

WELCOME

CPS ENERGY

QUARTERLY POLE ATTACHMENT WORKSHOP

NOVEMBER 14, 2016



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PURPOSE OF TODAY'S WORKSHOP



- Provide update on the various initiatives of the CPS Energy Pole Attachment Program
 - Make-Ready Engineering Review
 - Pole Inventory
- Discussion of Version 2 Standards
 - Program Enhancements
 - Open discussion on use of pole-top for Wireless Installations

HOUSEKEEPING



- **Introductions**
- **Sign-up Sheets**
- **Restrooms**
- **Evacuation / Staging**



TODAY'S AGENDA



Item #	Start	Topic	Presenter
1	10:00	Introductions / Housekeeping/ Agenda Review	B Bartos
2	10:10	Miscellaneous Pole Attachment Program Updates & Reminders	B Bartos
3	10:20	Update on CPS Energy RFQ for Pole Attachment Services	B Bartos
4	10:40	Update on Pole Inventory Project	J Grimshaw
5	11:00	New Program Provisions in the Version 2 Pole Attachment Standards	B Bartos
	11:30	Break	
6	11:30	Discussion on Use of Pole Top for Wireless Installations & General Wireless Requirements	B Bartos / Jay O'Neill
7		Open Discussion	Group
8		Final Wrap Up & Adjourn	

**POLE ATTACHMENT PROGRAM
– MISCELLANEOUS UPDATES &
REMINDERS**

POLE ATTACHMENT PROGRAM REMINDERS



- **Pole Attachment Agreements**
- **Insurance Certificates**
- **Performance Bonds**
- **Registration Forms**
- **Payment of all Make-Ready Fees & Charges**

- **Updates to Pole Attachment Services webpage**
- **Development of an Instructions for Contractor Approvals document**
- **Contractor training**

**UPDATE ON
CPS ENERGY RFQ FOR
POLE ATTACHMENT SERVICES**

- Current contract with Utilimap expires on January 31, 2017
- Published an RFQ for Pole Attachment Services for interested firms on August 8th
- Responses received by CPS Energy on August 19th.
 - Five firms responded
 - Evaluate RFQs and named short list of 2 for further negotiations
- New contracts effective on October 1 with 2 firms

NEW PROVISIONS



- Contractor to directly invoice each applicable Attaching Entity
 - Failure to pay Contractor in a timely manner will be treated as the same as failure to pay CPS Energy
- Contractor to provide a combination of unit-prices and time/expenses to improve transparency
 - Unit Prices effective on Applications submitted after December 1, 2016
 - Unit prices will be posted on CPS Energy Pole Attachment Services webpage

CONTRACTORS



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UNIT PRICES



Item	Unit Price
Initial Application Review (Desk Top)	\$2 / Pole in Application
PLA Review	\$25 / Pole Reviewed
Make-Ready Electrical Design Review	\$55 / Pole with MREC Design
Make-Ready Engineering	\$275 / Pole with MREC Design
Initial Field Inspection	\$8 / Pole in Application; \$2.55/Mile
Make-Ready Electrical Construction Inspections	\$150 / PCO; \$200 / PCO & Xfmr C/O; \$50 / Other (Neutral move, etc.); \$2.55/Mile
Post-Construction Inspection (initial)	\$20 / Pole; \$2.55/Mile
Post-Construction Inspection (subsequent)	\$26 / Pole; \$2.55/Mile
Other Charges	(See webpage for details)

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UPDATE ON
**POLE ATTACHMENT
INVENTORY PROJECT**

POLE INVENTORY PROJECT



As a final closeout of the pole attachment agreements terminated in July, CPS Energy is undertaking an Inventory to:

- 1) Validate the total number of CPS Energy-owned Poles; and
- 2) Validate the total number of Attachments on CPS Energy-owned Poles

Contractor began Inventory work in September 2016 and is estimated to take one-year to complete

POLE INVENTORY COST ALLOCATION



- **CPS Energy will invoice Attaching Entities based on the total number of Attachments identified.**
- **For the limited purposes of this Inventory, CPS Energy will be counted as one Attachment on each CPS Energy Pole.**



COST ALLOCATION ESTIMATE

(SUBJECT TO CHANGE)

