



Statement

Mr. Josh Bone, Executive Director

ELECTRI International

on behalf of the National Electrical Contractors Association

to the U.S. House of Representatives, Small Business Committee,
Subcommittee on Contracting and Infrastructure

for a hearing on: Utilization of Small Contractors in the Infrastructure Plan

June 10, 2021

NECA is the voice of the \$171 billion electrical construction industry that brings power, light and communication technology to buildings and communities across the United States. NECA's national office and 118 local chapters advance the industry through advocacy, education, research and standards development.

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Thank you, Chairman Mfume, Ranking Member Salazar, and members of the Subcommittee for inviting me to testify today at this important hearing. On behalf of ELECTRI International - the non-profit foundation for the electrical construction industry and our founding association, the National Electrical Contractors Association (NECA), we sincerely appreciate the opportunity to submit a statement for the record to the Subcommittee on Contracting and Infrastructure, on "Utilization of Small Contractors in the Infrastructure Plan." The Subcommittee should be commended for holding this important hearing to address the critical challenges and needs of America's small business community as we work together towards a once in a generation infrastructure package.

My name is Josh Bone and for more than two decades I have helped architects, engineers, owners, general and sub-contractors leverage technology solutions to improve communication and reduce risk on projects across the country. When working with some of the top technology leaders in the industry, my focus has been to identify best practices and methodologies for integrating technology into everyday workflows for businesses of all sizes.

In my current capacity as Executive Director of ELECTRI International, I work to ensure electrical contractors and industry partners across North American and around the world have access to the best research, educational programming, student engagement, and international outreach. My role gives me the opportunity to share the knowledge we gain with audiences and publications across North America.

ELECTRI International is a 501(c)(3) charitable organization established in 1989 by the National Electrical Contractors Association. ELECTRI is currently guided by the ELECTRI Council Chair Michael Parkes of O'Connell Electric and a Board of Trustees comprised of electrical contractors and industry partners from across the country. The goal of the Foundation is to help electrical contractors - large and small - meet today's demands and tomorrow's challenges by transforming our commissioned research results into meaningful, useful educational and consulting programs and practical publications. ELECTRI investigates trends that affect the electrical construction industry and commissions top-quality research that supports contractors in their business efforts. Each year, multiple research projects are evaluated by ELECTRI's leaders and then funded according to the current needs of the industry.

The work of ELECTRI is amplified by the National Electrical Contractors Association's network of nearly 4,000 contractor members. NECA is the voice of the \$171 billion electrical construction industry that brings power, light and communication technology to buildings and

communities across the United States. NECA's national office and 118 local chapters advance the industry through advocacy, education, research and standards development.

The concepts presented in this hearing will be of key importance both to NECA and ELECTRI's informed research and also our nation as a whole. With more than three million small businesses in this country, nearly 3,200 of which are NECA members and consumers of ELECTRI's research, it is very clear that the growth of small businesses is paramount when measuring the true economic impact of an infrastructure plan. With this in mind, this testimony will begin by establishing the state of play in the electrical construction industry and our nation's infrastructure, as well as offer perspectives on the American Jobs Plan. From there, my comments will touch on the need to utilize small businesses as unique engines for innovation, the realities of the construction industry, and finally NECA's undertakings in the workforce development and apprenticeship space. I will also reference the potential for governmental action throughout.

Setting the Stage - Infrastructure and the American Jobs Plan

It cannot be stated strongly enough that the infrastructure of this country, while superb compared to many others, is crumbling and subpar for the American Economy. The American Society of Civil Engineers recently awarded our nation a C- for its overall infrastructure. This is a miniscule increase from the previous 2017 D+ rating, showing our nation is in need of a makeover. Thankfully, Congress and the current administration have shown a clear and urgent understanding of this need. To that end, we view the American Jobs Plan (AJP) as the culmination of a generation's worth of conversations to address an aging and lacking infrastructure. This plan is the first step of many in moving this country forward.

