

# **Utility Engagement**



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# **Evolution of EV Charging**

2020

ONE SIZE



Residential Public Workplace



-+

Medium Duty Fleets School / Transit Buses Charging as Business

Local Utility Service Upgrades

→ 2030







Transmission and Distribution Upgrades



# **Utility Engagement Questions**

- When to contact?
- Why do utilities need to be contacted?
- What roles do utilities play?
- How to contact?
- What are requirements?





### **Make Ready Example**



### Adding EV Charging "Make Ready" Infrastructure

E V V

For many Level 2 EV Charging Solutions, Utility does <u>not</u> need to be involved: → if sufficient capacity exists in panels and switchboards





### Adding EV Charging "Make Ready" Infrastructure

E V



# Adding EV Charging "Make Ready" Infrastructure

#### Working with the Utility





### **Utility Perspective**

Utility Concern: LOAD at any point in their system





# Example

- Main Switchboard 2000 Amps, 480 VAC, 3PH
- Maximum Annual demand based on utility bill analysis indicates 1200 Amps is peak demand load.
- This indicates there are 800 Amps remaining. This is considered as the *apparent* available load. If 80% of this available power is targeted for EV charging, this means 640 Amps are presumed available.
- For 208 VAC, the number of amps is about 2X that at 480 V = 1280 Amp for EV charging
- Assuming 48 Amp EV charging, this would max out at 27 EV charging Level 2 circuits.
- Contact the utility to confirm this is the actual available power (Modification and Relocation application (ComEd)).
- Utility would confirm this is actually usable.
- If more power wanted, a New Service Application would need to be submitted.





## **Utility Connections**

ComEd Service Applications webpage

- 1. <u>Service Application for Commercial or Industrial Service</u>
- 2. Service Application for Single Residential
- 3. <u>Modification and Relocation Service Application form</u>

#### Ameren Change in Service









## **Utility Actions**

- Receive and review applications
  - Assign project review lead
- Approve or request additional information
- For new service, visits typically required to evaluate actual hardware, loads and confirm capacity from site to grid, as required
- Define need for new utility equipment (transformers, grid connections...)
- Establish timelines
  - Long lead on some equipment (transformers)





# **Thank You**

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