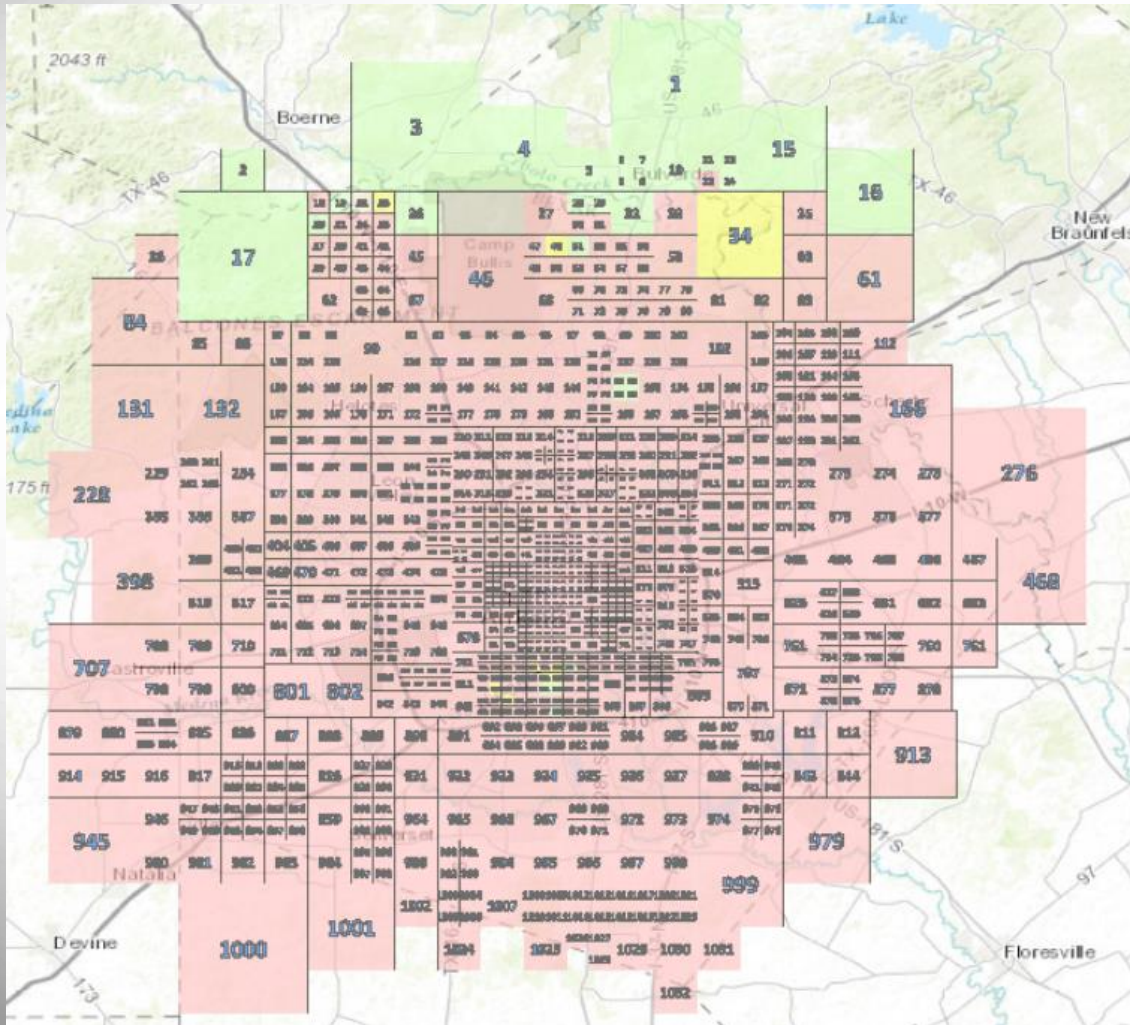


For budget and estimating purposes only...

- 300,000 CPS Energy Poles inventoried
- Total cost of Inventory: \$3,000,000
- Total number of Attachments Inventoried (*including CPS Energy's 1/Pole*): 720,000
- Cost per Attachment: $\$3,000,000 / 720,000$ or \$4.17 per Attachment

So if an Attaching Entity had 1,000 Attachments, CPS Energy estimates their share of the cost would be \$4,170.