Here at ELECTRI and with our partners at NECA, we continue to proclaim that there are methods for updating our infrastructure in a structurally sound manner while remaining technologically advanced. The country's electric grid connects electricity from thousands of power plants to 150 million customers through more than five million miles of power lines and approximately 3,300 utility companies. Despite an increasing abundance of energy-efficient buildings and other measures, electricity demand has risen by around 10% over the past decade, partly driven by the massive growth of digital device usage and the expanding demand for air conditioning. According to 2013 data from the Department of Energy (DOE), U.S. power grid outages have risen by 285% since 1984 when records on blackouts began to be noted officially, for the most part driven by the grid's vulnerability to weather events. This is a growing problem that is costing the U.S. a great deal of money – at least \$150 Billion a year according to the DOE.

Upgrading the electrical grid will ensure consumers are provided with reliable, high-quality digital-grade power and increased electricity-related services. The smart electrical grid will allow consumers to benefit from the rapid growth of renewable power generation and storage as well as the increased use of electric vehicles. Investment in a smart modern electric grid will enable us to embrace individual technologies like electric vehicles, energy storage, demand response, and distributed generation – all of which improves our efficiency and resiliency. Our small contractors support local investments in our grid by providing expert installation of new technologies inside homes, commercial buildings and industrial facilities.

This includes items such as LED lights, electric vehicle charging, lighting controls, energy storage and smart equipment. These innovative technologies help homeowners and other small businesses save money on their utility cost while reducing the demand for power generation.

Our nation's small business electrical contractors are perfectly positioned to build, preserve, and retrofit the more than 2 million homes and commercial buildings referenced in the American Jobs Plan. After the volatile 15 months created by the COVID-19 pandemic, there is no question that small contractors will prioritize these types of projects and be grateful to have the work. Small contractors can deploy their existing skills while developing new knowledge that they can then apply to other local projects. Working on these types of projects as a result of the AJP, will help small contractors better learn how to scale and price these new energy saving technologies.

With the Biden Administration's efforts to electrify the federal fleet, we at ELECTRI recognize the potential growth spurred by the EV movement. This issue has often been understood as a "chicken and the egg" debate. For example, while consumers may wish to purchase this technology, the infrastructure for easily utilizing it does not exist. Conversely, the infrastructure to meet potential demands has not been adequately expanded because the need has not yet been realized. We too have seen this catch-22 at the small business level, where contractors have interests in better educating their electricians to install charging stations and other needed facilities but have not yet seen the effective market push to incentivize this investment in their workforce.

With those challenges in mind, our partners at NECA along with other industry leaders have established the Electric Vehicle Infrastructure Training Program (EVITP). This national training and certification program aims to ease the challenges facing EV manufacturers and investors by providing the confidence of a supportive, highly educated contractor base with the technical knowledge and workforce to install these new items. Through programs like EVITP certification and this administration's willingness to lead on the perpetual chicken and the egg cycle of electronic vehicles, we remain optimistic that the \$174 billion investment proposed in the American Jobs Plan in these technologies will come to fruition in some form.

As the country continues to address issues associated with our infrastructure, the conversation must touch on the need for stronger natural disaster protections and preparations. These perennial challenges remain catastrophic. With the National Oceanic and Atmospheric Administration (NOAA) forecasters predicting a 60% chance of an above-normal 2021 season, the danger has reared its head again. After disaster strikes, whether in Puerto Rico, New Jersey, or as we've recently seen in Texas, the electrical construction industry is a key component to any recovery effort. NECA contractors often find themselves orchestrating for the relief effort and preparing their field employees to work long days and late-nights even before these catastrophes take place.

While we do not have the ability to control the weather, our industry certainly has the capability to modernize itself and to build in a more resilient fashion. While the traditional electric grid is one of humanity's greatest innovations, new resilience-building technologies allow us to enhance that foundation, providing the capability to leverage distributed energy resources (that is, small-scale power generation and energy storage) and improve energy

resilience through microgrids and other innovations. Electric utilities worldwide are addressing community vulnerabilities to weather and related disasters by investing in microgrid technology, a unique energy system that can provide power to a community by operating in conjunction with the grid or independently.

