

CASE STUDY:

CPS ENERGY'S NEW POLE ATTACHMENT PROGRAM AND ONE-TOUCH MAKE-READY

PRESENTED BY:

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EUCI: BEST PRACTICES FOR WOOD UTILITY POLES

ATLANTA, GEORGIA

JANUARY 24, 2017



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ABOUT CPS ENERGY



CPS Energy was founded in 1860

- *Purchased by City of San Antonio in 1942*
- *Nation's largest municipally-owned energy company, providing both natural gas and electric service*
 - 786,000 electric customers
 - 340,000 gas customers
- *Independent Board of Trustees*



Located in San Antonio, Texas

- *7th largest city in U.S.*
- *3rd fastest growing city*
- *Most visited city in Texas – 26 Million visitors annually*
- *One of the oldest cities in the western U.S.*
- *Major military presence*

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“NEW” CPS ENERGY POLE ATTACHMENT PROGRAM



In 2016, CPS Energy implemented the most significant changes in the history of our Pole Attachment Program --

- New Pole Attachment Agreements for all Attaching Entities;
- Implementation of New Pole Attachment Standards;
 - *New streamlined Application processes based on business need*
 - *Implementation of a “One-Touch Transfer” process*
 - *Addresses New Attachments, Overlashings, & Wireless*
- Quarterly meetings with Attaching Entities to improve communication / relationship;
- Inventory of all Pole Attachments; and
- Single point of contact for Pole Attachment issues

WHAT WE WILL COVER



- **Background -- Why CPS Energy had to Change**
- **Contracting Process -- CPS Energy's Pole Attachment and Wireless Installation Agreements**
- **Development – Crafting the Pole Attachment Standards**
- **Standards in Action -- Permitting Process**
 - One-Touch Transfer Process
 - Google Fiber Deployment
- **Lessons Learned & Moving Forward**

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SETTING THE STAGE FOR CHANGE



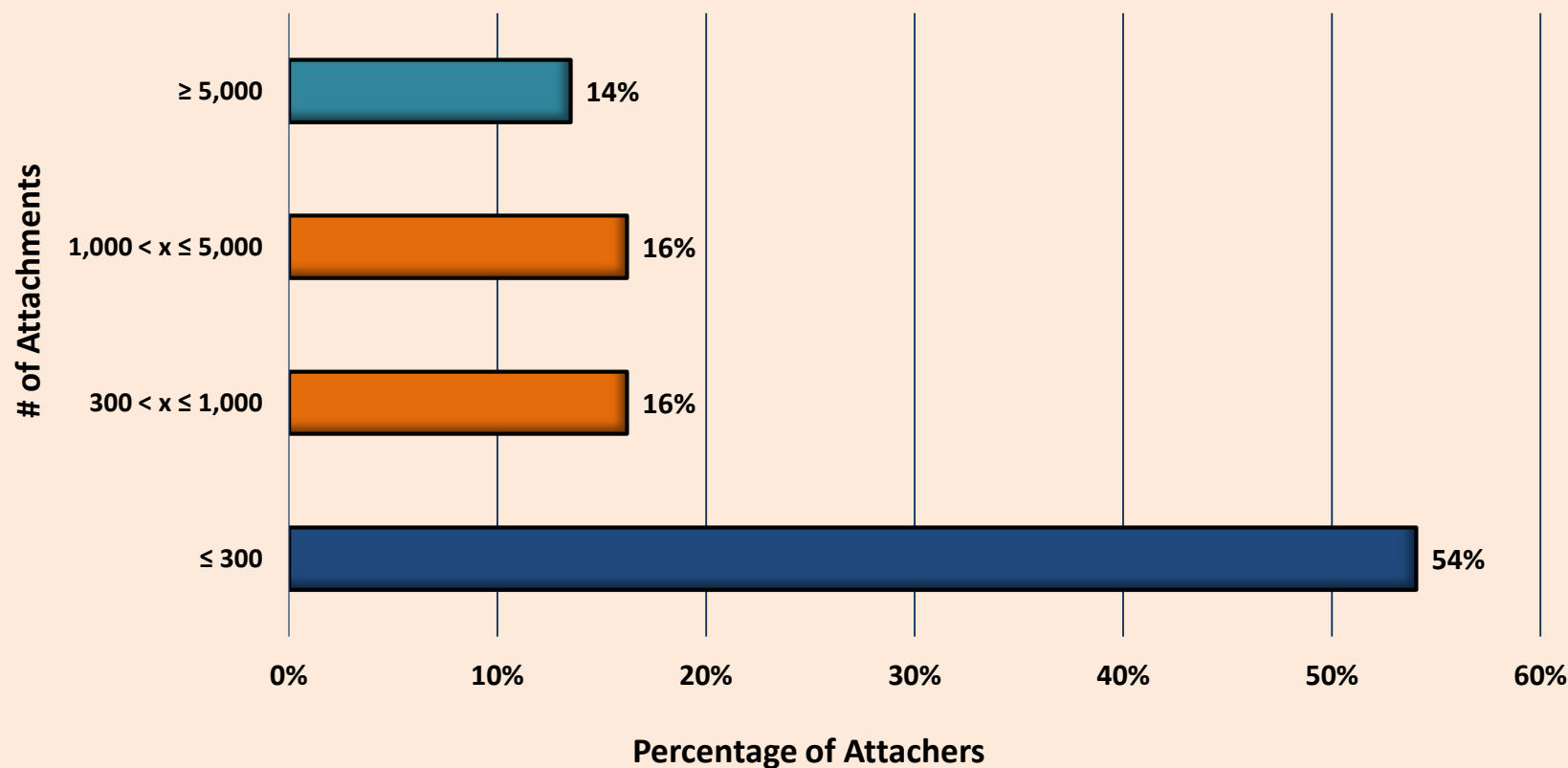
- CPS Energy has over 35 Attaching Entities with access to its Poles
- Many of the Attachment Agreements were decades old with similar, but different, terms & conditions
- Texas state law requires “non-discriminatory treatment” of certificated communications providers
- Convergence of technology -- voice, video, and data are being combined into service offerings provided over one wireline or wireless broadband connection
- The San Antonio business community *wants new and improved* technology service offerings

ATTACHMENTS BY ENTITY



CPS Energy

2016 Total Attachments by Attaching Entity



IMPACT OF GOOGLE FIBER ANNOUNCEMENT



- In August 2015, Google Fiber announced that San Antonio was to be the next city for the deployment of its ultra high-speed Fiber-to-the-Home (FTTH)
- Immediately, incumbent providers began to ramp-up their network improvement/expansion plans -- other providers chose San Antonio for their new network deployments
- Permit Applications for Pole Attachments were expected to increase dramatically from an average of 330 Poles/month to a projected 5,000 Poles/month