INVENTORY GRIDS



Staff Resources:

- 1 Utility System Lead Specialist
- 2 Utility Systems Senior Specialist
- 15 Utility Systems Specialist

Production Stats:

- Grids in Production = 16 (131, 68, 126, 121, 85, 60, 781, 63, 208, 195, 196, 81, 43, 76, 41 and 107)
- Grids in QA = 21
- Grids Completed = 96 out of 1,032 (9%)
- Grids Delivered = 6 out of 1,032
- Total Poles inspected last week = 9,358

- **Communicating to CPS Energy Customers.**
 - HOA letters.
 - GIS Interactive Voice Response (IVR) calls.
 - Decals on DRG trucks.
- **Accessing Customer properties.**
- **Modifying our GIS to accept inventory data.**
 - Test / development.
 - Production.
- **Additional information is linked on the Pole Attachment Services webpage**

PROJECT REVIEW MEETINGS FOR ATTACHING ENTITIES



Monthly Meeting to be held 1st Tuesday of each Month starting at 1:30 PM to 3 PM to provide project status

Next	Dec 6, 2016
Scheduled	Jan 3, 2017
Meetings:	Feb 7, 2017
	Mar 7, 2017
	Apr 4, 2017
	May 2, 2017

Meetings will be held in the Riverside Conference Room, CPS Energy Main Office

Webex and conference bridge also available

**UPDATE ON
NEW PROGRAM PROVISIONS
IN THE V2
POLE ATTACHMENT
STANDARDS**

REVISIONS TO POLE ATTACHMENT PROGRAM



As previously discussed, CPS Energy is making revisions to the Pole Attachment Standards outside of the scope of the Wireless Installation inclusions

- Address errata, confusing language
- Improve the overall Pole Attachment Program

STANDARDS REVISION REQUEST PROCESS (SECTION II.G.2)



Requestor submits a Pole Attachment Standards Revision Request (PASRR) form to CPS Energy

CPS Energy logs the PASRR and publishes for stakeholder comments *(30 days)*

CPS Energy reviews all comments received and determines and publishes disposition of PASRR *(30 days)*

If Approved, CPS Energy will announce decision and effective date at next Quarterly Workshop
If Rejected, CPS Energy will publish its rationale for decision & discuss at next Quarterly Workshop

“FORMALIZE” WAIVER REQUEST PROCESS (SECTION III.A.6)



- **Revised language to “formalize” the waiver request process**
- **Attaching Entity must submit a Waiver Request form either before or at Application submittal**
- **CPS Energy will respond within 7 days of receiving a completed request**
- **No Waiver Request will be granted if in the opinion of CPS Energy the waiver will result in non-compliance with the NESC**

RIGHT TO SUSPEND WORK

(SECTION III.D.2)



- **CPS Energy reserves right to instruct an Attaching Entity or its contractor to suspend work, in an orderly and safe manner, should the Attaching Entity or its contractor fail to produce valid authority from CPS Energy to access any CPS Energy Pole, Streetlight Pole, or other CPS Energy Facility**

BREAK



DISCUSSION ON
**USE OF POLE TOP FOR WIRELESS
INSTALLATIONS & GENERAL
WIRELESS REQUIREMENTS**

EFFECTIVE DATE



At the June 2nd workshop, consensus from the group was to waive the 90-day notice period in order to make Version 2 Standards are effective and enforceable.



Therefore, CPS Energy intends to publish the approved V2 Standards on November 30, 2017 with an effective date of January 1, 2017.

TIMELINE FOR WIRELESS STANDARD DEVELOPMENT



June 2nd	Technical Workshop
July 11th	Technical Workshop
August 19th	CPS Energy published draft for comments
September 2nd	CPS Energy published revised draft for comments
September 23rd	Comments due to CPS Energy
October 28th	CPS Energy announces a delay in publishing the Wireless Standards to seek additional input
November 14th	Today's Workshop
November 31st	CPS Energy to publish Approved Wireless Standards
January 1st	Wireless Standards effective & enforceable

**CPS Energy invites open discussion on the
Wireless Installation standards including the
use of the Pole-Top**

CORE PRINCIPLES OF CPS ENERGY



- Reliability - Top decile in electric reliability (2015)
- Safety - 69% reduction in recordable injuries (FY 2016)
- Customer Service - Top four in overall customer satisfaction among large southern utilities (2015)

