

Linda H. Joseph, Esq.
(716) 881-4902
ljoseph@sjalegal.com

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Via Federal Express and Email (rsbrowdy@aol.com)

Richard S. Browdy
Chairman, Florida Building Commission
6944 St. Augustine Road, Suite D
Jacksonville Florida 32217

Mr. Thomas Campbell (Thomas.Campbell@myfloridalicense.com)
Executive Director
Florida Building Commission
Executive Director
Florida

Re: Modification E6460

**Florida's Proposed Adoption of Single Acceptable Product Installation Code for
Lightning Protection**

Section 2703.1 Lightning Protection

Action Requested: Alternative language for Modification E6460

Dear Chairman Browdy, Executive Director Campbell and Florida Building Commissioners:

Our law firm represents Heary Bros. Lightning Protection Co., Inc. ("Heary Bros.") and its division, Lightning Preventor of America®. This letter supplements my prior letter dated May 10. We are writing to request that the Commissioners change the language of E6460 to add the bolded language to proposed Section 2703.1 as follows:

2703.1 Lightning Protection. A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780 **or HBP-21 or other alternative equivalent** standard for the installation of lightning protection systems.

As the Commissioners are well aware, under the rules governing modification of the Florida Building Code, a prerequisite to accepting a proposed modification such as E6460 is that it "DOES NOT DISCRIMINATE AGAINST MATERIALS, PRODUCTS, METHODS, OR SYSTEMS OF CONSTRUCTION OF DEMONSTRATED CAPABILITIES." (553.73 (9) (a) 3 F.S.). It is respectfully submitted, for the reasons discussed in detail below, that—without the

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proposed change by addition of the bolded language above—Modification E6460 cannot be accepted because it will violate this fundamental prerequisite under Florida State law (553.73 (9) (a) 3 F.S.) by discriminating against manufacturers and installers of Early Streamer Emission (“ESE”) lightning protection systems which constitute a competing alternative of “demonstrated capabilities.” Indeed, there is no reasonable justification for favoring Faraday lightning protection systems installed under NFPA 780 over ESE lightning protection systems installed under HBP 21 or other equivalent standards which have been approved, specified by architects and engineers and successfully used for many decades throughout the United States and the world.

THE NEED TO ADOPT THE PROPOSED ALTERNATIVE LANGUAGE

While most if not all companies in the lightning protection industry either exclusively provide either Faraday Systems or ESE Systems, Heary Bros. manufactures both types of lightning protection systems available in the marketplace today: (1) the traditional Faraday lightning protection systems governed by NFPA 780; and (2) its ESE lightning protection systems which have been successfully installed under HBP 21 for over 30 years under its \$11 Million Guaranty backed by Travelers Insurance Company without a single documented lost. E6460—as proposed--would eliminate for Florida Building owners the ESE option.

Importantly, Heary Bros. does not seek to exclude other ESE manufacturers or installers by offering its proven standard known as HBP 21, a copy of which is attached as Exhibit A, as one proven alternative standard. **Instead, the proposed alternative language express states that “other alternative equivalent standards” should be accepted.** The point is that architects, engineers and owners should be free to make a choice and should not be limited to one option, particularly since E6460 was propounded by a representative of the Faraday Industry which stands to obtain an exclusive monopoly under the proposal. ¹ Notably, E6460 barely achieved sufficient support to survive the technical committee, as shown by Exhibit B hereto. There were 10 parties voting on the proposal and three parties voted “no.” Thus, if there had been even one additional negative vote at the technical committee level, the Commissioners would not be voting on this proposed change on June 13. As Exhibit B hereto demonstrates, even at the technical committee level where there was strong lobbying by the Faraday industry, there

¹ The proponent of this change in Florida Code at the technical committee level is employed by a manufacturers’ trade association, The Association of Electrical Equipment Manufacturers (“NEMA”) that represents manufacturers and others with an interest in promoting the Faraday industry and, hence, promoting a code based on NFPA 780. Not surprisingly, Harger Lightning Protection, a manufacturer that provides **only** Faraday system products to its customers is a member of NEMA. This NEMA member (Harger Lightning Protection) provided many of the “assessment” documents relied upon by the technical committee, including for example an “assessment” document that makes false representations as to the availability of rebates from insurance industry for NFPA 780 Faraday systems. In fact, very few insurance companies provide such rebates and, most typically, they apply only to surge protection for electrical components to the building—and do not—provide rebates based on NFPA 780 systems.

