


How Battery Plants, Data Centers & EV Charging Stations are Changing the Landscape for Electrical Contractors

Roy Cohen, Joe Kellams, Eddie O'Halloran & Jonathan Bruce


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- Attend 90% of this presentation
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Introduction


- Welcome to our seminar on how battery plants and EV charging stations are changing the landscape for electrical contractors in the US
- Together with the explosion in the number of data centers and chip plants, these “mega” projects are creating an unprecedented demand for electricians and electrical contracting firm who can perform this emerging section of the US economy.
- This increasing demand for energy and manpower has wide ranging effect on the entire electrical industry because:



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Introduction

- It increases the opportunities for large, medium and smaller electrical contractors
- It increases the need for experienced supervision and tradesman
- It increases the need for utilities to upgrade their electrical capacity throughout the country
- It increases the need for better training programs for unskilled workers who are interested in working in the electrical industry
- It heightens the need for electrical contractors to evaluate where they best fit in the emerging market opportunities
- It heightens the need for electrical contractors to strengthen their relationships with their lenders and bonding services to be able to take advantage of the opportunities that are available



Introduction

- To discuss these emerging new markets for electrical contractors, we have put together a panel of elite electrical contractors from around the country
- The growth in data centers and advanced manufacturing facilities constructions presents both opportunities and challenges for electrical contractors
- This boom also presents substantial hurdles
- We will discuss some of those and ways to mitigate your risk by way of contract negotiation, strategic talent acquisition and ways to employ retention and promotion



Introduction

- For those who don't know me I am the President and founder of Cohen Seglias, a 85 person law firm headquartered in Philadelphia with 8 other offices around the country spanning from New York to Florida.
- Our firm, which has more than 50 construction lawyers, represents more than 1300 construction companies nationwide.
- More important, our largest group of clients are electrical contractors.
- We currently represent more than 250 electrical contractors from coast to coast



Introduction

- Our firm is
 - Involved in numerous construction projects involving:
 - Battery Plants
 - EV Charging Stations
 - Data Center
 - Chip Plants
 - Specifically, we are involved in:
 - Contract negotiations
 - Monitoring the course of construction
 - Addressing construction and labor issues as they arise



Introduction

Our esteemed panel includes:

- Joe Kellams - President of UEC Holdings, based in Louisville Kentucky
- Eddie O'Halloran, a Senior Vice President at Miller Electric based in Jacksonville, FL
- Jonathan Bruce, Executive VP and COO at Bruce & Merrilees based in New Castle, PA



Introduction

Joe Kellams, is a former NECA Chapter Manager and Executive Director, who left to help run United Electric Company, which currently works in battery plants and data centers, EV production plants and installing charging stations around the country. United Electric, which used to average 250+ electricians at a time now employs more than 900 electricians on just one of its projects, the Blue Oval Battery Plant in Glendale, KY.

Joe will share his views on the pros and cons of working these large scale projects so those in the audience can weigh the potential risks and rewards for themselves.



Introduction

- Eddie O'Halloran, leads EV Solutions for Miller Electric Company and is putting together a nationwide network of electrical contractors to meet the needs of automotive manufacturers, real estate developers, fleet operators and CPOs to meet the burgeoning need for EV infrastructure.
- Eddie will share his experience trying to put together a nationwide team to tackle the EV needs of the country as it transitions to cleaner alternatives for transportation.



Introduction

- Jonathan Bruce leads Bruce & Merrilees commercial, industrial, high voltage and renewables work throughout the Midwest and Atlantic Coast states. Jonathan's company, one of the largest electrical companies in the Midwest region, performs work on all three (3) types of projects under discussion and offers his insight on how handle the challenges of finding sufficient manpower.



The Current Landscape of the Electrical Industry

- As all of you know, there is a current need for at least 200,000 additional electricians over the next 10 years
- This estimate includes both replacement for existing journeymen who will be retiring and the need for an increase in the ranks of journeymen to meet continuing escalating demands for energy
- Against this backdrop, there is a greater need for electricians around the country than ever before due to the explosive growth of battery plants, data centers and EV charging stations



The Current Landscape of the Electrical Industry

In fact, NECA has asked Eddie O'Halloran and I to speak to a group of electrical contractors from VA, NC, SC, on October 24th in Williamsburg, VA to discuss emerging markets for electrical contractors and how to increase market share in this section of the country.

