

May 24, 2017

Mr. Mo Madani
Department of Business and Professional Regulation
2601 Blair Stone Road
Tallahassee, Florida 32399

Re: Comments to Proposed Code Modification 6460; Florida Building Code

Dear Mr. Madani:

This law firm represents National Lightning Protection Corporation (“NLP”). NLP calls upon the Florida Building Commission (“Commission”) to decline to approve Proposed Code Modification 6460 to the Florida Building Code (“Code”). Nothing presented to the Commission’s Technical Advisory Committee for inclusion in the Code compel taxing the Florida economy over one-half billion dollars by requiring lightning protection systems (“LPS”) and surge protection devices (“SPD”) to be installed on virtually all new construction projects in the state. (Despite the provided exception, the application of the Risk Assessment Guide in National Fire Protection Association (“NFPA”) 780 will require the installation of LPS in most instances.) This unnecessary tax increase on construction projects across the state will likely lead to a loss of jobs by small employers in the industry. This decision does not align with the pro-jobs, lower tax philosophy of Governor Scott. The Commission is charged with adopting a Code “which will allow effective and reasonable protection for public safety, health and general welfare for all the people of Florida at the most reasonable cost to the consumer.” §553.72(1), Fla. Stat. Proposed Code Modification 6460 fails that statutory test. Accordingly NLP requests that the Commission reject the proposed code modification.

The Proposed Code Modification should fail for at least the following reasons: (1) the risk from lightning damage to non-home structures in Florida has been overstated; (2) given the overstated threat of non-home structural damage caused by lightning strikes, the costs of the proposed LPS and SPD exceed the benefits of their installation in Florida; (3) the reliance on NFPA 780, *Standard for the Installation of Lightning Protection Systems* as the substantive basis for the proposal is misplaced; (4) the modification strictly and unfairly limits approved LPS to only those which are NFPA-compliant and rejects all UL and other certification-compliant LPS products; and (5) the statutory requirements of Section 553.73 of the Florida Statutes have not been met to justify the proposed modification.

For 35 years NLP has provided lightning protection, grounding, and surge protection equipment for commercial, industrial, government and military projects. NLP’s mission has been to furnish and install the highest available quality lightning protection system components. NLP’s LPS products are listed and in full compliance with Underwriters

Laboratories NLP's executive management has more than 100 years of combined industry experience; its design and field personnel are all fully UL-certified. More specifically, Robert Rapp, NLP's President, is an active member of the NFPA 780 Technical Committee on Lightning Protection.

Overstated Risk of Lightning Damage

It is undisputed that structural fire incidents are declining – not increasing – in the United States from 1977 to 2015 so there is no reason for the Commission to impose this new tax for LPS and SPD on Florida's economy. Haynes, *Fire Loss in the United States 2015*, NFPA, September 2016, Figure 1 at p. 11." Exhibit A. Haynes concludes that "[t]he total number of fires continues to be on a downward trend, as does the number of outside fires, structure fires and vehicle fires." P. 35. Direct property damage from lightning fires has declined as well from 1977 to 2015 in 2015 dollars. More specifically, the amount of direct property damage to non-home structures caused by lightning fires dropped over 70% annually from 1980 to 2014 (\$249 million to \$65 million). Ahrens, *Structure Fires Started by Lightning*, NFPA, April 2017, at Table 2, p. 4. <http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fire-causes/lightning-fires-and-lightning-strikes> Exhibit B.

The Insurance Information Institute notes the following reduction in paid insurance claims for residential damage in the United States caused by lightning from 2011 to 2015:

	2011	2012	2013	2014	2015	Percent change	
						2014-2015	2011-2015
Number of paid claims	186,307	151,000	114,740	99,871	99,423	-0.4%	-46.6%
Insured losses (\$ millions)	\$952.5	\$969.0	\$673.5	\$739.0	\$790.1	6.9	-17.0
Average cost per claim	\$5,112	\$6,400	\$5,869	\$7,400	\$7,947	7.4	55.5

Homeowners Insurance Claims and Payout for Lightning Losses, 2011-2015, Insurance Information Institute, <http://www.iii.org/fact-statistic/lightning>

In 2011 Fire Departments reported 27,100 total lightning fires in the United States. Of these reported fires 20,400, or 75% of the total, were outside fires or non-structure fires. Only 7% of lightning fires from 2007-2011 were "non-home structure fires." Ahrens, *Lightning Fires and Lightning Strikes*, NFPA, Fire Analysis and Research Div., June 2013, p. 1. Exhibit C. There were only 1,800 "non-home structure" fires. *Lightning Fires and Lightning Strikes* at Table 4, p. 14. By 2014, the number of "non-home structure fires" was even lower (1,400). *Structure Fires Started by Lightning*, at Table 2, p. 4.

The cost of damage due to lightning related fires alleged in the proposed modification is exaggerated because the stated amount includes damages from lightning-caused wildfires and

other outdoor fires and for residential losses. The proposed code modification is not directed to damage to structures because of wildfire and other outdoor fires or damages to residences.

