

INTRODUCTION

In today's world, we rely on microprocessor-based equipment to help make our operations safer and more efficient. It is difficult to find a coffee pot, let alone a plant process control system, that does not rely upon microprocessors. This technology has revolutionized the way we operate the world, allowing us to accurately process information and control functions at ever-increasing speeds with ever-increasing accuracy.

With the advent of microprocessors, it became apparent that the environment that was adequate to accommodate equipment based on older technologies, such as vacuum tubes, was not adequate to allow newer technologies to operate at maximum reliability. Microprocessors are much more susceptible to damage from transients ranging from catastrophic failure to minor damage that eventually accumulates to the point of unreliable or random operations and ultimate failure.

As devices operate faster, the problems worsen. It is not possible to make electricity travel faster. So, to make a device operate faster, the distances electricity must travel must be reduced. As the distances and clearances are reduced, arc-over voltages become lower, exacerbating susceptibility to damage from lightning and static transients.

When an owner/operator develops a control system, their primary objective is to make it work to control plant operations. They do not necessarily consider the environment in which it will operate. Lightning Master[®] approaches the situation a little differently. We are not generally concerned with what a control system controls, whether it operates a wastewater treatment plant or nuclear reactor. We are specifically concerned with optimizing the environment in which the system operates for maximum efficiency, reliability and service life.

Therefore, we have developed the Lightning Master[®] approach.

Lightning Master Corporation was established in 1987 in Clearwater, Florida, USA, as a global, full-service solutions provider. We specialize in solving problems caused by lightning and static.

We serve a wide range of industries including oil, gas, chemical and others. Our products and services are backed by our worldwide customer service. Our track record of success in the Americas, Asia, Africa, India, Pacific Rim, Europe and the Middle East has established LMC as a global authority on lightning and static protection.

Lightning Master will:

- Perform a risk assessment based upon NFPA 780, annex L
- Survey and analyze your existing or planned facility
- Provide a written report of findings and recommendations
- Design your protection system
- Help you write your specifications
- Manufacture and supply all required parts and equipment
- Provide turn-key installation or supervise installation by others
- Provide continuing inspection and maintenance, NFPA 780, Annex D
- Provide upgrade and warranty support

LMC is an Underwriters Laboratories UL Listed manufacturer of lightning protection components, and is a UL Certified Lightning Protection System Installer. All Lightning Master® products are **Made in the USA** in Clearwater, Florida.

When reading these white papers, you will find significant repetition and overlap between papers. This is so that each may be read as a stand-alone document. We apologize for any inconvenience this may cause.

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