Standards are driven to meet principles



COMPARISON OF INDUSTRY STANDARDS



GO95 California's Standard

- Antenna & Elements need minimum of 6ft clearance to conductors
- Can only be attached to pole with less than 50kv conductors
- 2 pole loading zones
 - Light Loading
 - Heavy Loading
- Has 3 levels for protective covering
 - 3 Ft protective covering above conductors needed for 0-750V conductors
 - 6 Ft protective covering above conductors needed for 750V-35KV
 - 9 Ft protective covering above conductors needed for 35KV-50KV
- Mandatory compliance for California regulations
- Separate orders for Overhead versus Underground construction
- More direct language for layperson's understanding
- No scheduled or planned revisions

NESC 2017 adoption for Wireless

- 4 Different pole loading zones
- Has guidelines for antenna structures on poles with conductors up to 115KV
- 40" protective covering from conductor regardless of carried voltage
- Published by IEEE for voluntary adoption
- Defines Construction, Operation, and Maintenance
- Defines Overhead and Underground practices
- Written by and for engineers
- Has regular revision cycle

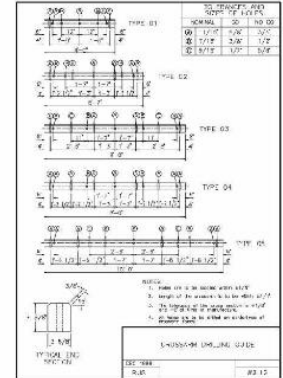
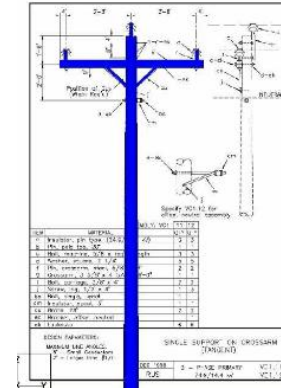
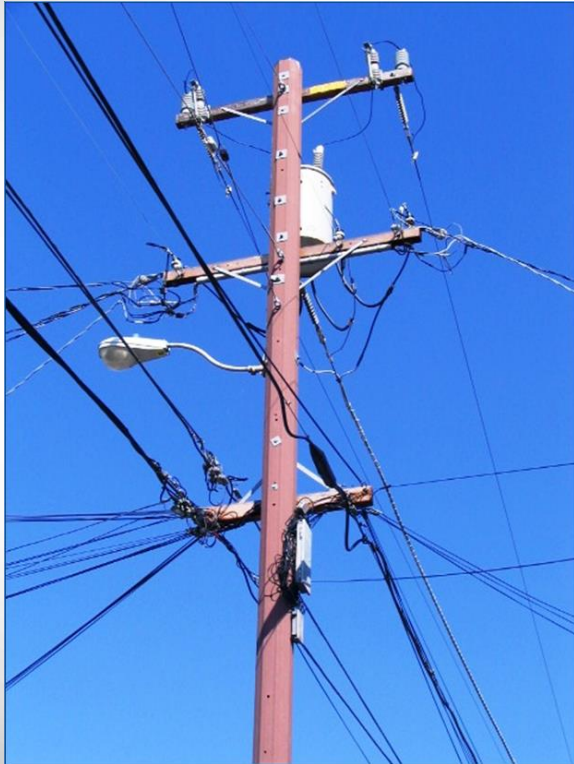
AREAS OF CONSIDERATION TO ALLOW POLE TOP INSTALLATIONS



- **CPS Energy would move middle insulator to cross arm.**
- **Typical wood poles to be replaced with composite hollow poles as part of Make-Ready process.**
- **Composite Hollow Poles (RFP)**
 - New heights for clearance requirements, NESC and/or CPS Energy.
 - Riser cables to be located on the inside of composite hollow poles.
 - Attachment methods for composite hollow poles.
 - Installation techniques for composite hollow poles.
- **New typical standards detail(s).**