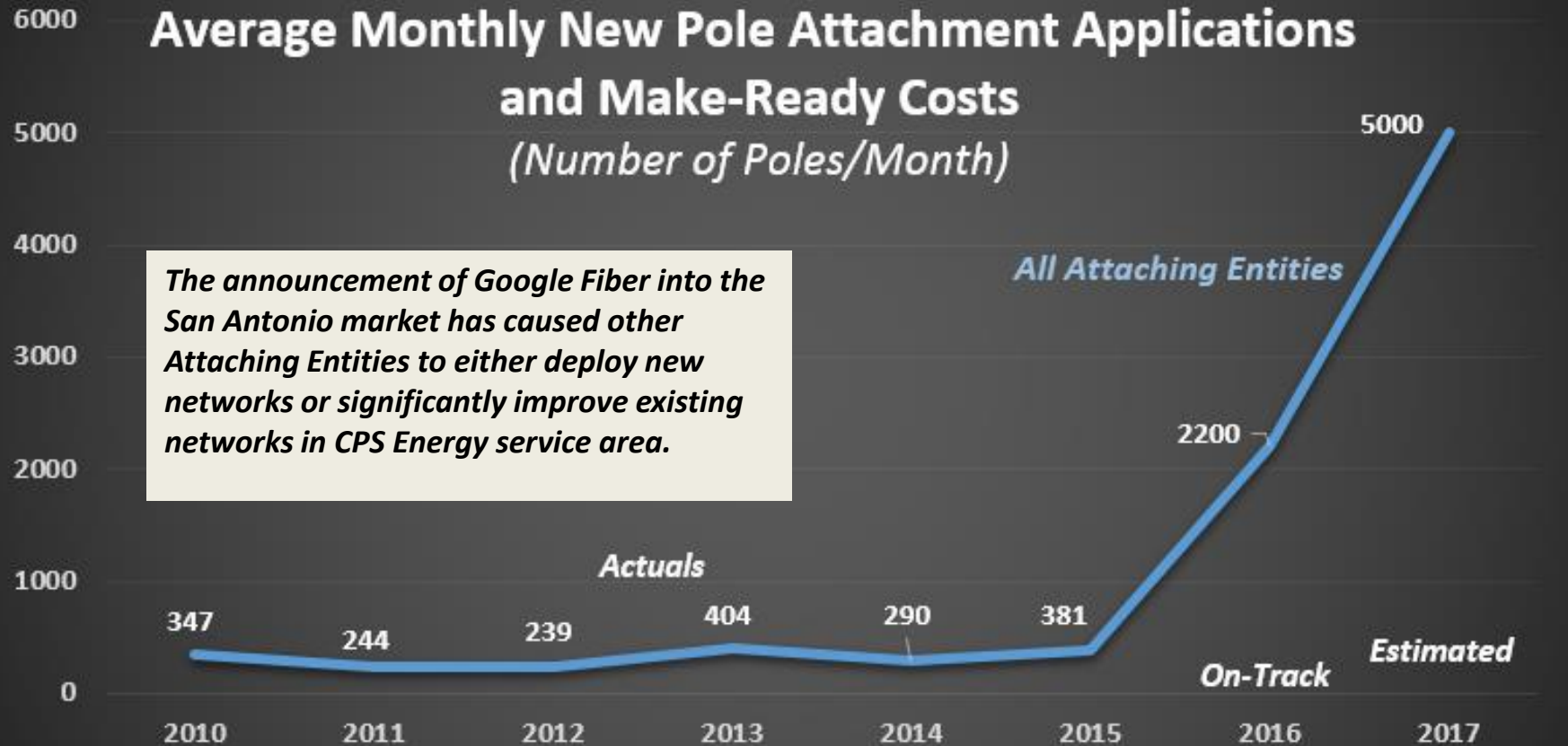
IMPACT ON WORKLOAD

(WIRE ATTACHMENTS ONLY)



Average Monthly New Pole Attachment Applications and Make-Ready Costs (Number of Poles/Month)

The announcement of Google Fiber into the San Antonio market has caused other Attaching Entities to either deploy new networks or significantly improve existing networks in CPS Energy service area.



POTENTIAL OF WIRELESS



While not directly related to Google Fiber, we had to consider the potential impact of Wireless at CPS Energy

- FCC expects wireless data consumption to Increase six fold by 2022.
 - *Estimated 100,000 to 150,000 small cell antenna sites will be constructed by 2018*
 - *455,000 by 2020*
 - *over 800,000 by 2026*
- Estimated over 50% to be installed on utility poles
- Differing technologies and business models
- Virtually little-to-no “rules” in place

LEGAL LANDSCAPE



- While Investor-Owned Utilities (IOUs) are required to comply with the federal Pole Attachment Act (PAA) and FCC implementing regulations; public power utilities, such as CPS Energy are not subject to the PAA
- Congress does allow state public service commissions to choose to exercise jurisdiction over pole attachment rates and practices
 - *Texas state law requires municipally-owned utilities to use the FCC Telecom Formula to “cap” annual pole attachment rates*
- FCC has not established “one-touch” regulations
- FCC and Texas state regulations do not prohibit utility specific pole attachment operational procedures

THE PATH CHOSEN...



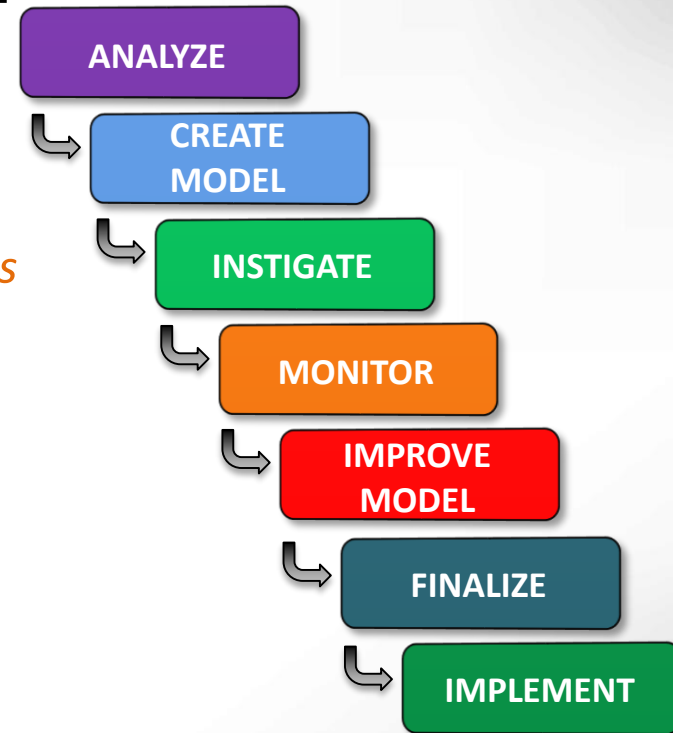
- CPS Energy recognized that it could not successfully administer Pole Attachment Applications as it had in the past given the new demands for access to CPS Energy Poles
- Pole Attachments would now be viewed in the context of a business process; not just an engineering process
- Therefore, CPS Energy chose to “reboot” the entire Pole Attachment Program
 - *to address expected volume*
 - *support broadband deployments*
 - *provide flexibility to address new technologies while maintaining non-discriminatory practices*