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was serious concern about adopting E6460 with the language put forward by the NEMA representative. See Note 1, *supra*.

There is no reason to limit the proposal to NFPA 780. As our May 10, 2017 letter demonstrated, not only does HBP 21 have a proven track record, but it also has the support of Traveler's insurance which provides \$11 million in coverage to support Heary Bros.' guaranty of its ESE system. This support is documented by Exhibit C. The reason that Heary Bros. offers both options to its customers is because its ESE system offers a much less expensive option while its NFPA 780 Faraday alternative is more expensive with no technical or scientific basis of superior performance to justify the added cost. Heary Bros. believes the consumer should have the option to decide. E6460—which Heary Bros. learned about for the first time in recent weeks—should be rejected or modified—as suggested above—so as not to eliminate that choice for Florida owners, architects and engineers.

As explained below, not only has it been established in the lightning protection industry that there is no scientific basis for preferring the method of installation of the Faraday system whose installations are governed by NFPA 780 over ESE lightning protection systems, but also the installation approach of the Faraday systems (which uses more cable and more terminals) renders the Faraday System more costly with no added benefit to owners and consumers.

Heary Bros. readily concedes that its profit margins with respect to the sale of the components of Faraday systems exceeds the profit margins on ESE systems because the installation design for Faraday systems requires more cables, more down runs and more terminals and connections despite the lack of any scientific basis for claiming a difference in performance of the two systems. It should come as no surprise that the proponent of this change in the Florida Code is employed by a manufacturers' trade association, The Association of Electrical Equipment Manufacturers ("NEMA") which represents manufacturers and others with an interest in promoting the Faraday industry and, hence, promoting a code based on NFPA 780.

There is no difference between the quality of the components of ESE systems and Faraday systems. Notably, the components of both the Faraday System and the ESE systems are listed by Underwriters' Laboratories, Inc. pursuant to UL 96 which provides the "quality control" for component parts of lightning protection systems. In contrast, NFPA 780 ONLY governs the method of installation and requires more cabling, terminals, connectors and more grounding because of differences in the terminals used by each of these two competing systems.

Other factors to consider are that NFPA itself discloses that NFPA 780 has no scientific basis and has never recommended that this standard be adopted as "code." Further, the author of this letter made presentations to New York State when it considered adopting a similar code change more than two decades ago and New York State ultimately rejected the very code change now before you—a change virtually identical to that being proposed here—and ruled that there

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was “no technical justification” for its adoption. Again, the proposed change in law imposes more costs on building owners with no scientific or practical justification.

As to the evidence of “insurance savings” put forth by the proponents of this change in law, their evidence merely confirms that lightning protection—may in some few instances—results in insurance rebates, but the documentation does not show that only NFPA 780 systems are eligible for such rebates or whether these rebates are applicable solely to surge protection which is a separate and distinct product. *See* Note 1, *supra*. Moreover, what is indisputable is that the Faraday systems governed by NFPA 780 systems are NOT eligible for Heary Bros. \$11 million guaranty backed by Travelers Insurance Company which Travelers offers only for ESE systems installed in compliance with Heary Bros.’ manufacturer’s standard—coverage which is provided based on Heary Bros.’ decades of field experience with this type of system that exceeds thirty years. Copies of documentation demonstrating this insurance coverage are attached hereto as Exhibit C.