One such example of innovation is the microgrid in the Bronzeville neighborhood of Chicago which is part of the first utility-operated microgrid cluster in our nation. It demonstrates what increased energy resilience looks like for the community and nearby areas. The Bronzeville microgrid is projected to provide more than 1,000 residences, businesses, and public institutions, including the Chicago Fire and Police Departments, with a new layer of defense when it comes to dealing with power outages. This microgrid distributes energy resources including battery energy storage systems (BESS), solar (PV), and controllable natural gas generation and will be used to meet the specific needs of the community. Microgrids can benefit day-to-day operations, and the economy of a region while enhancing reliability.

Informed by our research and qualitative work with NECA, we urge lawmakers to reinforce the country's infrastructure before any more natural disasters occur. As Benjamin Franklin said, "An ounce of preparation is worth a pound of cure." So too, the efforts of reinforcing and preparing for disasters are of key importance in ensuring that homes and businesses can recover quickly and smoothly. Whether these efforts are funded through public-private methods, mimicking the Grid Modernization Initiative at the Department of Energy, or through broader funding methods like the President's recent announcement doubling the budget of the Building Resilient Infrastructure and Communities program, we have seen the need across the country for both modernization and preparation. To address this country's infrastructure and ignore more weather resilient technologies is to invite more challenges on an increasingly traumatic scale.

The state of American infrastructure is lacking at best. At worst, when combined with continued disregard, away from collapse. We at ELECTRI along with NECA contractors look forward to working with the Administration and Congress to enact a sweeping infrastructure plan that will rebuild and invest in the future. Whether that investment comes through electric vehicles, modernizing our nation's electrical grid, protecting against natural disasters or in any other way, we stand ready.

Small Businesses as the Engine for Innovation

As this committee knows best, small businesses charge this nation's economy. Recent data from the Small Business Administration show small businesses accounting for two-thirds of net new jobs and 44 percent of U.S. economic activity. These numbers are understandably impressive. What is less understood is how these businesses utilize innovation and specialization to maintain prominence and to surmount the increasing challenges (touched on later in this testimony) associated with the construction market. For the American Jobs Plan or a finalized infrastructure package to achieve the goal of rebuilding this nation and reinvigorating our economy, it must be curated towards small businesses. In turn, what Congress and others will find is that these same businesses will respond with a more innovative approach and an added degree of craftsmanship brought about by a pronounced specialization.

Trending over time across the construction industry, we have witnessed small contractors building their businesses around niche markets in order to be more competitive. By focusing their business on scopes of work like tenant improvement, lighting controls, renovations, residential, healthcare, and other specific markets, contractors are positioned to increase their productivity on certain tasks and gain knowledge that tightens their bids so they can more easily adapt to address common challenges they face when doing similar work.

Many of the contractors with whom I work have greatly diversified their businesses over the last decade to meet new customer demands and find new opportunities to grow their businesses in emerging fields. In 2004, Electrical Contractor Magazine started a bi-annual interview series titled “The Profile of an Electrical Contractor.” At that time, 70% of an electrical contractor’s work was transmission and distribution of power throughout a job. By 2016, those tasks had declined to 43% of the work of an electrician. In the following two-year span taking us to 2018, that work dropped to just 25.4%. While this type of work has been further commoditized, our contractors shifted their businesses to embrace new technology-driven areas of work such as installing energy efficient lighting fixture and controls, installing communication and data systems, security systems, fire alarm systems and other types of low voltage work that are far less commoditized and require different knowledge and skills.

Small contractors need to stay on the forefront of these types of advancing technologies to ensure their longevity and change the way they are viewed by consumers. Today, most construction projects are based on who can do it cheaper and faster. Clearly, this does not promote the healthiest of business models. Having expertise in these emerging technologies adds value to small contractors’ businesses so they can be viewed more as a consultant than a commodity. This innovation demonstrates itself in many ways. One method we have seen is the increased use of prefabrication shops. Design and construction have changed drastically over my 23 years in the industry. In 2021, contractors are forced to work around tighter schedules.

