

Oncor Joint Use Reference Documents  
Rev. 6-14-2022

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[Oncor Equipment Pictures](#)



## Oncor Distribution Operations

### 1. Distribution Circuits

#### Primary

Single Phase



Three Phase



Open Wye or Two Phase





## Oncor Distribution Operations

### 2. Distribution Equipment

Single Phase Riser



120/240v Transformer



Air Break Switch





## Oncor Distribution Operations

Line Fuse



Three Phase Riser



Distribution Regulator



Capacitor Bank





## Oncor Distribution Operations

Fuse Saver



### 3. Distribution Automation (DA) Equipment

Hydraulic Single Phase Recloser



Electronic Single Phase Recloser





## Oncor Distribution Operations

Hydraulic Three Phase Recloser



Interruption Automatic 3-Phase Switch/Recloser



Nova Electronic 3-Phase Recloser



Single Phase Recloser



Three Phase Recloser

Scadamate Automated 3-Phase Switch/Recloser



## Oncor Distribution Operations



DA Control Cabinet - Exterior (Scadamate)





## Oncor Distribution Operations

DA Control Cabinet - Interior (Scadamate)

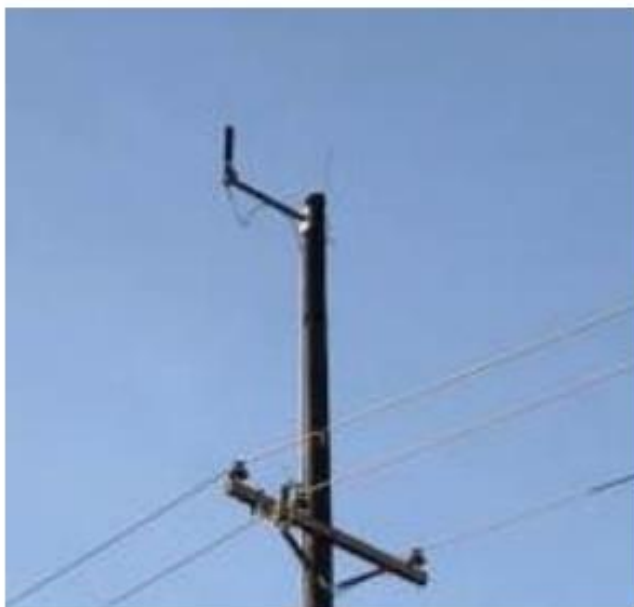
Radio

Modem



### 4. AMS Equipment

AMS Repeater Antenna



AMS Router







## Oncor Distribution Operations

AMS Router - Close Up



### 5. Streetlight Equipment

Streetlight Controller



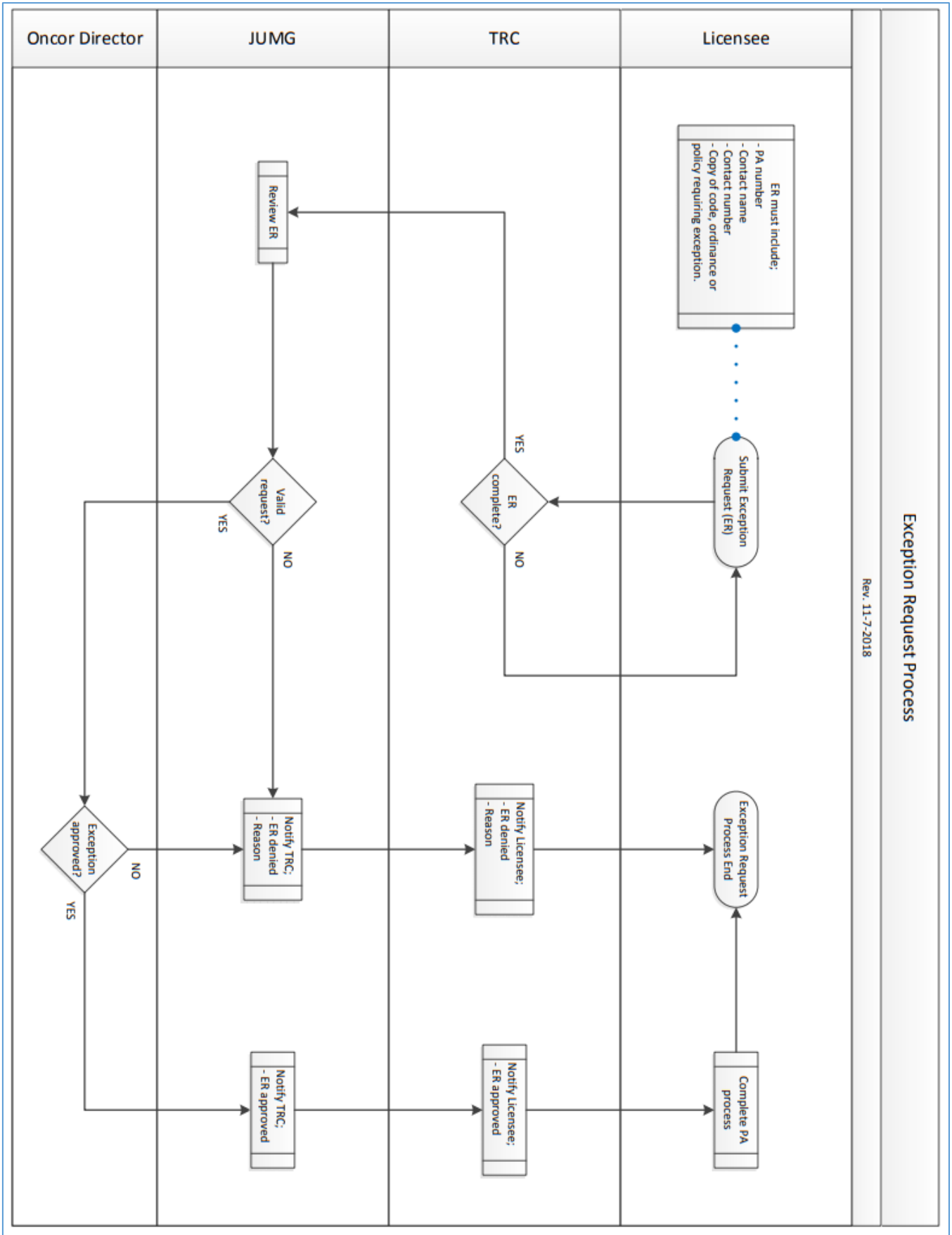


## Oncor Distribution Operations

Area Light



Oncor Small Cell Meter Exception Request Process Diagram



## Oncor Wireless Camera Equipment Attachment Guidelines

Oncor Electric Delivery - Joint Use Management

December 20, 2021

### **Oncor Wireless Camera Equipment Attachment Guidelines**

#### **Overview**

These guidelines are provided as a reference for attaching wireless camera equipment to Oncor wood distribution poles (Poles). Per Oncor policy, only a law enforcement agency ("Applicant") is allowed to install wireless camera equipment on an Oncor pole and must have a Distribution Pole License Agreement ("Agreement") in place with Oncor