Perhaps the best illustration of burden that E6460 would impose on building owners is the fact that so many building owners have in the past chosen the ESE system in preference to the Faraday system governed by NFPA 780. Our May 10, 2017 letter included a list (Exhibit B to the May 10 letter) of just a small sampling of Florida projects now enjoying the benefits of Heary Bros.’ ESE system and \$11 Million Guaranty which include numerous government and municipal buildings, resort and recreational centers, churches and corporate buildings. This constitutes a small sampling of Heary Bros.’ ESE installations throughout the State of Florida—all of which have been installed in compliance with Heary Bros.’ manufacturer’s standard and have NOT been the subject of a single documented failure. Similarly, Federal and State governments have preferred the option of Heary Bros. ESE system with its \$11 million guaranty over Faraday systems governed by NFPA 780. A list of a sampling of these projects was attached to the May 10 letter as Exhibit C which included, by way of illustration, such buildings as the Huntsville Alabama Public Safety Complex, the Los Angeles Federal Building, San Diego V. A. Medical Center, the Cape Canaveral Air Force Station, the Council Building for City of Coconut Creek, Florida, the Tampa Gateway Post Office Building, the Holmes Beach Florida Baseball Field and the U.S. Naval Air Station in Milton Florida. Again, these are just a very few examples of government installations in various States from all over the United States.

NFPA ITSELF MAKES CLEAR THAT NFPA 780 IS NOT SCIENTIFICALLY BASED

The proponents of the Faraday systems governed by NFPA 780 often argue that the existence of “national standards” for Faraday Systems (such as NFPA 780 and its parallel standard UL96A) somehow demonstrates that Faraday Systems are “scientific” and “proven.” These types of statements are inconsistent with the very nature of national standards in the United States. NFPA 780 itself makes it very clear in its disclosures that NFPA 780 is NOT based on science, research, records of testing or even field experience. Instead, the NFPA specifically

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ljoseph@sjalegal.com

includes in the preamble to NFPA 780 (and in all NFPA consensus standards) the following disclaimers as to the efficacy of such standards:

“While the NFPA administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate or verify the accuracy of any information or the soundness of any judgments contained in its codes and standards. The NFPA disclaims liability for any personal injury, property or other damages of any nature whatsoever...directly or indirectly resulting from the ...use of, or reliance on this document. The NFPA also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.”

This excerpt from the preface to NFPA 780 is enclosed as Exhibit D. (Emphasis added.)

THE LEADING INDUSTRY LITERATURE REJECTS ANY SUPERIORITY OF FARADAY SYSTEMS OVER ESE LIGHTNING PROTECTION SYSTEMS

We have attached the most recognized studies comparing ESE systems to Faraday Systems governed by NFPA 780, including a report generated by the NFPA itself in 1999. Specifically, attached as Exhibits E and F, respectively, are pertinent excerpts from the Report of the National Institute of Standards and Technology, entitled “Literature Review and Technical Analysis of Early Streamer Emission Systems of Lightning Protection” (1995) (hereinafter “NIST Report”) and the Report of the NFPA’s Third-Party Independent Evaluation Panel entitled “Early Streamer Emission Lightning Protection Technology” (1999) (hereafter “Bryan Report”).

Both the NIST and the Bryan Report concluded that ESE systems have both an adequate theoretical basis and laboratory testing. NIST Report at page 25; Bryan Report at page 26. However, the authors of both reports found that there is insufficient field testing of either ESE systems or traditional (also known as “Faraday”) systems of lightning protection under natural thunderstorm conditions. NIST Report at page. 16. Bryan Report at page 26. These findings of inadequate field testing of both traditional Faraday systems and ESE systems of lightning protection were based in part on the fact that there have been reported failures of both types of systems, and there was virtually no documentation to determine the cause of the failure.² As a result, both reports concluded that no meaningful conclusions regarding the performance of

² Both Faraday and ESE Systems—like other products—sometimes experience failures due to failure to maintain the systems properly or due to installation errors. Faraday Systems rely on their “track record” in field to support their efficacy. ESE Systems, like Faraday System, also have similar field experience. For example, in over twenty years and with thousands of systems installed in the United States, Heary Bros. have had no documented failures and their insurance carriers have paid no claims. Of course, Heary Bros.’ ESE systems are installed in compliance with its manufacturer’s standard to ensure adequate installation.