Ahrens states that:

During 2007-2011, U.S. local fire departments responded to an estimated average of 22,600 fires per year that were started by lightning. These fires caused an average of nine civilian deaths, 53 civilian injuries, and \$451 million in direct property damage per year. **Figure 1 shows that almost two-thirds (635) of these fires were outdoor vegetation fires.** Table 1 shows that home structure fires accounted for only 4,300 (195) of the lightning fires, but these incidents caused 86% of the associated fire deaths, 76% of the civilian fire injuries, and 68% of the direct property damage resulting from lightning fires reported to local departments annually. (emphasis supplied) (Table and Figure omitted) *Lightning Fires and Lightning Strikes*, p. 1.

The Costs of the New LPS and SPD Requirement exceed the Benefits

The proposed modification would needlessly – but substantially – unfairly tax the Florida economy. The Proposed Code Modification admits that “[t]he average cost of a complete LPS is approximately 1% to 5% of total construction cost of the building.” Dr. Issa’s draft report presented to the Technical Advisory Committee directly acknowledges these additional costs:

“[t]he largest cost impact for the 2015 Florida specific changes came from proposed code change E6460, the installation of Lightning Protection Systems (LPS). The anticipated cost of the LPS was estimated to add 5% to the buildings total cost. Up to 80% of that cost reportedly could be offset through insurance reductions, **however such insurance reductions are not guaranteed and were therefore omitted from this cost estimate.**” (emphasis supplied) Issa, *Evaluation of the Cost Impact of Florida’s specific changes to 2015 I-Codes “Prescriptive Code Changes”*, Draft Final Report, April 17, 2017, at Executive Summary p. 1.

Moreover, the Commission has been presented with no documentation supporting the assertion that the increased cost of construction resulting from LPS installation will result in reduced insurance coverage premiums for non-home structural projects. (Some information was furnished with respect to residential insurance. See E6460-G4 General Comment, June 10, 2016.)

The Draft Report finds a 5% increased cost of construction as to each specific construction project type: small office building, retail spaces, small hotel, and mid-rise apartment building. Clearly, a 5% surcharge on the budget for an individual project may result in deferral or even cancellation of that project. In the aggregate the burdensome effect of these increased costs on the Florida economy will be overwhelming. In 2015, the total sum of private nonresidential construction in Florida was \$12,566,000,000. *Annual Value of Private Nonresidential Construction Put in Place by State, 2003-2015* United States Census Bureau https://www.census.gov/construction/c30/historical_data.html Exhibit D. Assuming a 5% increased cost of construction for LPS (not including SPD), this results in increased construction costs of \$628,300,000 in Florida for 2015 alone attributable to the proposed code modification.

Reliance on NFPA 780 is Misplaced

The Commission should not rely on NFPA 780 as the basis for the new LPS and SPD requirement in the Code. NFPA 780 was downgraded from a code to a standard in 1995. See Bryan, Biermann, Erickson, *Report of the Third-Party Independent Evaluation Panel on the Early Streamer Emission Lightning Protection Technology*, NFPA Standards Council, Sept. 1, 1999 ("Bryan Report"). Exhibit E. The Bryan Report was issued by a third-party independent evaluation panel serving as a NFPA Standards Council "for issuance of a standard for Early Streamer Emission ("ESE") lightning Protection Systems, and to conduct a *de novo* review, reweighing and considering all evidence, including evidence not previously available, anew." Bryan Report at p. 4. The Bryan Report concluded:

The NFPA 780 document should be reformulated as a Guide or Recommended Practice. It appears to the panel the NFPA 780 document does not meet the NFPA criteria for a standard since the recommended lightning protection system has never been scientifically or technically validated and the Franklin rod air terminals have not been validated in field tests under thunderstorm conditions. The NFPA criteria for a standard as stated in the NFPA 99 Directory is as follows:

Standard -- A document, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and which is in a form generally suited for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an appendix, footnote, or fineprintnote and are not to be considered as part of the requirements provisions shall be located in an appendix, footnote, or fineprintnote and are not to be considered as part of the requirements of the standard.

It appeared to the panel the NFPA 780 document is currently not suitable for mandatory reference by another standard or

code or for adoption into law. The current NFPA 780 document appears to have been recognized by historical rather than by experimental and scientific validation. (emphasis supplied) (citing to NFPA, National Fire Protection Association 1999 Directory, Quincy, MA 11-98, p. 52) Bryan Report at pp. 28-29.

No subsequent report issued by NFPA has since superseded the recommendations and conclusions of the Bryan Report. In any event, NFPA states: “[w]hile 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 NFPA Documents.” (emphasis supplied) See NFPA 780.

Fiscal Impact Statement

The stated fiscal impact statement in Proposed Code Modification is inadequate and does not fully describe the effect of the modification on the construction community in Florida.

Impact to local entity relative to enforcement of code (§553.73(9)(b), Fla. Stat.)