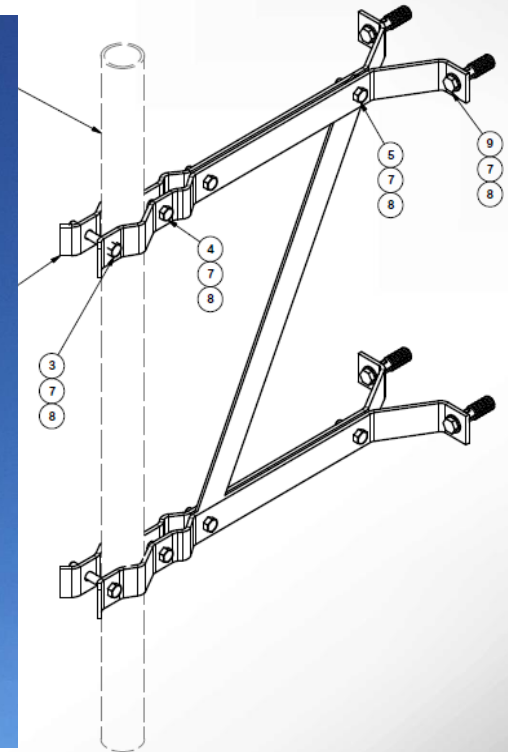
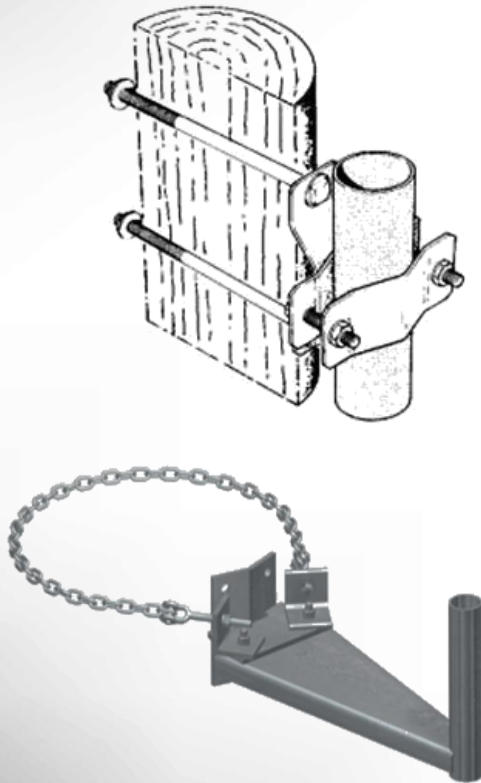
COMPOSITE POLE REQUIREMENTS



- **Non-sectional poles.**
- **Permanent UV protection embedded in pole layers for life of pole.**
- **Available in H1 strengths.**

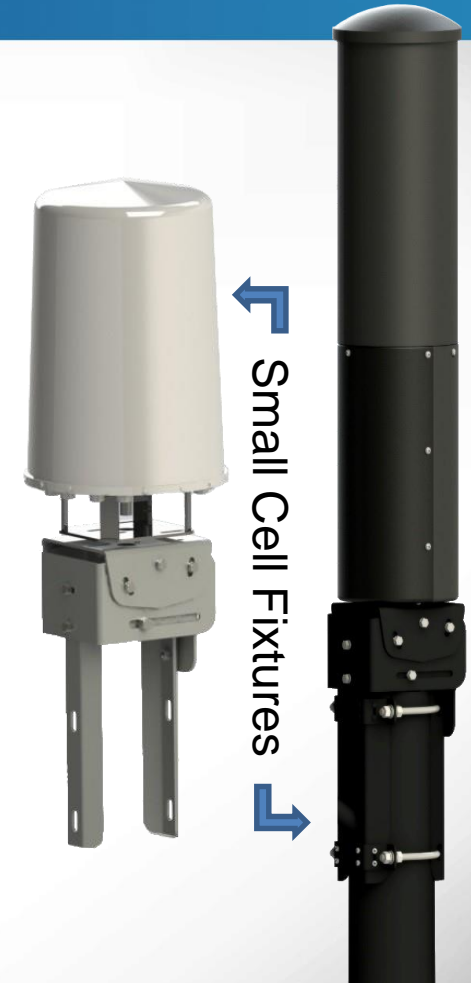
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WOOD POLE OR WALL MOUNTS