- To make up for the lack of experienced journeymen and to fill their requirements on their various projects, our panelists will detail their experiences hiring millwrights, stagehands, carpenters and even workers from McDonalds and Jimmy Johns to increase their project staffing.

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At the present time, there are approximately 30 battery plants under construction or design in the U.S. Those battery plants are located in:

- Kentucky
- Georgia
- Indiana
- West Virginia
- California
- North Carolina
- Kansas
- Washington State
- Tennessee
- Ohio
- Michigan
- Texas
- Nevada
- South Carolina
- Alabama

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The Current Landscape of the Electrical Industry

- Some of these plants make component parts for batteries
- Some plants take the black matter from old batteries and produce refurbished batteries
- Many of these plants have borrowed money from Federal subsidies to fund the projects
- Many require multiple electrical contractors to complete the projects timely

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The Current Landscape of the Electrical Industry

- The rise in the need for and number of data centers has increased dramatically in the U.S.
- Presently there are more than 2850 data centers in the US
- The largest concentration of data centers is found in:

Northern Virginia	Silicon Valley, CA
Dallas	Chicago
Phoenix	Iowa
Salt Lake City	

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The Current Landscape of the Electrical Industry

- \$59B in planned and under construction data centers in the US according to Build Central
- Growth in data center demand due to increase by 16% - 25% per year
- Growth caused by digital transformation by many businesses growth of AI and IOT Remote work, and legal and regulatory factors
- Data Centers by Amazon, Apple, Facebook/Meta, Google and Microsoft among the largest planned data centers

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The Current Landscape of the Electrical Industry

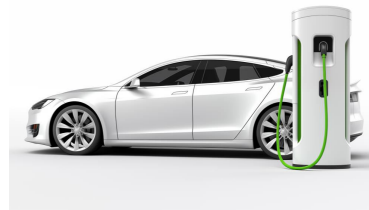
- As of April 2024, there were 73 semiconductor facilities either under construction or under design in the US
 - The CHIPS Act of 2022, which aims to increase semiconductor manufacturing and research in the US has contributed to this construction surge
 - The typical construction timeline for semiconductor manufacturing facilities is 3-5 years from breaking ground
 - Intel is breaking ground on 2 chip factories in New Albany, OH, a \$28 Billion project
 - Intel also has 2 new chip plants in Chandler, AZ
 - Samsung is building a chip plant in Austin, TX
 - Micron is building a chip plant in Boise, ID
 - Texas Instruments is building 4 chip plants in Northern Texas

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The Current Landscape of the Electrical Industry

- Electric vehicles expect an annual growth rate from 2024 to 2028 expected to be 18% (1).
- By 2030, US is projected to need 28M EV charging ports to support 33M electric vehicles (2).
- Several other automakers including Ford, Rivian, Genesis Jaguar, Fisker, Lucid, Lexus are using the Tesla NACS charge ports (3).



(1) <https://www.statista.com/outlook/mmo/electric-vehicles/united-states#:~:text=Electric%20Vehicles%20%2D%20United%20States&text=The%20Electric%20Vehicles%20market%20in%20US%24161.6bn%20by%202028>

(2) <https://www.energy.gov/eere/vehicles/articles/fovw-1334-march-18-2024-2030-us-will-need-28-million-ev-charging-ports#:~:text=National%20Renewable%20Energy%20Laboratory%20estimates,and%20less%20common%20long%20trips>

(3) <https://www.motortrend.com/features/tesla-nacs-charging-port-automaker-compatibility/>

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The Current Landscape of the Electrical Industry

- In the 4th quarter of 2023 alone, EV fast charging stations grew by 5%.
- Presently, 183,000 publicly accessible charging ports are available in U.S (1).
- More than 13,000 were added in the last 3 months alone (1).
- By comparison, there are 196,643 gas fueling stations in the US (2).