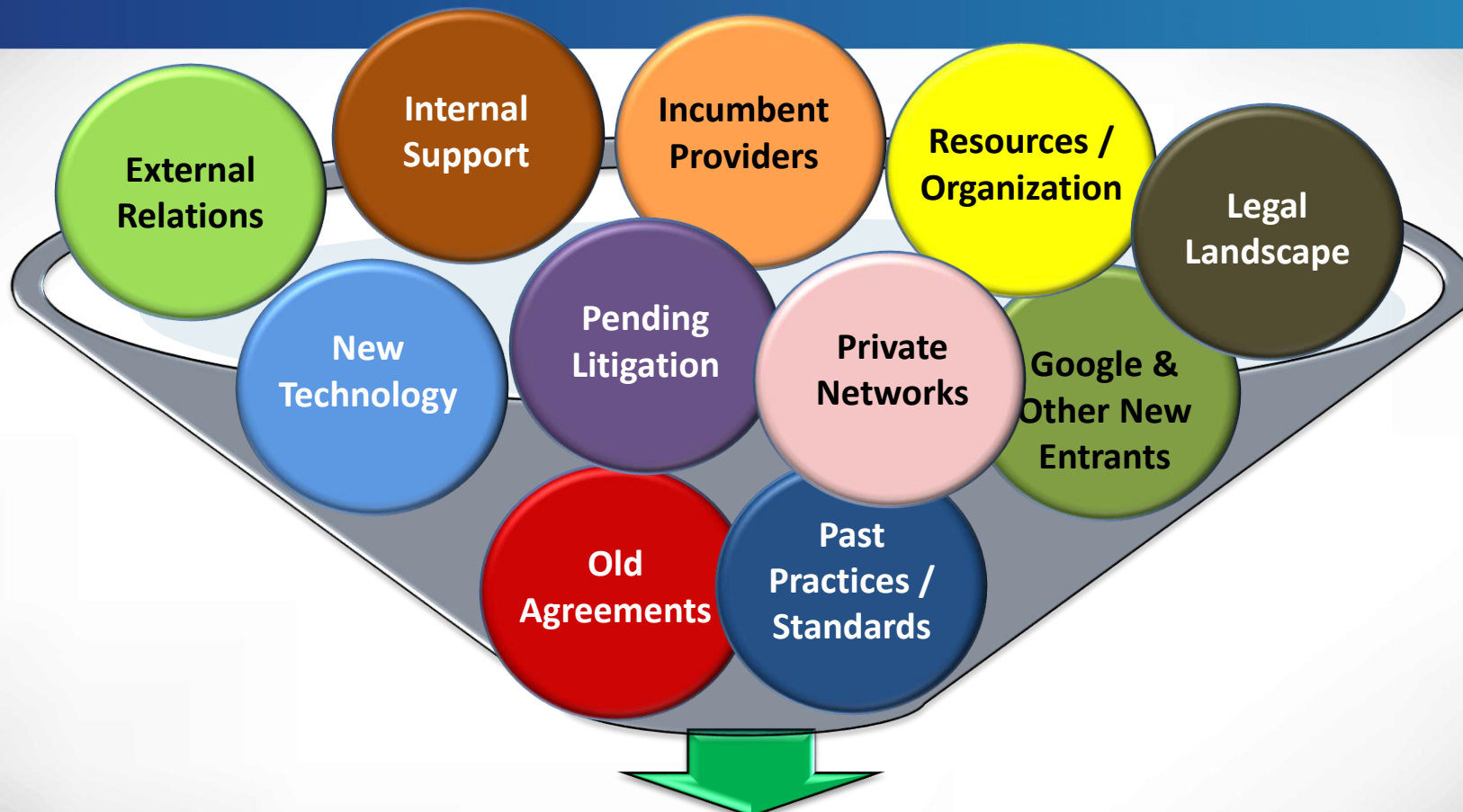
DESIGNING A NEW PROGRAM



- Program change viewed as a **“business process”** improvement, not just an engineering process
- New Program must
 - *Address all safety and performance concerns*
 - *Provide flexibility for differing technologies / business models*
 - *Not unreasonably discriminate among providers of functionally equivalent services*
 - *Remain true to CPS Energy’s Pole Attachment Program’s fundamental values of Safety, Reliability, and Customer Service*
- Recognition that change /improvement would require
 - *Time*
 - *Stakeholder input*
 - *Resources*
 - *Executive Support*



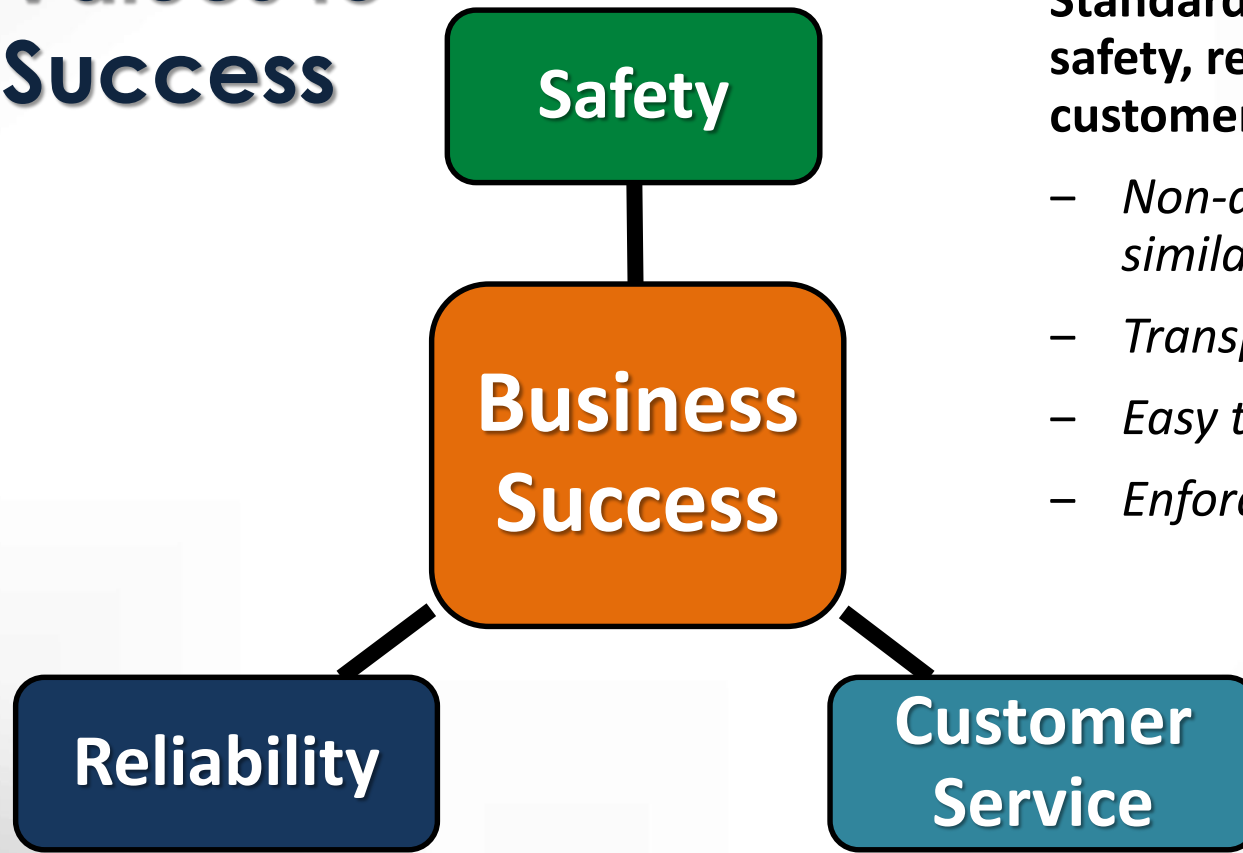
FACTORS / INFLUENCES



New CPS Energy Pole Attachment Program

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Values to Success



Standards cannot breach safety, reliability & customer service

- *Non-discriminatory to similar parties*
- *Transparent & open*
- *Easy to administer*
- *Enforceable*

FOUNDATIONAL VALUES AND OBJECTIVES



Safety

- *Keep our facilities, employees, and the public safe at all times*

Reliability

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

Customer Service

- *Non-discriminatory & transparent processes*
- *Improved communication with all stakeholders*
- *Providing Attaching Entity's more options and control*
- *Minimize disruption to the community*
- *Appropriate cost recovery*

WHAT WE SET OUT TO DO...



To accomplish our new business plan & objectives, CPS Energy had to:

- Terminate all existing Pole Attachment Agreements
- Develop & implement new Pole Attachment Standards in an open and transparent process
- Develop & execute with Attaching Entities new Pro-Forma Pole Attachment Agreements incorporating the Standards by reference
- Improve communication with Attaching Entities to facilitate cooperation with the changes
- Secure outside resources to help us administer the Application process given expected new workload
- Commission a comprehensive Pole Attachment Inventory
- Implement organizational changes to support the new CPS Energy Pole Attachment Program.