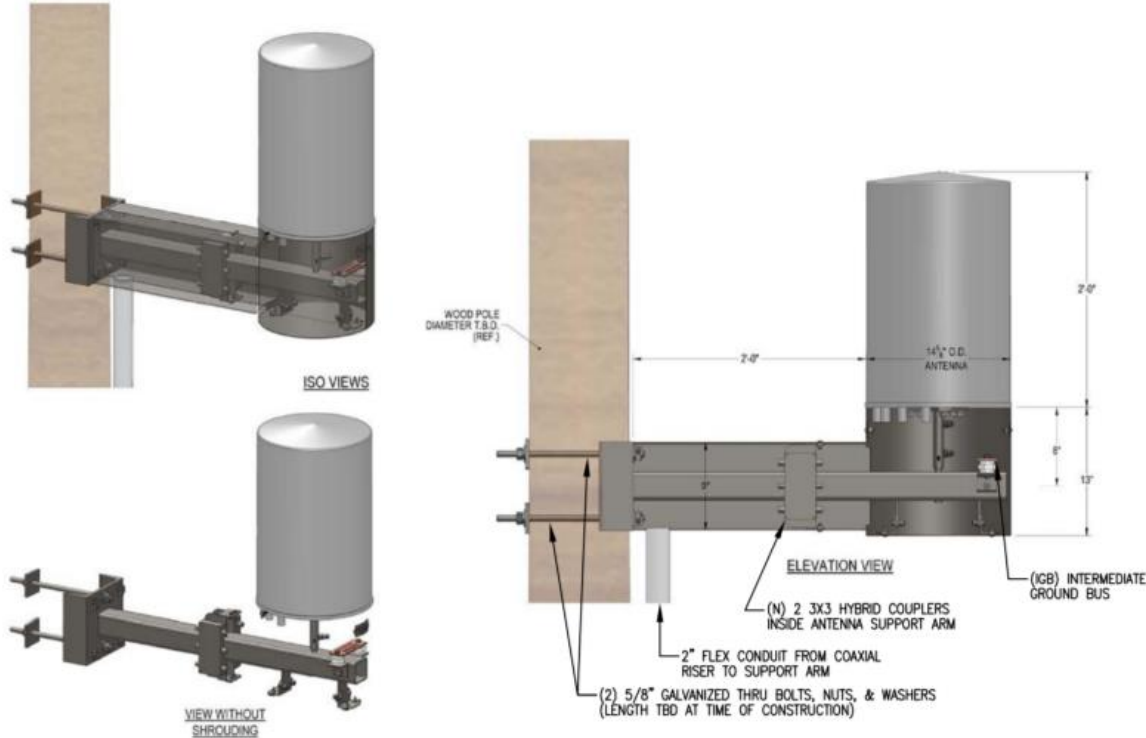
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POLE TOP CONFIGURATIONS



