sophisticated analysis and engineered solutions for even the most challenging projects and installations.



## **Forensic investigations**

SLS investigates lightning-related damage to understand its causes and devise strategies for preventing recurring damage.

# THE SLS TEAM

Founded in 2014, the management of SLS combines the expertise of a world-renown expert in the applied-science of lightning with the management experience of leaders in the lightning protection industry.

## **Carlos T. Mata, Ph.D.** - Chief Science Officer

Dr. Mata was the lightning subject matter expert and technical lead of Kennedy Space Center's Advanced Electronics and Technology Development Laboratory for 12 years. Among other things he directed the program that designed the lightning protection and lightning instrumentation systems for NASA's Launch Complex 39B, perhaps the most sophisticated lightning protection and monitoring systems in the world. Dr. Mata is the recipient of many awards, including NASA's Distinguished Public Service Medal and the NASA KSC Engineer/Scientist of the Year Award.

He has also worked extensively with the International Center for Lightning Research and Technology (ICLRT) to evaluate and refine lightning instrumentation systems used to monitor high-tech vehicles, payloads, and high-value assets at the Kennedy Space Center, Cape Canaveral Air Force Base, and other Department of Defense locations.

## **Jennifer Morgan** - President

## **Mark Morgan** - Director of Operations

The Morgans are owners of East Coast Lightning Equipment, Inc. (ECL), a UL-listed lightning protection equipment manufacturer based in Connecticut, USA. ECL is a prominent player in the North American lightning protection market and is recognized for its unwavering commitment to high-quality products, exceptional customer service, and definitive technical expertise. They maintain leadership roles within lightning protection standards and trade authorities including NFPA, UL, IEC, IEEE, LPI, LPI-IP, ULPA, and LSA.

## **Professional Staff**

Through its leadership in the lightning protection field, SLS has been able to assemble a team of the best lightning protection scientists, engineers, and installers in the industry.

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