To ensure they can deliver the work on time and within budget, contractors have had to embraced offsite construction methods to remain competitive. Many of our contractors have invested in fabrication shops (commonly known as fab shops), where they now run everything through the facility, including purchasing, to help reduce jobsite waste and clutter. In fab shops, contractors do things like unbox fixtures and equipment, place them in containers and onto carts, and label them by room number and floor to streamline the flow of material and tools on the jobsite.

Contractors can use less-skilled labor in their fab shops and still provide a safe and efficient on-the-job training environment. In our fab shops, we can better control the temperature, heights at which people work, equipment to help us lift heavy objects while increasing our productivity. Workers in these environments have all the tools and materials in close proximity similar to what you would see on a manufacturing floor. This approach enables workers to bend, cut and fasten more components in a day than a worker onsite could handle in weeks or months. Prefabrication of assemblies and construction of large modular components are becoming a contractual requirement on many projects across the country. Owners understand the impact to safety along with the increased productivity and the certainty it provides to the

schedule. We can start construction offsite months ahead of when work begins onsite, giving us a competitive advantage against the schedule.

When examining the capabilities and unique nature of small business, we would be remiss to not comment on the perspectives and abilities brought to the market by Minority and Disadvantage Business Enterprises (DBEs). A majority of NECA's DBE(s) are small contractors who have demonstrated a clear ability to thrive in a challenging market space. These contracting firms are primarily owned and operated by socially and economically disadvantaged individuals who often face uphill battles to secure loans or expand their networks in an industry notorious for long-established relationships. To that end, NECA continues to advocate to its membership the benefit of the mentor-protégé system. NECA has previously testified to the benefits of the Runway Extension Act of 2018 which allowed small businesses, to calculate their status on a five-year basis instead of the shorter three-year window previously assigned. This allows contractors, a number of whom are MBE or DBE to maintain their small business classification for a longer period of time.

America's small businesses remain dedicated to their projects and end products and do so in the face of overbearing financial risk. While the federal government has aided these businesses through a variety of support programs, these industry leaders are able to sustain their herculean efforts through innovation and specialization. Combine this with the fact that in the construction industry, reputation is critical to a small businesses success, these companies know they cannot afford a bad job. In turn, they continue to adapt and move forward.

Construction Timelines and Payment Practices – The Effect on Small Businesses

In the construction industry, it is said that you are always working yourself off of a job. This simply means, that, when a contract is awarded, the contractor immediately sets out to fulfill the scope of work for the job and accomplish the task in the appropriated amount of time thereby finishing the job and ending their contract. What comes in between the awarding of the job and working oneself out of it is a myriad of risk and project management.

A key concern within the small business construction community is one likely widespread across this country, namely access to capital. If the federal government wishes to benefit small businesses through a broad infrastructure package, it must do its best to unbundle contracts to the greatest extent possible. Doing this would make these contracts more accessible to small businesses who are structurally limited from accessing the capital necessary to complete larger scale projects. Other challenges present themselves to small businesses in the electrical construction community, as an extension of limited access to capital. These are the risks associated with delayed payment practices combined with flow down clauses, bonding, and fluctuating material costs.

Structurally, a small business does not have the same degree of capital reserves when compared to a large firm and so they must make calculated risks in order to survive. This is a rampant problem within the construction industry that keeps many small businesses from competing for work. Occurring with both public and private owners, it is not uncommon in the construction industry to hear stories detailing a delay of payment to the subcontractor(s) for

almost 18 months after a job's completion. This delay has the capability of crippling small businesses that are unable to balance their books and/or anticipate capital for upcoming projects. Under the Prompt Payment Act of 1982 (PPA), businesses are entitled to receive payment for services rendered as originally anticipated, or else they run the risk of losing their business.