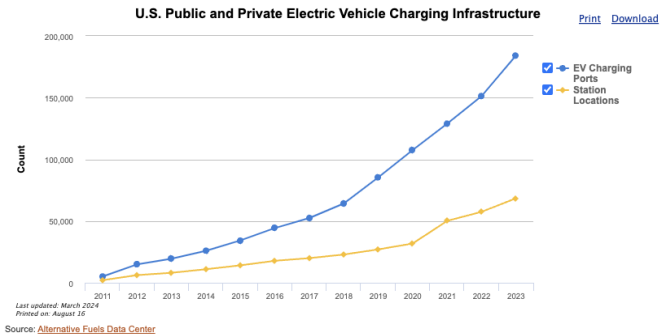
(1) <https://insideevs.com/news/721062/ev-charging-stations-us-april-2024/#/find/nearest?country=US&fuel=ELEC>

(2) [https://www.xmap.ai/blog/gas-stations-in-united-states-of-america-everything-you-need-to-know#:~:text=xMap's%20essential%20geospatial%20insight%20into,States%20of%20America%20\(USA\).](https://www.xmap.ai/blog/gas-stations-in-united-states-of-america-everything-you-need-to-know#:~:text=xMap's%20essential%20geospatial%20insight%20into,States%20of%20America%20(USA).)

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The Current Landscape of the Electrical Industry



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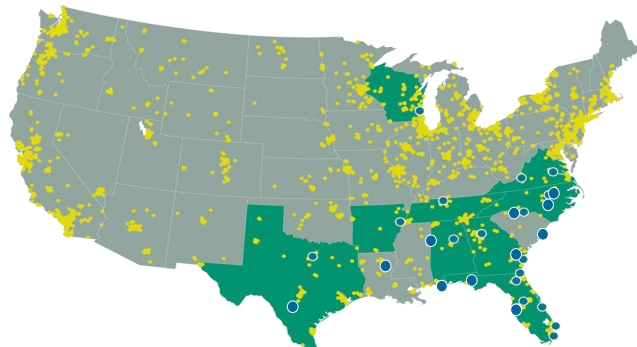
The Current Landscape of the Electrical Industry

- Some companies like Miller are manufacturing skids for placement, which cuts the installation time on-site
- Contracts for EV stations are often released in batches e.g. 88+ locations received by Miller for one customer, and are seeing this regularly
- Miller is looking for mid to large-electrical contractors to partner with throughout the country to meet the needs of these types of customers
- United Electric and Bruce & Merrilees are two of Miller's partners

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GEOGRAPHIC REACH Company Footprint

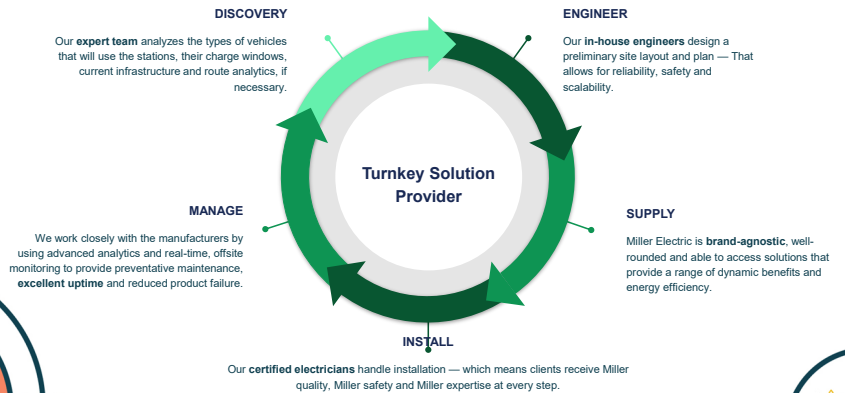


- MILLER REACH
- MILLER PARTNER NETWORK
- MILLER OFFICE LOCATIONS

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TURNKEY APPROACH EV Customer Lifecycle



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The Current Landscape of the Electrical Industry

- Seven other automakers, GM, BMW, Honda, Hyundai, Kia, Mercedes and Stellantis have joined to create a massive new EV Charging Network called Ionna (1).
- The Ionna network will be located along highways and in urban areas, with some having facilities akin to airline lounge (with bathrooms and refreshments) (2).
- The goal of the Ionna network is to have 30,000 charging stations up and running by the end of 2029 (3).