before submitting a Permit Application (PA). All work performed by the Applicant must meet or exceed the requirements of the National Electrical Safety Code ("NESC") and any other codes, requirements, guidelines or standards ("Standards") referenced in this document, the Agreement or required by law. Applicable documents can be found in the "Joint Use Files" section at <https://www.oncor.com/content/oncorwww/us/en/home/about-us/electric-distribution-system/joint-use-management.html>

#### **Electric Service Request Process**

##### Unmetered Electric Service

Tariff 6.1.1.1.2 "Secondary Service Less Than or Equal to 10kW" (SSL10) allows unmetered service to telecommunications devices, but also limits the maximum allowable power of the device to 80W, which will cap the monthly energy consumption to 50kWh per device.

##### Metered Electric Service

Section 100.04.02 and Section 500.04 of the Oncor Electric Service Guidelines should be used by the Applicant in planning installation of the electrical equipment and delivery of metered electric service from Oncor. The Applicant can go to the New Construction site at <http://www.oncor.com/SitePages/NewConstruction.aspx> and start a request under "Commercial & Industrial" to set up an ESI ID number and then use that ESI ID to apply for service with any Retail Electric Provider (REP) through [Retail Electric Provider List - www.powertochoose.org](http://www.powertochoose.org)

After the application has been submitted, the REP will initiate a city inspection. When the site passes inspection, the city inspector will notify Oncor to complete the order. It normally takes 3-5 business days from the time an application is submitted for Oncor to receive the installation work order and another 2-3 business days for Oncor to complete the meter installation (weather permitting). Before the meter will be set, the meter base must be permanently marked with the 911 address and the address on the REP application must match the address on the city inspection exactly.