IMPROVING COMMUNICATIONS



New website

- Primary Communication Medium
- Timely Information
- Document Downloads
- Document Submittals
- Useful Information
- Links

The screenshot shows the CPS Energy website's Pole Attachment Services page. The header includes the CPS Energy logo, a search bar, and a login button. A navigation menu lists: My Home, My Business, Developers & Builders, About Us, Work With Us, and Customer Support. There are buttons for 'Pay My Bill' and 'Contact Us'. A blue banner states: 'Customer service walk-in centers will be closed on Monday, Feb. 15. However, the call center will be open for emergency calls and new, transfer, and move-out service requests. Corporate offices will be open. Click here for payments options and online service requests.' The main heading is 'Pole Attachment Services'. Below it, a blue box promotes a 'Pole Attachment Workshop' on February 17, 9:30 a.m. - 3:30 p.m. at 4515 Frank Bryant Lane, with a registration deadline of February 12 and a link for details. To the right, a section titled 'Guidelines for utilizing CPS Energy distribution poles' includes text about the streamlined process and a list of services: Registration, Attachment agreements, Applications for new pole attachments or removals, Surveys of existing attachments, and Billing and collections. A photo of a utility pole is shown. Below the guidelines, it states the Pole Attachment Services Office is the single point of contact and provides the email poleattach@cpsenergy.com. A 'Pole Attachment Guides' section lists links for the Pole Attachment Application, PLA Client File (O'Calc), and PDA Client File (SPIDA), with a note that special software is required for the PLA Client File links. A 'Helpful Links' section includes links to NJUNS and the Certificate of Authority (City of San Antonio).

www.cpsenergy.com/poleattachments

Changes of the magnitude could not have accomplished without consultation and input from our Attaching Entity stakeholders:

- Workshops (both Quarterly and Technical)
- Conference calls
- New webpage (www.cpsenergy.com/poleattachments)
- Frequent one-to-one meetings
- Requests for formal written comments
- Written response to stakeholder comments

ORGANIZATIONAL CHANGES

FROM PROJECT TO PROCESS



Historically, Pole Attachment work was part of CPS Energy's Overhead Engineering Department

- Multiple contractors for Make-Ready Engineering
- Challenges with timely Make-Ready Construction resulting from increase volume of pole attachment applications

New Approach: CPS Energy created a dedicated Pole Attachment Department with a full-time manager and support staff

- Dedicated contractor support for Attaching Entities
- Overall project management administration and tracking
- Eliminates conflicts and give Attaching Entities more control over Make-Ready process

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PRO-FORMA AGREEMENTS



- Pro-Form Standard Agreements for all Attaching Entities – Template created through request for comments
- Agreements limited to standard business and commercial terms & conditions
- Technical requirements & pole attachment permitting process provisions in the Standards are incorporated by reference into the Agreements
- CPS Energy reserves the right to amend Standards as appropriate – with provisions for stakeholder input

TYPES OF AGREEMENTS

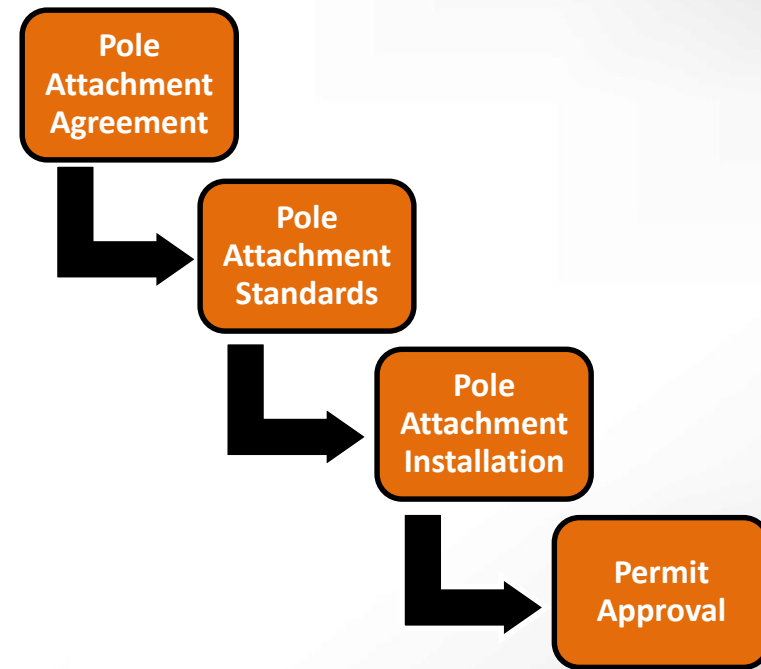


- **Wire Agreement:** Required for Attaching Entities to install wire Attachments and Overlashings only
- **Wireless Addendum:** Required for Attaching Entities that have executed a Wire Agreement but also want to install Wireless Installations
- **Wireless Installation Agreement:** Required for wireless carriers that want to install their own Wireless Installations
- **Infrastructure Provider Sublicensee Agreement:** Required for wireless carriers that lease wireless facilities from Infrastructure Providers that have executed a Wire Agreement and Wireless Addendum

POLE ATTACHMENT AGREEMENT STRUCTURE



- An executed **Agreement** grants a general license to attach to CPS Energy Poles contingent on securing a Permit for an Attachment or Wireless Installation Permit
- A **Permit** grants authority to attach to a specific Pole provided there is compliance with the **Pole Attachment Standards**
- Any contractual agreement without compliance with the Pole Attachment Standards does not authorize access to CPS Energy Poles



AGREEMENT “BOILERPLATE”



The Pro-Forma Agreements contain all of the “normal” boilerplate provision generally expected in a contract such as...

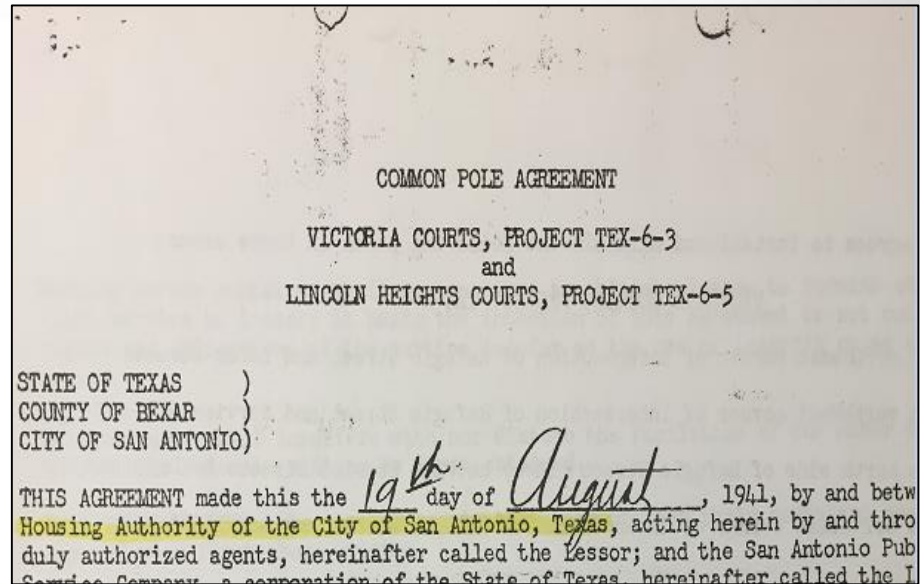
- Grant of License & Duties of Parties
- Requirement to pay Pole Attachment Rate
- Contract Term, Renewal & Termination
- Events of Breach & Process to Cure Breach of Contract
- Dispute Resolution
- Insurance, Indemnification, & Performance Bond
- Acceptance/Rejection of Amendments to Standards
- Contract Assignment
- Governing Law, Severability & Related Provisions

TERM OF AGREEMENT



The Pro-Forma Agreements have a:

- Initial Term: Five Years
- Renewal: Automatic for successive one year periods
- Termination: Following initial term, either party may end contract with six months notice
- Registration: Requires an initial and subsequent annual registration updates



POLE ATTACHMENT AGREEMENTS TIMELINE



Standard Wire Attachment Agreement

January 2016: CPS Energy provides written notice provided to all Attaching Entities that CPS Energy would be terminating their existing pole attachment agreements

February 2016: CPS Energy publishes draft Pro-Forma Pole Attachment Agreement for stakeholder comment

April 2016: CPS Energy informs stakeholders the CPS Energy will submit a 2nd draft for stakeholder comment

May 2016: CPS Energy publishes 2nd draft of Pro-Forma Pole Attachment Agreement for stakeholder comment

June 2016: Stakeholder comments due to CPS Energy

July 2016: CPS Energy publishes approved Pro-Forma Pole Attachment Agreement and Response to Comments

August 1, 2016: CPS Energy begins executing the Pro-Forma Pole Attachment Agreements

POLE ATTACHMENT AGREEMENTS TIMELINE



Standard Wireless Installation Agreements

September 2, 2016: CPS Energy publishes draft of Pro-Forma Wireless Addendum and Wireless Installation Agreement for stakeholder comment

September 23, 2016: CPS Energy receives comments from stakeholders

October-November 2016: CPS Energy meets with individual stakeholders to discuss Wireless Agreements in relation to wireless business models

December 2016: CPS Energy publishes approved Pro-Forma Wireless Addendum, Wireless Installation Agreement, and Infrastructure Provider Sublicensee Agreements and Response to Comments

January 1, 2017: CPS Energy begins executing Wireless Agreements

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WHY STANDARDS?