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SIDEARM MOUNTS

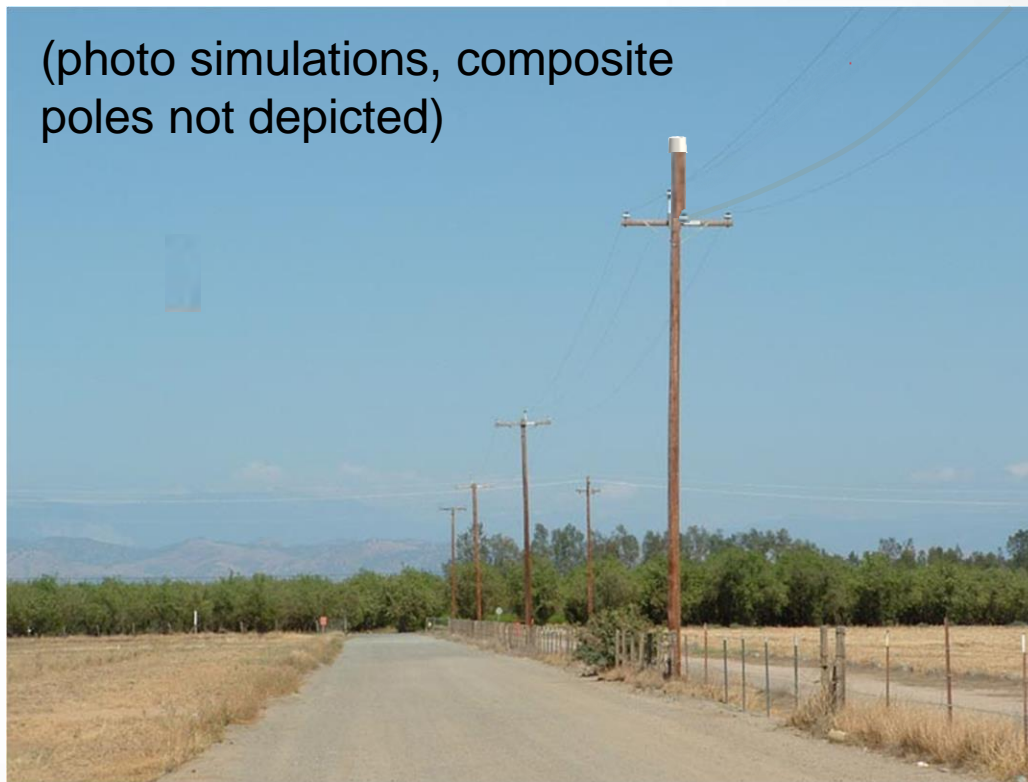


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POLE TOP OPTIONS FOR ROUND-SECTORED ANTENNAS



(photo simulations, composite
poles not depicted)



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THE PROBLEM WITH PHOTOSIMS...



What was proposed

What was installed



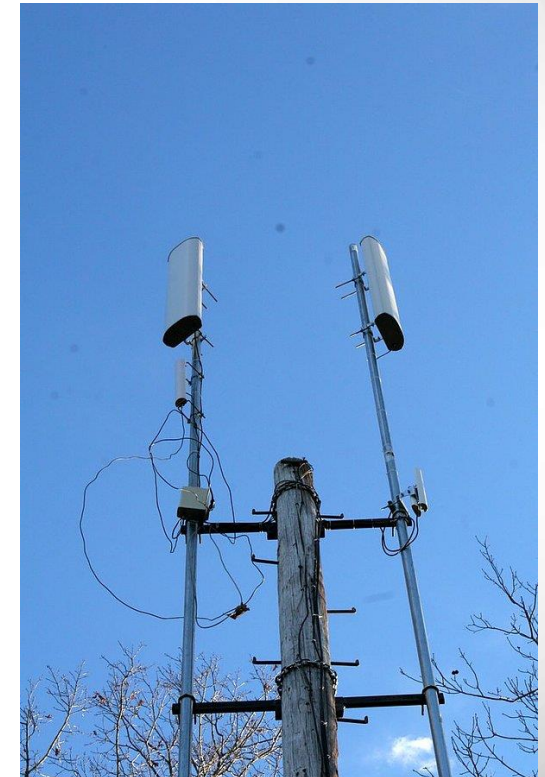
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GOOD & BAD OF WIRELESS INSTALLATIONS



Proper Installation on a crowded pole.

Poorly installed pole top installation.



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BEFORE AND AFTER (BEFORE)



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BEFORE AND AFTER (AFTER)



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QUESTIONS & WRAP-UP

February 21, 2017

CPS Energy EMC Auditorium

10:00 AM to 2:00 PM

CHECK WEBSITE FOR UPDATED INFORMATION



Pole Attachment Services

Guidelines for utilizing CPS Energy distribution poles

CPS Energy's distribution system can facilitate the delivery of the variety of communication services offered today.

With a streamlined pole attachment process, we're dedicated to partnering with companies to assist with speed-to-market processes for future technologies.

CPS Energy's Pole Attachment Services Office is the single point of contact for all who wish to attach infrastructure to our distribution poles.

The Pole Attachment Services Office is responsible for:

- Registration
- Attachment agreements
- Applications for new pole attachments or removals
- Surveys of existing attachments
- Billing and collections for all the above services

For questions or more information on the pole attachment process, [send us an email](#).



Pole Inventory Project

Notice - October 28

Consideration of Pole-Top Use for Small Cell Installations

On September 2, 2016, CPS Energy published a draft of the Version 2 Pole Attachment Standards (V2 Standards) and invited stakeholder comments.

It is evident from comments received that there is a strong interest in access to CPS Energy utility distribution pole-tops for antenna installations. CPS Energy's opposition to allowing the use of pole-tops stems from safety and regulatory concerns. However, our engineering team has come up with a proposal that would mitigate those concerns by replacing wooden poles with fiberglass poles as part of the make-ready process to address requests for pole-mounted Wireless Installations.

In order to explore the appropriate construction protocols for such installations, CPS Energy invites the Attaching Entity community to attend the next quarterly workshop. [Given the interest on this issue, CPS Energy will delay the posting of its Response to Comments and final V2 Standards until Wednesday, November 30, 2016.](#)

CPS Energy encourages all stakeholders to attend the Quarterly Pole Attachment Workshop scheduled for Monday, November 14 as we will use this forum to seek additional input on this pole top issue. We invite the Attaching Entities to come prepared to discuss specifically their views on pole-top installations.