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either type of system could be drawn based on either reported failures or lack of failures of either type of system under natural thunderstorm conditions. NIST Report at page 25; Bryan Report pages.23-24.

Based on this lack of field testing---or even laboratory testing—for traditional (Faraday) systems of lightning protection, the NIST Report concluded that “insufficient quantitative data see to exist about the performance of traditional rods....” NIST at page 24. Dr. Bryan, a former member of the NFPA Standards Council, went so far as to conclude that because of a lack of field or laboratory testing, NFPA 780 systems had insufficient scientific validation to warrant an NFPA standard and recommended that NFPA 780 be “downgraded” to a recommended practice. Bryan Report at pages 27-28.

It also is worth noting that both the NIST and Bryan Reports were highly critical of studies, funded by the Faraday industry, conducted by Professor Moore and Dr. Rison of the New Mexico Institute of Mining and Technology. The NIST Report questioned whether any meaningful conclusions could be drawn based on tests conducted at elevations of 3000 m, and that the testing at this altitude “raise questions about the interpretation of such observations” NIST Report at 21.

Similarly, the Bryan Report identified several significant problems with the methodology employed by Professor Moore and Dr. Rison. The Bryan Report noted that despite reporting a “failure” of an ESE system, the ESE terminal had been damaged and--as a result--the study failed to document that the ESE terminal was even working at the time of the alleged strike within the zone of protection. Bryan Report at 17. The Bryan Report also noted that Dr. Rison’s and Professor Moore’s research questioned the efficacy of terminals used in NFPA 780 systems (Faraday Systems), noting that in four years not a single sharp pointed Franklin rod was struck. *Id.* at 18.

The lack of a scientific basis for NFPA 780 and UL 96A also has been confirmed in an article by written by Professor Martin Uman (a leading lightning protection expert who is often quoted by Faraday manufacturers) and published in the December 2002 issue of *American Meteorological Society*. The article states “[t]he theoretical justification of the traditional [Faraday] approach is fairly crude, in part due to our incomplete understanding of lightning’s attachment to ground-based objects. Hence, the fact that traditional [Faraday lightning protection] systems have a history of success in preventing or minimizing damage to structures is the primary justification for their use.” December 2002 Edition of *American Meteorological Society* at page 1809. Of course, as noted above, Heary Bros.’ ESE systems have the same history of success based on field experience now exceeding thirty years—success which has been acknowledged by Heary Bros.’ insurance carriers who provide insurance coverage for its ESE systems through Travelers Insurance Company.

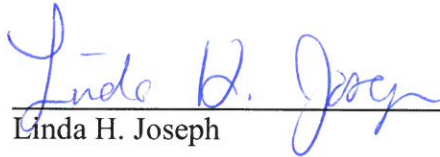
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CONCLUSION

For all the foregoing reasons, we respectfully request that you adopt the alternative language proposed at page 1 of this letter or reject this proposed building code change. Importantly, as explained above, E 6460 clearly cannot be adopted under Florida law because it discriminates against manufacturers and installers of ESE lightning protection systems which constitute a competing alternative of “demonstrated capabilities.” Florida State law (553.73 (9) (a) 3 F.S.). Moreover, the proposed change to the language of E 6460 should be accepted since it simply is the right thing to do to preserve an option that architects, engineers and owners have chosen for decades with success and—to do otherwise—would provide the Faraday industry with an unfair and unlawful monopoly. Thus, the action proposed by this letter is in the interests of retaining the owners’ ability to choose and will avoid the creation of state law that conflicts with federal antitrust laws and imposes anticompetitive restraints on the marketplace.

Sincerely,

SCHRODER, JOSEPH & ASSOCIATES, LLP


Linda H. Joseph

COPIES BY EMAIL TO:

All Florida Building Commissioners
Mr. Mo Madani (Mo.Madani@myfloridalicense.com)
Mr. Joe Bigelow (Joe.Bigelow@myfloridalicense.com)
Mr. John Barber (jbarber@windemuller.com)