AMMO 48/NFPA-780 LPS INSPECTION, MAINTENANCE AND TESTING CERTIFICATION PROGRAM

A DoD Three Day Seminar

Course Objectives: NFPA-780 Certification. To understand how damage can occur and to learn what measures can be employed for maximum lightning protection. Designed for personnel who inspect, maintain and test LPSs. Graduates are certified to meet the LPS requirements in AFI 32-1065 and PAM 385-64 Personnel Qualifications.

1. **Introduction to NLSI, to Attendees and to the Workshop.**

2. **Fundamental Concepts of Lightning Protection including: Atmospheric Physics 101; Lightning Characteristics; Lightning Behavior; Lightning Safety Overview.**

3. **Risk Assessment. Probabilities, Past Events and DoD Realities for Explosives Stores.**

4. **The Grounding and Bonding Imperative: Guidelines; Electro-Geological Model; Real World 25 Ohms per NEC 250; Solutions To Difficult Grounding Situations; Resistivity vs Conductivity Explained; Case Studies; Exam.**

5. **Exterior Lightning Protection for a Complex Facility: Air Terminals – Franklin Rods; Masts, Overhead Catenaries, Faraday-Like Shield; Geometric and Rolling Ball Designs Explained. Selection of Approved Air Terminal Options. Down Conductors. Exam.**

6. **Interior Lightning Protection for a Facility Electrical System including AC and RF Circuits. Families of Surge Protection Devices. Locations, Technologies, Performance, Specifications and Installation Practices. Note: SPD Codes & Standards are Outdated – Proposed Solutions. Exam.**

7. **Lightning Protection for Airfield and Communications Facilities: Exterior and Interior Guidance for Air Terminals, Grounding, Bonding, Shielding, and SPDs.**

8. **Lightning Protection for High Risk Facilities including Explosives Storage, Chemical, Electronics, Communications Operations. Going Beyond the Codes. Case Studies; Exam.**

9. **Relevant Codes & Standards are described in detail. Examples: NFPA-780; DA PAM 385-64; USAF AFI 32-1065; USAF AFMAN 91-201: NFPA-70 (NEC); UFC 3-575-01; UFC 3-520-01; Others. Exam.**

10. **Lightning Detection: USA Lightning Distribution; Available Detector Technologies – Pros & Cons; Smart Phone Apps; Recommendations.**

11. **Inspection, Maintenance, Repair and Testing. In-Field Measuring (where available) with 3-Point Fall of Potential and Clamp-On Test Meters; Tour and Critique of Facility LPSs (weather permitting). Exam.**

12. **Lightning Protection for Outdoor Workers including: Safe/Not Safe Zones; Physical & Psychological Damage; Safety Measures for Work & Recreation; Shelters; Ready-To-Go Worker Safety Documents, Policies & Procedures.**

13. **References & Resources. Glossary of Terms. Final Examination.**