WORKING TO AVOID...



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POLE ATTACHMENT STANDARDS

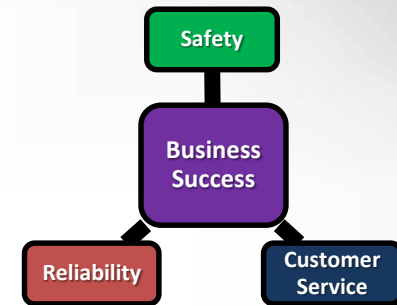


Required for all Pole Attachments to ensure

- *Public safety; and*
- *System reliability*

CPS Energy Pole Attachment Standards are based on

- *Applicable federal, state, and local laws, regulations, or ordinances;*
- *Recognized engineering standards (NESC); and*
- *Good Utility Practice*



Provide for credibility, integrity, & acceptance in the Pole Attachment Process

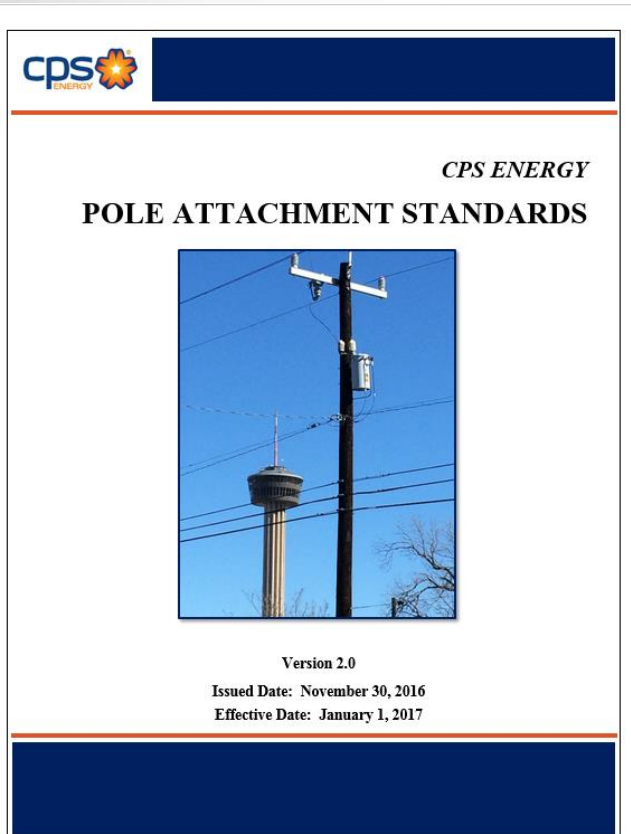
- *Uniformity & interoperability*
- *Lower risk*
- *Reduced risks & costs to all parties*

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Similar to Pole Attachment Agreement, goals for the new Pole Attachment Standards:

- Establish in one document, the comprehensive technical standards and administrative pole attachment permitting processes for applying and attaching to CPS Energy Poles
- Incorporated by reference into the Pole Attachment Agreements
- Standards allows CPS Energy or stakeholders to request revisions to technical standards or permitting process without having to renegotiate multiple agreements

STANDARDS CONTENT



The CPS Energy Pole Attachment Standards are arranged as:

- Section I – Introductory Section
- Section II – General Administrative Provisions
- Section III – General Technical Requirements
- Section IV – Wire Attachment Application Processes
- Section V – Wireless Installation Application Process
- Appendices – General technical & administrative information, charts, tables

POLE ATTACHMENT STANDARDS TIMELINE



February 2016: CPS Energy posted draft of Standards for wire Attachments for stakeholder comment

April 2016: Stakeholder comments due to draft Standards

May 2016: CPS Energy publishes approved Standards and Response to Stakeholder Comments

August 1, 2016: Pole Attachment Standards became effective

August 19, 2016: CPS Energy posted draft of Standards 2.0 for stakeholder comments, incorporating wireless technical standards

September 2016: Stakeholder comments due on draft Standards 2.0

December 2016: CPS Energy released final Standards 2.0, along with Response to Stakeholder Comments

January 1, 2017: Pole Attachment Standards 2.0 became effective

WITH RESPECT TO STAKEHOLDER COMMENTS



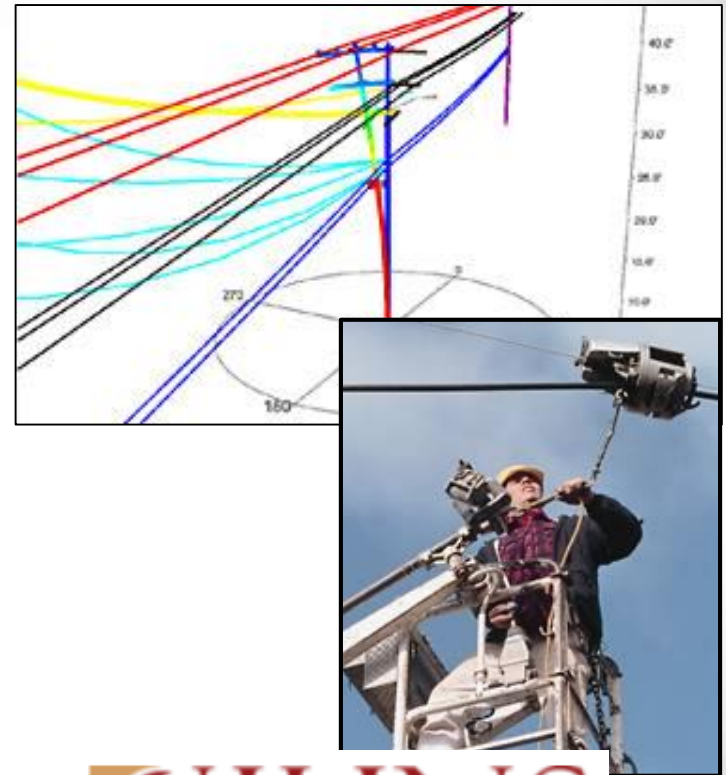
- Modeled process similar to a regulatory rule-making and the NERC Reliability Standards process
- Every comment was specifically addressed whether accepted as-is, modified and accepted, or rejected
- Time-consuming process
 - *Improved transparency*
 - *More importantly, it made us objectively question and consider our approach against our values*

KEY ISSUES

VERSION 1



- Pole Loading Analysis (PLA)
 - *CPS Energy now requires PLA on specific poles*
 - *Requires a Professional Engineer to approve & seal*
- Overlashing
 - *Allows for “notice” only if total diameter is 3.5 inches or less*
- NJUNS
 - *Initiated use of NJUNS for transfer notifications*



- Wireless Installations
 - *Pre-Certification of Wireless Systems*
 - *Use of the top of Pole pursuant to Make-Ready requirements*
 - *Test for Wireless Interference*
 - *Address Various business models*
 - *Application adapted for Wireless Deployment Projects*
- Other Improvements to the Program
 - *Formal Standards Revision process*
 - *Improved Application process*
 - *Developed individual Forms for different events*



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APPLICATION PROCESS



Streamlined Application Process

- *Attaching Entity has more control over schedule*
- *New Permit Application form*
- *Enhanced electronic submittal*

New Options Offered

- *Change from the traditional approach of Make-Ready Engineering*
- *Align and support the Attaching Entity's business needs*

Restructure of Fees

- *Elimination of wire Attachment Application Fee*
- *Introduced new non-compliance fees (e.g., Safety Violation)*
- *Recovery of Application Review and Make-Ready Fees (third-party contractor)*
 - Direct billing
 - Unit pricing

