National Electrical Manufacturers Association

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Electric Submeter System Commissioning

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Foreword

In the preparation of this Standard, the input of users and other interested parties has been sought and evaluated. Inquiries, comments, and proposed or recommended revisions should be submitted to the concerned NEMA product Subdivision by contacting:

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This Standard was developed by a group of Members of the NEMA Electrical Submeter Section that comprises the following:

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1 Scope

This document describes the processes and documentation to be used in commissioning Electricity Sub-Metering (ESM) devices which include both single point meters and Multi Customer (or Circuit) Metering Systems (MCMS). The scope of this document includes on-site verification of labeling, wiring, communications, and circuit assignments.

1.1 Safety Compliance

Additional procedures and documentation that may be required by local regulatory bodies are not included in the scope of this document.

2 General

2.1 Role Assignments

Installation Contractor: Licensed electrician authorized to work on ESM systems and related electrical distribution equipment.

Commissioning Agent: Factory authorized individual performing the commissioning services as described in this document.

2.2 Preparation

The Installation Contractor shall provide the following documentation, required to perform the commissioning and suite verification tasks, to the Commissioning Agent. If this documentation is not provided, the Commissioning Agent must create this documentation as part of the commissioning services.

Meter Installation Records indicating the following:

a. ESM device types and installed locations
b. Identification of metered loads or circuits
    1. Panel names and locations, service types, and voltages
    2. Circuit names, locations, maximum current ratings, feeder sizes, and load type (e.g., three-phase four-wire wye, three-phase three-wire delta, two-wire single-phase, etc.)
    3. Current sensor type, ratio, and aperture size specified and installed for each metered circuit
c. Identification of ESM device reference voltage source
    1. Panel name and circuit location
    2. Potential transformer type and ratio installed (if required)
d. For wireless current sensors or wireless meters, identification of the bridge(s) connected to the wireless sensor
e. Inspection certificates as required by any relevant regulatory bodies.
f. Schematic diagrams that indicate the locations of all metering equipment, including all sensors, bridges (i.e., for wireless current sensors or wireless meters), and instrument transformers within the building's electrical system.
g. Commissioning Record Worksheets

In conducting the commissioning and suite verification tasks, the Commissioning Agent must be or must be accompanied by a qualified electrician or electrical technician employed by an electrical contractor. It is the responsibility of the Commissioning Agent to ensure that the tools and equipment required to perform commissioning services are available. This includes personal protective equipment (PPE).