If payments are made as required under the PPA by the contracting officer to the prime contractors, subcontractors are often not made aware of when these transactions take place. This lapse in communication complicates the payment process when it comes time for the subcontractor to be paid by the primary contractor. The more complex a job is can exacerbate this payment communication issue, making it difficult for subcontractors to advocate for prompt payment. Mitigating this issue by requiring payment notices to be released by contracting officers to impacted parties would be thoroughly appreciated by all those involved. Small contractors need contractual and prompt payment support when it comes to working on larger projects like airports, ports, schools, healthcare projects, federal buildings, and power plants. That said, until this reform and still greater reform is sought by Congress and the President, small business construction contractors of all walks of life will continue to assume this onerous risk as a cost of doing business.

The risk assumed by small business contractors cannot be understated. In some cases, subcontractors have recounted stories of offering their homes as collateral when applying for bonding on contracts. As reliable contractors who complete their assigned work, many NECA members, who participate as subcontractors, hold their primary concern on payment bonds, those contractual disputes focused on equitable and timely payment for services. In the event a prime contractor refuses to pay, regardless of reason, a subcontractor's only recourse is to file a claim with the project's bonding agency. Under the Federal Miller Act of 1935, Federal Acquisition Regulation requires that payment bonds be utilized on all jobs exceeding \$150,000.

Usually designated for an agreed-upon duration of time, these bonds also hold a fixed interest rate. Bonds and their benefits are not typically implemented until a contractor is incapable of completing a project or paying subcontractors for services. When this occurs, the financier is obligated to pay the responsible parties for the completed work.

Issues arise when a subcontractor tries to remedy this lapse in payment because the information needed to contact the bonding officer or access the original bond text is often withheld by a proprietary group of people involved in the job. Restricting access to bond information is an industry-wide problem and could be easily alleviated by using the current networks of platforms where many of today's contracting documents reside.

While delayed payment practices, flow down clauses, and bonding are typical challenges against electrical industry subcontractors, the recent extreme fluctuation in material costs has presented a new headwind poised to limit the impact of the forthcoming infrastructure plan. We at ELECTRI hold growing concerns over the rapid increase in material prices. While many in the residential building space have felt the damaging effects of the nearly 400% increase in the price of framing lumber since last spring, the main concern for electrical contractors is rising copper costs. The cost of copper, an integral component in the completion of electrical construction, has

risen nearly 90 percent since this time last year. The concern over commodity costs has two somewhat apparent negative effects.

With higher costs of building materials, simple math will leave anyone concerned. As Congress and the administration work to rebuild this country through various forms of financing, there is no denying that these dollars will not stretch as far when construction itself costs more. Secondly, and more germane to the committee, is the effect these fluctuating prices have on small business contractors who work in both the private and public sector. To be awarded a job in the construction industry, contractors must navigate their way through the bidding process and propose an estimated cost for the work to be completed. These final numbers -- often presented weeks or months before ground is broken on the jobsite -- are the product of intricate pricing and risk management. With the volatility present in the materials space, contractors are now being subjected to another degree of risk.

When awarding a job, contract owners often present the winning bidder with specific terms for work. These terms typically contain "hold price on materials" for typically 90 days or more while, conversely, the pricing provided to the bidding contractor from a material supplier typically is only held for 7 to 10 days. To make matters worse, most contracts only account for 5 percent to 10 percent inflation on materials from the time the bid is awarded to the time our contractors start the actual work. Prior to the current state of market challenges, these types of risk were understood as the nature of our industry but, the now realized extreme of prices rising 400 percent in a year have given many small business contractors increased fear and uncertainty when competing for work.

Risk is inherent in every industry. What makes the construction industry so challenging for small businesses is the extreme institutional risk it poses to companies every day. Whether that be through delayed payments, bonding challenges, or a volatile commodities market, stability is not something typically granted to small businesses. As such, when implementing a broad infrastructure package, Congress and the Administration must continue to work with those risks in mind, establishing protections and reforming the regulatory process when necessary.

Workforce Development and the Apprenticeship Program

Getting America back to work is not only a huge priority for Congress and the Biden Administration but also for our NECA contractors and the electrical construction industry as a whole. Though our contractors, as essential workers, never truly stopped working and powering lives during the pandemic or experienced the mass employment challenges other industries felt, we recognize that in order to continue to exceed the demands of our marketplace, we must remain devoted to educating our current employees and expanding our workforce. We are employing 486,609 fewer electricians than we did in 2007 prior to the great recession.