The November 14 Workshop will be held at the CPS Energy EMC Auditorium, located at 4514 Frank Bryant in San Antonio. The workshop is scheduled to begin at 10:00 AM (central). Additional information regarding this meeting will be sent at a later date. Please check the Pole Attachment webpage: www.cpsenergy.com/poleattachments for updated notices.

THANK YOU
FOR PARTICIPATING IN
TODAY'S WORKSHOP



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HIP POCKET SLIDES

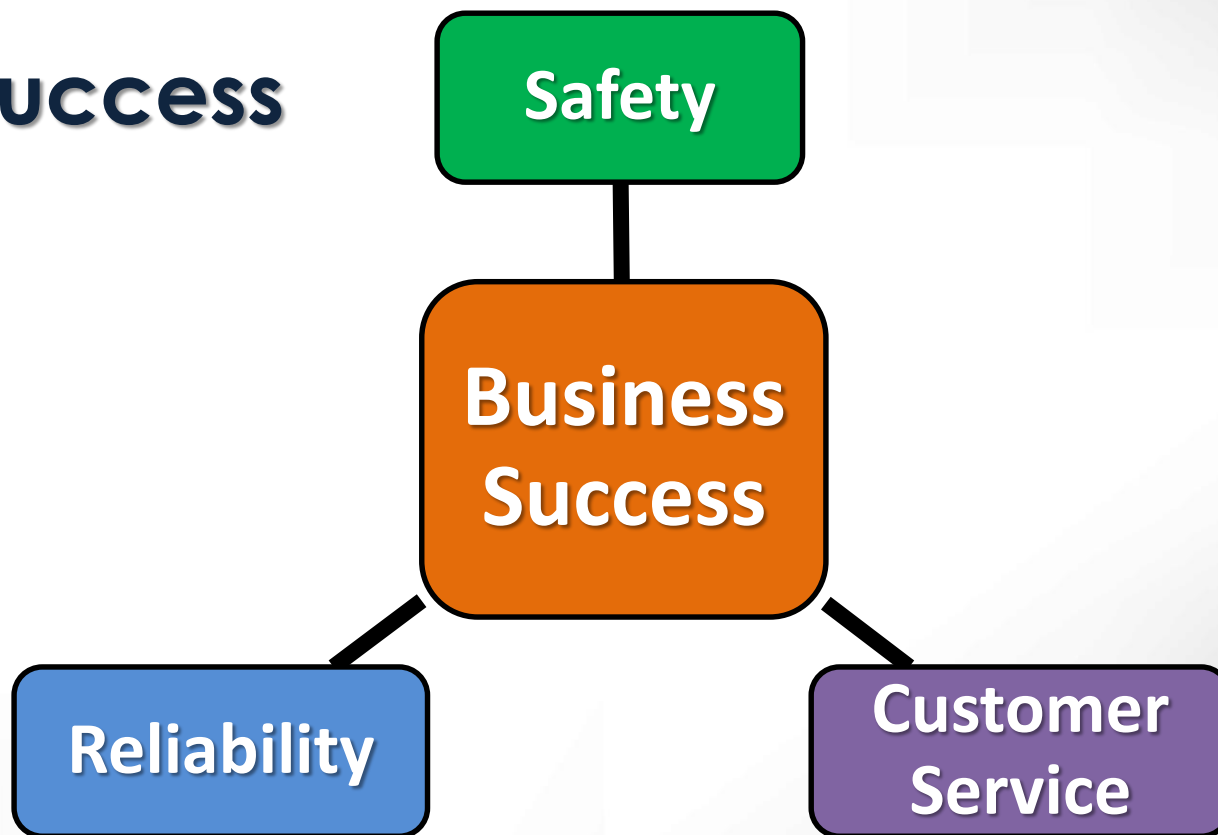


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CPS ENERGY POLE ATTACHMENT PROGRAM



Values to Success



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PROGRAM EXPECTATIONS



Safety

- Keep our employees and the public safe at all times

Reliability

- Continuous compliance with all standards
- Timely reporting & resolution of violations/noncompliance

Customer Service

- Non-discriminatory & transparent processes
- More control over & options for your project
- Less disruption to the community
- Appropriate cost recovery