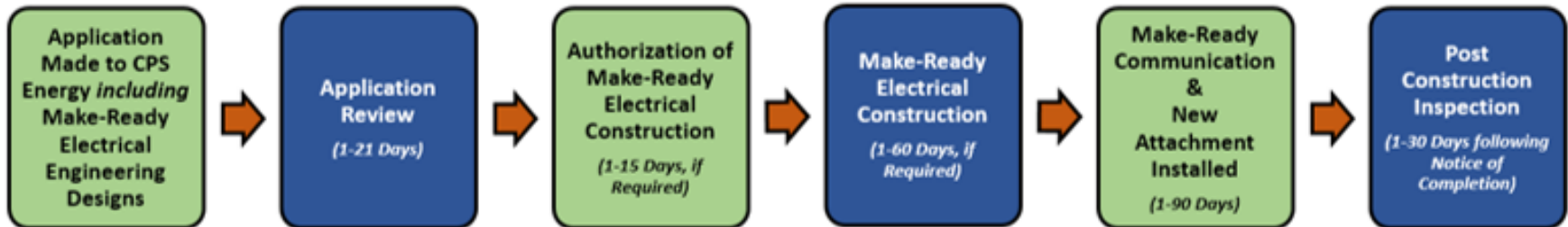
APPLICATION PROCESS OPTIONS



Process Step	Competitive Provider	Competitive Provider <i>Area Wide Network Deployment</i>	Competitive Provider <i>Network Upgrade</i>	Private Network	Competitive Provider <i>Standard Process for Overlapping Existing Attachments</i>
Process Criteria	Default Process for Attaching Entities Providing Communication Services	Process Required for Attaching Entities Deploying a New Area Wide Network	Process Required for Attaching Entities Deploying a Network Upgrade	Attaching Entities Not Engaged in Providing Competitive Communication Services	Default Process for Attaching Entities Overlapping Existing Attachments
Make-Ready Electrical Engineering (MREE)	Attaching Entity	Attaching Entity	Attaching Entity	CPS Energy	Attaching Entity
Application Review Period	21 Days	21 Days	21 Days	45 Days	5 to 21 Days
Make-Ready Electrical Construction (MREC)	CPS Energy	Attaching Entity	Attaching Entity or CPS Energy	CPS Energy	CPS Energy
Make-Ready Communication Construction (MRCC): 1-Touch Transfer-Simple	Attaching Entity	Attaching Entity	Attaching Entity	Attaching Entity	Attaching Entity
MRCC: Complex-Transfer	Attaching Entity	Attaching Entity	Attaching Entity	Attaching Entity	Attaching Entity
Post-Construction Inspections	CPS Energy	CPS Energy	CPS Energy	CPS Energy	CPS Energy
Control over Contractors	Attaching Entity & CPS Energy	Attaching Entity	Attaching Entity and/or CPS Energy	Attaching Entity & CPS Energy	Attaching Entity & CPS Energy

Process Step	Standard Process for Wireless Installations
Process Criteria	Default Process for Competitive Providers, CMRS Providers, & Infrastructure Providers
Make-Ready Electrical Engineering (MREE)	Attaching Entity
Application Review Period	30 Days
Make-Ready Electrical Construction (MREC)	CPS Energy
Make-Ready Wireless Installation Construction (MRWIC): 1-Touch Transfer-Simple	Attaching Entity
MRWIC: Complex-Transfer	Attaching Entity
Post-Construction Inspections	CPS Energy
Control over Contractors	Attaching Entity & CPS Energy

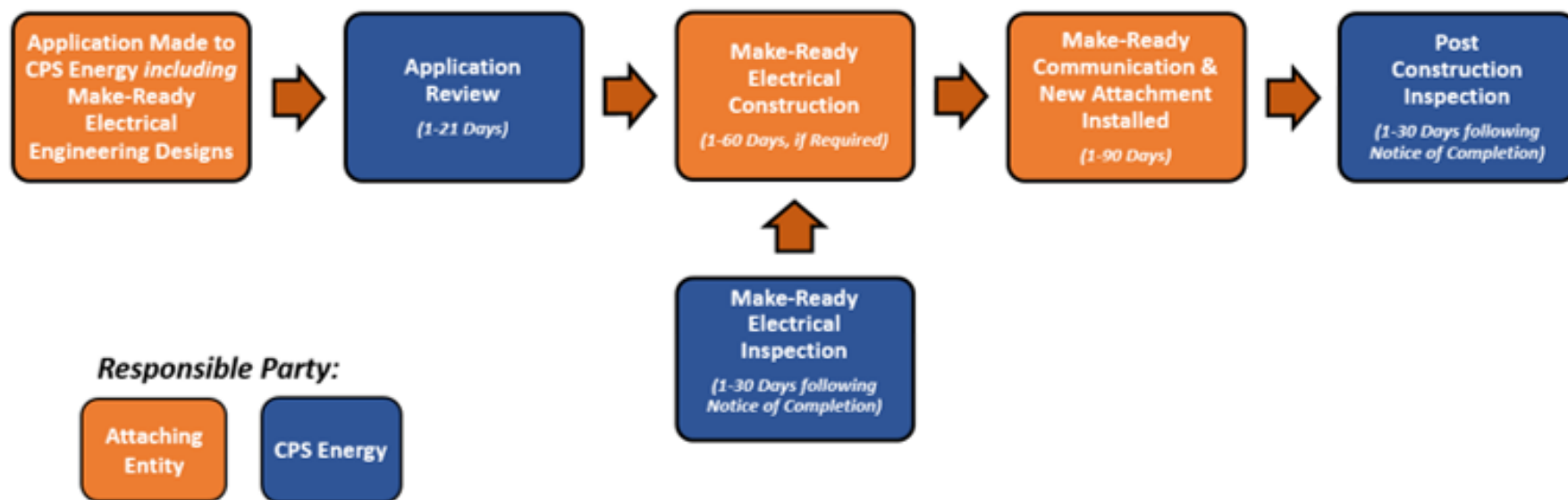
COMPETITIVE PROVIDER - STANDARD PROCESS



Responsible Party:

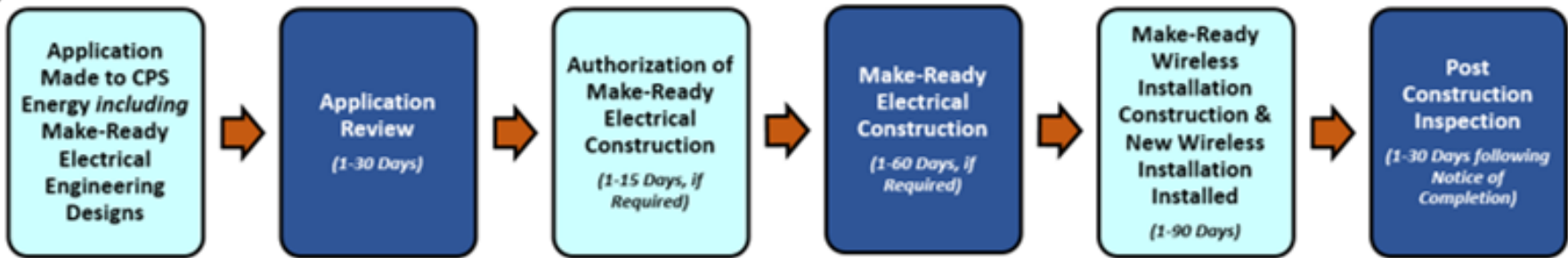


COMPETITIVE PROVIDER – AREA WIDE NETWORK DEPLOYMENT



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STANDARD PROCESS FOR WIRELESS INSTALLATIONS



Responsible Party:



“Rearranging existing pole attachments or installing new poles—a process referred to as ‘make-ready’ work—can be a significant source of cost and delay in building broadband networks.”