We believe that through the partnership of NECA and the International Brotherhood of Electrical Workers (IBEW) and aided by ELECTRI research we have exhibited the success and achievements of our joint training program and we are prepared for the challenge of training the next generation to meet this country's infrastructure needs. Our registered apprenticeship program not only benefits participants but powers the lives of people across America.

NECA and IBEW developed the National Joint Apprenticeship Training Program (NJATC) together over 70 years ago. This “Electrical Training Alliance” invests over \$100 million annually in the largest and arguably most successful apprenticeship and training program in the nation. Today, with over 300 joint local programs, well over 350,000 apprentices have graduated to journeyman status. NECA is deeply involved in our industry’s most challenging and effective training program that produces the finest electrical work in the nation. At every level, our national apprenticeship program instills the highest degree of skill and professionalism in our electricians. We strongly believe that our program offers a distinguished experience, education, and career that competes with most other higher education institutions with the increased benefits of little to no debt and guaranteed employment to graduates. ELECTRI’s innovative research and studies often help the NJATC program to advance the teaching of the most critical skills to apprentices. Graduates from our training centers excel in a wide range of specialties including but not limited to: power quality, backup power generation, communication systems, traditional power and lighting, and energy efficiency projects.

Our NJATC program’s rigorous training method takes apprentices who may lack comprehensive knowledge of electrical construction and creates qualified and capable journeymen. While learning their trade, apprentices earn a superb wage and gain invaluable experience in their full-time position, arguably the biggest benefits of the NJATC program. Through this immersive program, we aim to provide the electrical construction industry with the highest-skilled workforce possible. The required 8,000 hours of on-the-job training and 900 hours of classroom time over 4-5 years allows us to achieve our goal of an exceedingly competent workforce. As electrical apprentices learn new skills and reach set milestones, they also receive incremental pay raises. The NJATC program is fully funded by the industry and places no burden on the American taxpayer. Annually, program participants contribute more than \$600 million in federal, state, and local taxes. Participants, from the start of the program, receive retirement plans and medical coverage for themselves and their families all provided for by the industry.

ELECTRI, in conjunction with NECA contractors has worked to expand the reach of our apprenticeship in a number of innovative ways. Most notably, our NJATC program partners with Community Colleges across the nation, such as Community College of Allegheny County, Northwest State Community College, and the College of DuPage. These community college degree paths cover much of the classroom time required by the JATC program, allowing participants to earn an associate degree in their field. For some of these programs, there is money available to reimburse participants for their degrees through industry funding. The flexibility provided by these partnerships is perfect for working while in earning a degree and learning practical skills.

From this higher education space, our local training centers continue their efforts to reach various populations. Whether it be working with educators to teach young folks about the benefits of our programs or with community advocates to reduce recidivism through our pre-apprenticeship programs. We at ELECTRI have found that the key to making these inroads is not just in the financial messaging highlighting how tremendous our benefits or pay may be but to also show a degree of specialization in the work thereby attracting a more steadfast workforce.

There is no infrastructure package without a workforce to make it happen and a skilled workforce comes through structure and methodical education. Programs like our Department of Labor registered NJATC and other similar ones will play a paramount role in making sure that when we do rebuild this nation's infrastructure it is done right the first time. With this in mind, the electrical construction industry recognizes that in order to fill the massive workforce demand in this country, we must expand our outreach to historically underrepresented areas like high schools, community colleges, prison systems and others. We at ELECTRI believe these goals can be met and will continue to provide the insights necessary to our industry partners to do so.

Conclusion

Thank you again for the opportunity to testify at this very important hearing. ELECTRI International and NECA applaud the Committee's unwavering efforts to examine the role of small business in any forthcoming infrastructure plan. We remain supportive and optimistic at this Committee's efforts to address the broad issues that are challenging America's small businesses that were noted above. Finally, we will continue to offer our support in helping advance the Committee's agenda and look forward to working with you all as you move forward in enacting smart and sound policy for the entirety of the construction industry.