(1) https://www.linkedin.com/posts/ionna-official_ionna-activity-7161766083199266818-lbyy?utm_source=share&utm_medium=member_desktop

(2) <https://uk.news.yahoo.com/7-automakers-join-forces-create-140200659.html>

(3) <https://ionna.com/>

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Potential Advantages for the Companies Involved

- Working on these large projects can generate significant profits and revenue
- Working on these large projects can help you identify qualified employees who are not from your local and who could become long term employees
- Working on these large projects can help you identify qualified employees who are not from your local and who could become long term employees

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Potential Advantages for the Companies Involved

- Many find “diamonds in the rough” from travelers and supervisors from other types of trades who become key employees going forward
- Working on these large projects could give your company the advantage to secure maintenance or service work at these facilities and for the owner on this or other plants
- If the payment model for the project is cost plus a fee, (rather than fixed price) it helps eliminate risk and protect projected profits

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Potential Risks for the Companies Involved

- Unavailability of sufficient energy to allow project to proceed on time
- Could take two years to get utility needs satisfied
- AI data centers take 10 times more power
- Supply chain delays in manufacturing of transformers and generators can also delay these projects
- Need to have technicians certified to work on EV charging station projects

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Potential Risks for the Companies Involved

- In order to provide sufficient manpower for these projects, you have to build a close relationship with the IBEW and the locals involved
- In order to attract sufficient labor, employers on these projects you may be required to pay above scale wages just for employees to work the required hours
- If the owner of the project is not reimbursing the employer for above scale wages and it is not covered by a cost plus contract, the employer may have to bear these costs which will reduce or eliminate their profit margin

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Potential Risks for the Companies Involved

- You will need to create larger lines of credit with your bank to finance the capital outlay for the increased labor, tools, materials, trucks and equipment that you will require until your company is reimbursed by the CM/ owner
- The IBEW and the locals involved are not always cooperative
- In order provide enough manpower for the job you have to become reliant on travelers, members of trade association other the IBEW, such as millwrights, iron workers, stage hands, etc., which may jeopardize the quality of the work performed

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Potential Risks for the Companies Involved

On large projects such as these:

- Class action suits are not uncommon as the rates being paid by the employer are often challenged
- Grievances are more common
- The increased number of trucks on the road increase a contractor's risks of liability from an accident

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Potential Risks for the Companies Involved

- Unfair labor practice charges, stemming from termination of travelers or other non productive employees, are common and must be defended
- Deploying such a large number of an employer's supervision and best journeymen can have a deleterious effect on other projects staffed by the employer
- In order to keep a large group of employees on projects like this you may need to offer overtime, which will likely result in loss of productivity and efficiency, especially if this is not a cost plus contract

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Potential Risks for the Companies Involved

- As you increase the size of your field staff, you will need to correspondingly increase the size of your home office overhead, and make sure you can get recompensed for the in house professional staff you needed to hire
- If you are located in areas where there are large battery plant or data center projects ongoing, or are located in neighboring states, your work force is likely to be impacted

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Impacts on the Electrical Industry as a Whole

- Those electrical contractors who are not employed on large projects may have problems keeping their core supervisory or field employees unless you offer them overtime and potentially above scale pay for simply showing up
- There could be a benefit for smaller electrical contractors in terms of less competition from larger electrical contractors on smaller and mid size projects, if the largest electrical contractors are on these larger projects
- An ability for some of the smaller electrical contractors to focus on becoming a regular partner with large EV bundlers who contract with the automotive makers themselves or EV supply companies and are looking for a steady work force

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Impacts on the Electrical Industry as a Whole

- Suggestions to mitigate risks
 - Try to negotiate contracts on mega projects that are cost plus a fee and not a fixed price contract
 - On mega projects try to negotiate up front payments to subsidize purchases and initial labor costs
 - Exercise extreme caution when terminating excess employees to avoid grievances and unfair labor charges.

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