-- Federal Communications Commission

Connecting America: The National Broadband Plan

March 2010

Recommendation 6.2

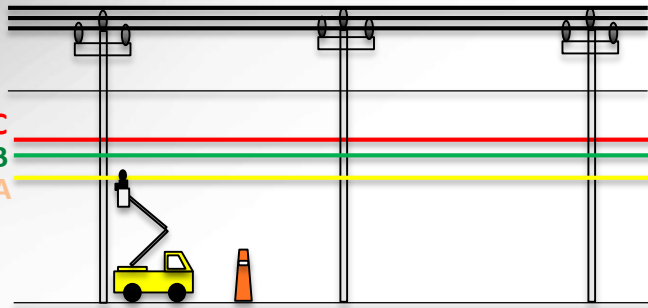
CPS ENERGY'S ONE-TOUCH TRANSFER



Within the CPS Energy Pole Attachment Standards, A One-Touch Transfer is...

The ability of an Attaching Entity to effect the “*Simple Transfers*” of other Attaching Entities’ Attachments during the Make-Ready process by effecting a relocation...without the *need to cut and splice*.

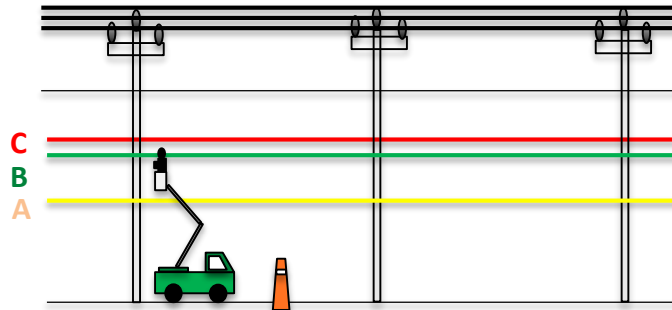
TRADITIONAL TRANSFERS



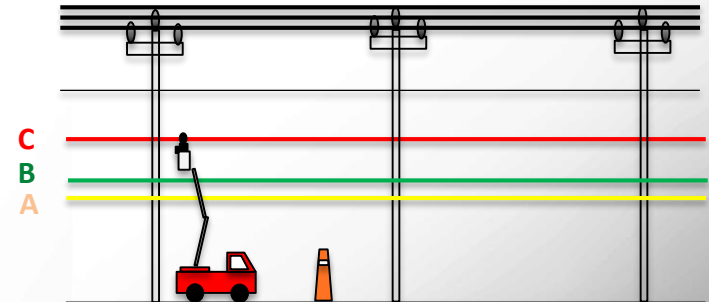
Step 1:
Company A moves
their Attachment
within 30-60 days

Make-Ready indicates
Company D can install
on top if Company A,
B, and C move their
Attachments down a
few inches

Step 2:
Company B moves
their Attachment
within the next 30-60
days

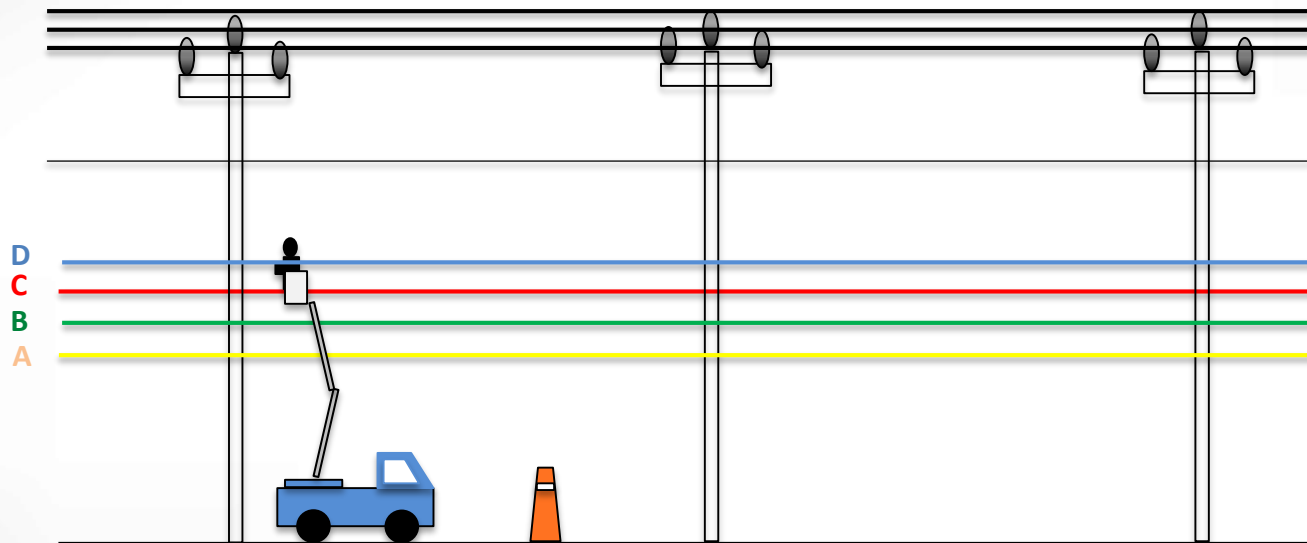


Step 3:
Company C moves their
Attachment within the next 30-
60 days
– Now Company D can Attach



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ONE-TOUCH TRANSFER



One –Touch Transfer:

Company D makes all moves (Simple Transfers for Attachments A, B, & C using a CPS Energy approved contractor on the same day

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BENEFITS OF ONE-TOUCH TRANSFER



Benefits to both telecommunications industry, customers, & community at large

Telecommunication Industry

- *Speed-to-market*
- *Transparency*
- *Efficient resource allocation*
- *No network disruptions*

Customers & Community

- *Customer impacts minimized*
- *Construction delays avoided*
- *Economic development benefits*
- *Expedited network deployments*

To be eligible for the One-Touch Transfer Process

- 1) *Simple Transfers only*
- 2) *Use of CPS Energy certified contractor*
- 3) *Applicable to CPS Energy*
- 4) *Applicable to the Attaching Entity*
- 5) *Subject to Applicable Engineering Standards*
- 6) *Advanced notice of transfer (NJUNS)*
- 7) *Post transfer notice & inspection*
- 8) *Cost responsibility*

ONE-TOUCH CONTRACTOR CERTIFICATION



What it is:

- A criteria-driven qualification process open to multiple communication network contractors
- Attaching Entities select from this list and engage the qualified contractor directly

What it is not:

- An RFP process whereby CPS Energy engages a single qualified contractor on behalf of all Attaching Entities

COMPLEX TRANSFERS



Complex Transfers are those transfers which require the Attachment to be cut & spliced

- *Advanced notification of request (NJUNS)*
- *Attachment owner's responsibility*
- *Subject to Applicable Engineering Standards*
- *Escalation process for non-responsiveness*
- *Cost responsibility*