#### **Equipment Review and Approval by Oncor**

All wireless camera equipment planned for attachment must be submitted for review and approval before a PA may be submitted. Oncor will complete a technical evaluation (which may include pole loading) and provide detailed location requirements based on its review of the drawings, diagrams, pictures and specifications provided. When power qualified workers are required, the Applicant must provide the name of their installation contractor to Oncor. When installation begins, a copy of the approved PA must be available at the job location for verification purposes. All physical, electrical and other equipment characteristics including, but not limited to, those listed below must be provided to:

Alan Quam  
Oncor Joint Use Management  
[alan.quam@oncor.com](mailto:alan.quam@oncor.com)

- Total assembly weight, cubic feet and resulting moment.
- Dimensions to include outline of entire assembly.
- Electrical characteristics
  - Transmitted power
  - Operating voltage
  - Antenna gain
  - Antenna pattern
- Is any part of the camera equipment a "communications line" per Section 2 of the NESC?
  - Used for public or private signal or communications service
  - Potential less than 400 V to ground or 750 V between any two points of the circuit
  - Transmit power is less than 150 W
- Equipment located in a TXDOT right of way may be subject to additional requirements.

**Oncor Electric Delivery - Joint Use Management**

**December 20, 2021**

All equipment Radio Frequency (RF) characteristics including, but not limited to, those listed below must be provided to;

Oncor Smartgrid Communications  
[Telecom\\_RF\\_Engineering@oncor.com](mailto:Telecom_RF_Engineering@oncor.com)

- FCC designator of transmitter
- Proposed transmit frequency
- Proposed transmit Equivalent Isotropically Radiated Power (EIRP) and Effective Radiated Power (ERP) at antenna.
- If transmissions occur simultaneously, what is max transmit power (ERP or EIRP)?
- Modulation technique of transmitter
- Will transmitter be filtered to prevent transmission outside of the authorized frequency?
- Single transmission bandwidth
- If spread spectrum, what is the BITS/SEC/HZ of a single transmission?
- Will dynamic or automatic power control be used for transmissions to mobile or static receiving devices?
- Horizontal and vertical beam width of antenna
- Elevation above ground level (AGL) of antenna
- How many antennas will be on a pole?
- If antenna is sectored, how many sectors are on single pole?
- Will antenna be level, tilted up or down?
- Receive frequency
- Backhaul technology of transceiver.
  - If RF, will it be same frequency as transmissions to receiving devices
- Transceiver AC power consumption operating at 100% duty cycle, fully utilized

[Oncor Wireless Equipment Attachment Guidelines](#)

Oncor Electric Delivery – Joint Use Management

December 20, 2021

## Wireless Equipment Attachment Guidelines

### Overview

These guidelines are provided as a reference for attaching wireless equipment to Oncor wood distribution poles (Poles). Any 3rd party ("Applicant") seeking to attach wireless equipment to the Poles must have a Distribution Pole License Agreement ("Agreement") in place with Oncor before submitting a Permit Application (PA). All work performed by the Applicant must meet or exceed the requirements of the National Electrical Safety Code ("NESC") and any other codes, requirements or standards ("Standards") referenced in the Agreement or required by law. A link to the Joint Use standards is provided below.

[Construction Standard – Joint Use - Section 103](#)

### Electric Service Request Process

The Electric Service Guidelines should be used by the Applicant in planning the installation of electrical equipment and the delivery of Oncor metered electric service. The Applicant must contact Oncor to set up an ESI ID number which is used in the competitive electric power market to identify an attachment or group of attachments. The Applicant will then use that ESI ID to apply for service with any Retail Electric Provider (REP). There is a link to the Electric Service Guidelines below, and sections that are directly applicable to joint use are also listed.

### Electric Service Guidelines

Section 100.04.02	Page 11	Attachments to Company Facilities
Section 500.04	Page 41	Location of Meter
Section 500.06.08	Page 43	Company – Customer Responsibility
- Drawing	Page 46	OH Secondary Service & UG Secondary Service from OH Source
- Drawing	Page 47	UG Service from UG Secondary or Padmount Transformer
- Drawing	Page 66	Meter Socket Connect & Volts - 120 V, 2 Wire
- Drawing	Page 67	Meter Socket Connect & Volts - 120 V, 3 Wire
- Drawing	Page 68	Meter Socket Connect & Volts - 120/208 V, 3 Wire
- Drawing	Page 69	Meter Socket Connect & Volts - 120/208 V, 4 Wire Wye
- Drawing	Page 70	Meter Socket Connect & Volts - 120/208/240 V, 4 Wire Delta

[Retail Provider List - www.powertochoose.org](http://www.powertochoose.org)

After the application for electric service has been submitted, the REP will initiate a city inspection. When the site passes inspection, the city inspector will notify Oncor to complete the order. It normally takes 3-5 business days from the time an application is submitted to the REP for Oncor to receive the installation work order, then another 2-3 business days for Oncor to complete the meter installation (weather permitting).