The Proposed Code Modification does not consider how authorities having jurisdiction (“AHJ”) will arrange for the increased number of code inspections and approvals of structures if required by the proposed code modification. A “Commercial Electrical Inspector” is qualified to inspect and determine the electrical safety of commercial buildings and structures by inspecting for compliance with the provisions of the National Electrical Code. §468.603(6) (c), Fla. Stat. The statute does not require a commercial electrical inspector to be qualified under NFPA 780. Therefore, AHJs will have to address education, testing and accreditation issues for inspectors assigned to LPS inspection tasks. This has been wholly disregarded in the process leading to this proposed code modification.

Impact to building and property owners relative to cost of compliance with code (§553.73(9)(b), Fla. Stat.)

Impact to industry relative to the cost of compliance with code (§553.73(9)(b), Fla. Stat.)

No information has been submitted to estimate the cost of the material and labor to install SPD compliant with NFPA 780. In some instances, the cost of SPD can exceed the cost – including labor – for a compliant LPS. In sum, the cumulative increased construction costs in Florida (exceeding \$.5 Billion) attributable to this proposed modification has been noted. The Commission should note though that this \$.5 Billion represents the sum of additional costs on thousands of individual construction projects which will burden scores of Florida businesses – including start-ups - for years to come.

Has a reasonable and substantial connection with the health, safety, and welfare of the general public (§553.79(9)(a)2, Fla. Stat.)

As noted, the Proposed Code Modification overstates the risk and costs of lightning damage to structures in Florida and given the overstated threat of damage caused by lightning strikes, the costs of complying with the proposed LPS and SPD requirements exceed the benefits of their installation in Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction (§553.73(9)(a)3, Fla. Stat.)

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities (§553.73(9)(a)4, Fla. Stat.)

Clearly the restriction of approved LPS to only NFPA 780-compliant systems provides no equivalent products, methods, or systems of construction and is entirely discriminatory as to all other products, methods and systems. The Proposed Code Modification would wholly exclude from Florida construction projects UL Certified Lightning Protection Systems and specific Components and Systems such as UL96A Master Labeled LPSs and UL Letter of Findings LPS. Further the modification excludes LPS such as IEC 62305, DOD DDESB 6055.9, DOE M440.1-1, FAA Std – 019e, FAA 6950.19A, NASA E-0012F, API – 2003, and any new LPS technology that may be developed and otherwise certified.

Does not degrade the effectiveness of the code (§553.73(9)(a)5, Fla. Stat.)

An inherent conflict exists in the Proposed Code Modification. While LPS must be NFPA 780-compliant, SPD must be installed in accordance with NFPA 70, National Electric Code. These codes conflict as to installation of SPDs and where they are required to be installed in a structure.

Conclusion

In sum, the Proposed Code Modification is unjustified and should not be required on Florida construction projects – particularly given its substantial cost. The risk of lightning damage to structures – particularly non-home structures - in Florida has been overstated. The \$.5 billion burden to the Florida economy resulting from the costs of the proposed LPS and SPD exceed the benefits of their installation in Florida. The Commission should not rely on NFPA 780, *Standard for the Installation of Lightning Protection Systems* as the substantive basis for the proposed code modification. The modification strictly and unfairly limits approved LPS to only those which are NFPA-compliant and rejects all UL-compliant LPS products. Last, Section 553.73 requirements have not been met to justify the proposed modification in conflict with the statutory charge.

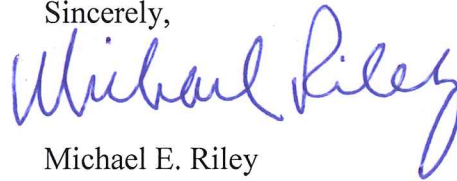
Mr. Mo Madani

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NLP appreciates the opportunity to present these comments to the Commission opposing Proposed Code Modification 6460. Please let me know if you have questions or requests regarding the comments.

Sincerely,



Michael E. Riley

Enclosures

cc: Jason Unger and Joseph R. Salzverg
GrayRobinson, P.A.

- EXHIBIT A Haynes, *Fire Loss in the United States 2015*, NFPA, September 2016, Figure 1 at p. 11.”
- EXHIBIT B Ahrens, *Structure Fires Started by Lightning*, NFPA, April 2017, at Table 2, p. 4. <http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fire-causes/lightning-fires-and-lightning-strikes>
- EXHIBIT C Ahrens, *Lightning Fires and Lightning Strikes*, NFPA, Fire Analysis and Research Div., June 2013, p. 1.
- EXHIBIT D *Annual Value of Private Nonresidential Construction Put in Place by State, 2003-2015*, United States Census Bureau
https://www.census.gov/construction/c30/historical_data.html
- EXHIBIT E Bryan, Biermann, Erickson, *Report of the Third-Party Independent Evaluation Panel on the Early Streamer Emission Lightning Protection Technology*, NFPA Standards Council, Sept. 1, 1999 (“Bryan Report”).