PROCESS INDUSTRY PRACTICES

September 2024

Electrical

PIP ELCPK03
Electric Vehicle Charging Station Implementation Criteria

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

This Practice has been prepared by harmonizing technical requirements from existing standards of major industrial operators, contractors, and standards development organizations. While this Practice is intended to incorporate the majority of requirements, individual applications may have requirements which take precedence over this Practice. Determinations concerning fitness for purpose or application of this Practice to specific project or engineering situations should not be made solely on information contained in this Practice. All Practices are intended to be consistent with applicable laws and regulations. Should this Practice conflict with applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by this Practice.

Use of trade names should not be viewed as an expression of preference. Other brands having the same specifications are equally correct and may be substituted for those named.

This Practice is subject to revision at any time. For more information refer to PIP ADG001, *Specification for Developing Practices*.

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1. Scope

This Practice describes the general requirements for implementing an Electric Vehicle (EV) charging station. This includes the design (components, configuration, safety, etc.), shipment, installation, inspection, testing, commissioning, operation, maintenance, and documentation for an onsite EV charging station.

Although electric vehicles have been in existence since the late 1800's, the technology of batteries, industrial manufacturing, and governmental regulations are rapidly evolving in this area. The information presented should help navigate these changes.

2. References

Applicable parts of the following Practices, industry codes and standards, and references shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

2.1 Process Industry Practices (PIP)

– PIP ELCPK03-D –*Data Sheet for Electrical Requirements for EV Charging Stations* (included as part of this Practice)

Unless otherwise specified on the *PIP ELCPK03-D* Data Sheet, the following referenced Practices apply.

– PIP ELCGL01 – *Electrical Design Criteria*
– PIP ELSGL01 – *Electrical Construction Specification*
– PIP ELEGL02 – *Arc Flash Hazard Analysis Guideline*
– PIP ELEHA01 – *Guideline for Determining Electrical Area Classification*
– PIP ELTFT01 – *New Electrical and Systems Field Inspection and Testing*

2.2 Industry Codes and Standards

- American Society of Civil Engineers
  – ASCE/SEI 7 – *Minimum Design Loads for Building and Other Structures*
- Department of Justice and Department of Transportation
  – *Americans with Disabilities Act (ADA) Standards*
- Department of Transportation – Federal Highway Administration
  – 23 CFR Part 680 – *National Electric Vehicle Infrastructure (NEVI) Formula Program*
- Illuminating Engineering Society (IES)
  – IES RP-7 – *Recommended Practice for Lighting Industrial Facilities*
  – *IES Lighting Handbook*
- International Electrotechnical Commission (IEC)
  – IEC 60529 – *Degrees of Protection Provided by Enclosures (IP Code)*
  – IEC 61851 – *Electric Vehicle Conductive Charging System*