**NOTE: Before the meter will be set, the meter base must be permanently marked with the 911 address listed on the REP application and it must exactly match the address on the city inspection.**

### Equipment Review and Approval by Oncor

All wireless equipment planned for attachment must be submitted to Oncor for review and approval before a PA may be submitted. Oncor will complete a technical evaluation (which may include pole loading) and provide detailed location requirements based on its review of the drawings, diagrams, pictures and specifications provided. When power qualified workers are required, the Applicant must provide the name of their installation contractor to Oncor. When installation begins, a copy of the approved PA must be available at the job location for verification purposes.

All physical, electrical and other equipment characteristics, including but not limited to those listed, must be provided to;

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Oncor Joint Use Management  
[Tom.rangel@oncor.com](mailto:Tom.rangel@oncor.com)

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- Total assembly weight, cubic feet and resulting moment.
- Electrical characteristics
- Transmitted power
- Operating voltage
- Antenna gain
- Antenna pattern
- Is any part of the wireless equipment a "communications line" as defined in Section 2 of the NESC used for public or private signal or communications service
- Potential less than 400 V to ground or 750 V between any two points of the circuit
- Transmit power of less than 150 W
- Equipment located in a Texas Department of Transportation (TXDOT) right of way may be subject to additional attachment requirements.

All Radio Frequency (RF) equipment characteristics, including but not limited to those listed, must be provided to;

Oncor Smart Grid Communications

[Telecom\\_RF\\_Engineering@oncor.com](mailto:Telecom_RF_Engineering@oncor.com)

- FCC designator of the transmitter
- Proposed transmit frequency
- Proposed transmit Equivalent Isotropically Radiated Power (EIRP) and Effective Radiated Power (ERP) at the antenna.
- If transmissions occur simultaneously, what is the max transmit power (ERP or EIRP)?
- Modulation technique of the transmitter
- Will the transmitter be filtered to prevent transmission outside of the authorized frequency?
- Single transmission bandwidth
- If spread spectrum, what is the BITS/SEC/HZ of a single transmission?
- Will dynamic or automatic power control be used for transmissions to mobile or static receiving devices?
- Horizontal and vertical beam width of the antenna
- Elevation above ground level (AGL) of the antenna
- How many antennas will be placed on a pole?
- If the antenna is sectored, how many sectors are on a single pole?
- Will the antenna be level, tilted up or tilted down?
- Receive frequency
- Backhaul technology of the transceiver.
- If RF, will it be the same frequency as transmissions to receiving devices
- Transceiver AC power consumption operating at 100% duty cycle/fully utilized

**Oncor Pole Data**

Oncor will provide digital mapping data to either of the following types of requestor;

1. Licensee. An entity with an active Distribution Pole License Agreement with Oncor.
2. Applicant. A non-Licensee developing plans to deploy wireline or wireless communications equipment in the Oncor service area.
  - a. This will require prior approval of a Confidentiality Agreement with Oncor.
  - b. An email may be sent to [alan.quam@oncor.com](mailto:alan.quam@oncor.com) to begin that process.

Only the wood pole data listed below is provided and will appear in an Attributes Table that opens when a pole is selected.

- OWNER                   ONCOR or FOREIGN - no foreign owner name.
- POLE\_HT                 FEET
- POLE\_CLASS            1, 3, 5
- WIRELESS               CANDIDATE or NON-CANDIDATE
- POLE\_MAT               WD
- STRUCTURE\_ID
- LATITUDE

- LONGITUDE

[Example of a Pole Attributes Table](#)



The Oncor conductor types listed below are provided and will appear in an Attributes Table that opens when a conductor is selected.

- PRIMARY
- SECONDARY
- OVERHEAD
- UNDERGROUND

[Example of a Conductor Attributes Table](#)



**Oncor Pole Screening Criteria**

In order to determine if a pole is a candidate for a wireless attachment, Oncor uses the following screening criteria. The Applicant should be mindful of this when route planning prior to submission of the PA.



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- The pole cannot have any of the following equipment attached:
  - Area Light
  - Arrestor
  - Autotransformer
  - Capacitor Bank
  - Distribution Automation (DA) Fiber Modem
  - DA Radio
  - Fuse Saver
  - Fuse
  - Primary Point of Delivery (POD)
  - Air break switch
  - Recloser
  - Remote Terminal Unit (RTU)
  - Primary or Secondary Riser
  - Underground Service
  - Multiple Transformers (single transformer is allowed)
  - Multiple Circuits
  - Voltage Regulator
  - AMS Collector
  - AMS Router
- The pole cannot be within 200 ft of an Oncor AMS collector or AMS router.
- A candidate pole may be ruled out at Oncor's discretion based on the facility in question.