GOOGLE FIBER

SAN ANTONIO DEPLOYMENT

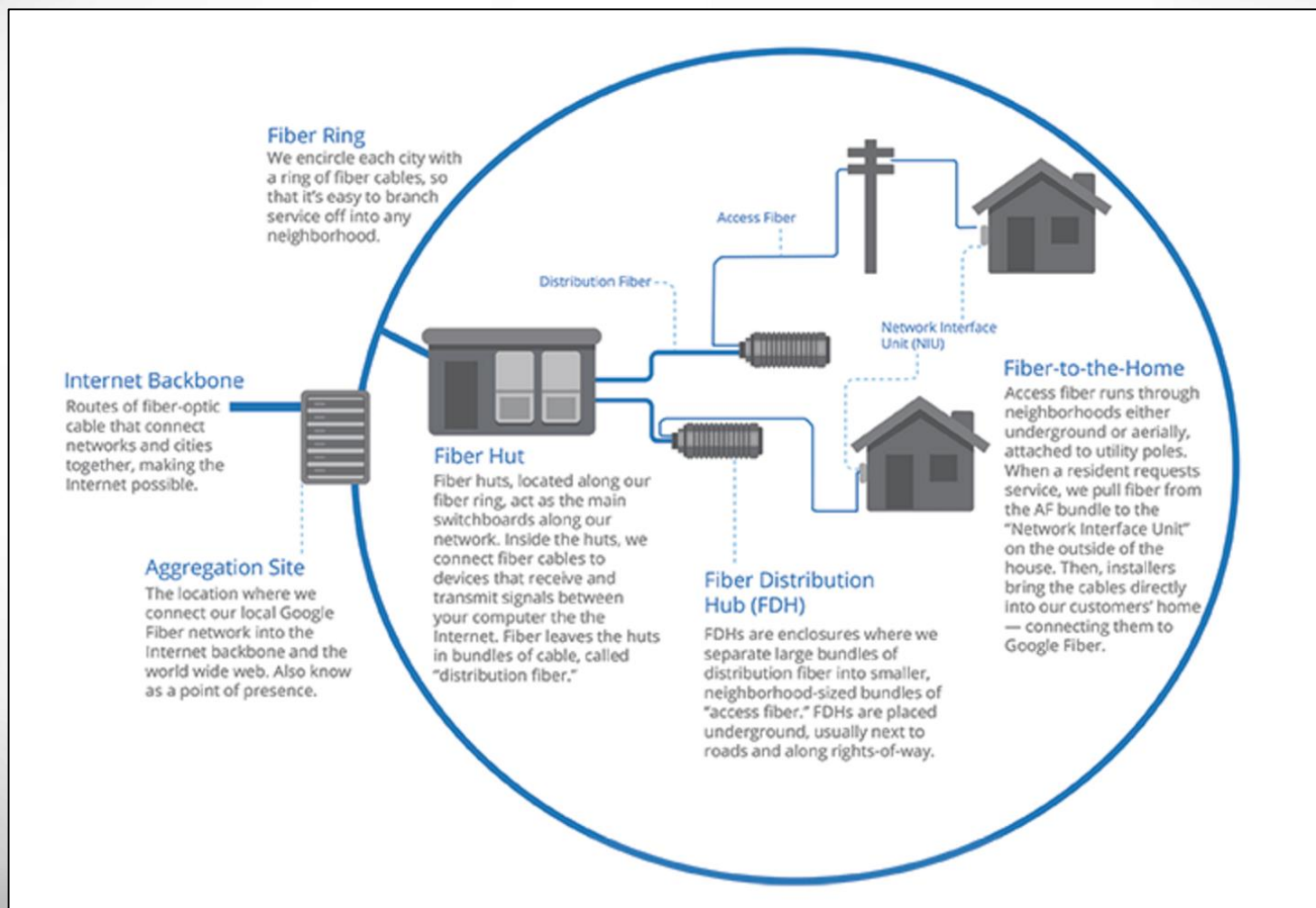


When announced in August 2015, San Antonio was the largest Google Fiber buildout in the nation

- *4,000 miles of fiber cable*
- *Expect to attach to estimated 225,000 CPS Energy Poles*
- *60 miles of underground backbone fiber rings*
- *17 Fiber Huts*
- *Multi-year project*



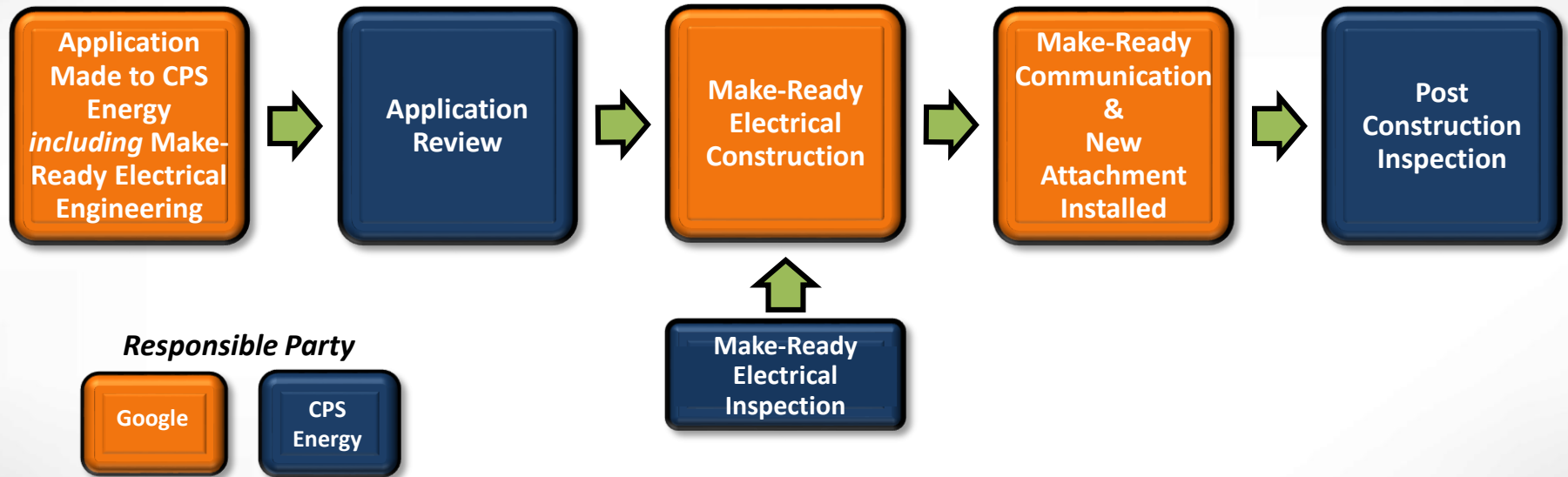
TYPICAL GOOGLE CONFIGURATION



GOOGLE FIBER



COMPETITIVE PROVIDER – AREA WIDE NETWORK DEPLOYMENT PROCESS



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CURRENT STATUS OF DEPLOYMENT



- First underground backbone ring is complete and in-service
- Overhead fiber Attachments to several FDH's are in-service
- Construction "on-hold" at this time
 - *Google and City of San Antonio reviewing Fiber Hut locations due to neighborhood push-back*
 - *Expect to resume work in mid-late spring 2017*

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- ✓ **Lessons Learned & Moving Forward**

TOTAL TEAM EFFORT



Given the overall scope of the changes in CPS Energy's Pole Attachment Program, a total CPS Energy Team effort was required.

Legal & Risk Management

- *Drafting new Agreements and reviewing Standards*
- *Negotiating with Attaching Entities*

Distribution Engineering and Standards

- *Assisting in the development of new Standards and NESC Compliance issues*
- *Assisting in approving contractors to work on CPS Energy Facilities*

Corporate Communications and External Relations

- *Assisting with new Pole Attachment Services website*
- *Internal communications to help get the "message" out*
- *Communicating with local officials and leaders as to direction CPS Energy moving*

Procurement and Accounting

- *Assisting with soliciting of contractors, purchase orders, contracts*
- *Assisting with accounts receivable and forecasting*



WHERE ARE WE TODAY



Not Started

- Web-based tool to monitor status of Applications
- Development of internal KPIs
- Compliance audits

In Progress

- Pole Attachment Inventory
- Improvements to webpage
- Development of Wireless Pre-Certification process
- Improve contractor certification process
- Improvement in NJUNS process
- Internal staffing / training

Completed

- Long-term business strategy
- Pro-Forma Agreements
- Pole Attachment Standards for wire & wireless uses
- Creation of a Pole Attachment webpage
- Use of NJUNS
- Unit pricing/direct billing for Make-Ready review

KEY LESSONS LEARNED



- Define and stay true to your **business values and objectives**
 - *works to ensure executive support*
- **Engage, early & often**, with:
 - *Your legal counsel* -- *Your Attaching Entities*
 - *Your internal stakeholders* -- *Your community & other elected leaders*
- Recognize, **each Attaching Entity has a different business model and strategy**
 - *However, you must remain agnostic/unbiased to these.*
- Do not be afraid to **require compliance with your standards or enforce** your contracts
 - *These are your assets or more importantly -- your owner's assets*
- **Proactively manage the work!**

**However beautiful the strategy,
you should occasionally look at
the results.**

--Winston Churchill



QUESTIONS

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