



**Oregon Public Utility Commission**

# **What is an "Attachment"?**

## **... that's easy!**

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**Safety and Reliability Section**


Jerry Murray, Manager

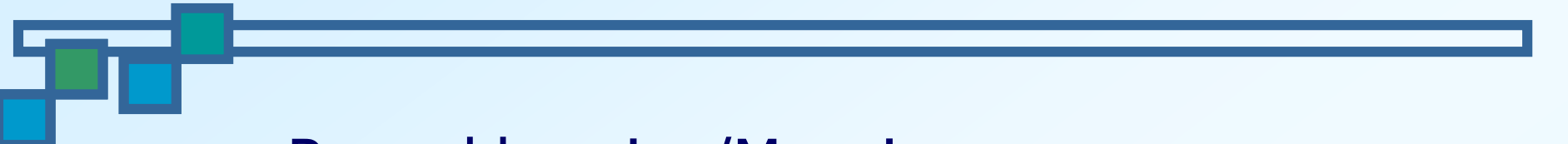
Bob Sipler, Utility Analyst



# Attachment ...

- as defined by ...
- in relation to ...
- as used in/for

- 
- This contract
  - Notification requirements
  - Permits
  - Construction
  - Strength and loading calculations
  - Clearance requirements
  - Inspection Programs
  - Maintenance
  - Annual Rental Fees
  - Sanction applications

- 
- Record keeping/Mapping
  - Liability
  - Emergency Response
  - Marking and Identification
  - Cost recovery
  - Management Quality Control
  - Code Compliance
  - Removal of Facilities
  - This Law/Rule/Policy/Code
    - ?Are there exceptions stated?

# Specific Rules

- ORS
- OAR
- NESC
- OPUC Policies

This list is not  
“exhaustive”!





# ORS

- 757.270->.290 – Utility Reg. Generally
- 759.650->.675 – Telecommunications
- 758.010->.035 – Rights of Way
- 757.035 -- Safety (NESC)



# **OAR**

- 860-022-0055
  - Attachment to Poles owned by PU, TU, COU
- 860-022-0110->0240
  - Sanctions & Rental Reductions by PU, TU, COU
- 860-024-0010
  - 97 NESC adopted

# **NESC**

Rule 222 -- J.U. of Structures---Agreement



# OPUC Policies

- Safety Provisions for Joint Use of Poles
- Line Inspection Requirements for Utility Operators
- Tree Clearance Policy



**You want it done when!!!?**



**Who's responsible?**

**How can I  
keep costs down?**

**Who pays?**

**Who sets standards?**

**What are my  
liabilities?**

**Can we figure out ONE  
way to do these things?**



## Not Defined?

- in NESC
- in some rules
- in your contract

Common usage – i.e. Websters!

1. Seizure by legal process
2. Personally attached (fidelity)  
(affectionate regard)
3. Device attached to machine or implement
4. Physical connection by which one thing is attached to another
5. The process of physically attaching




# Attachment Regulation

757.270 Definitions for ORS 757.270 to 757.290.

As used in ORS 757.270 to 757.290, unless the context requires otherwise:

- (1) “Attachment” means any wire or cable for the transmission of intelligence by telegraph, telephone or television (including cable television), light waves, or other phenomena, or for the transmission of electricity for light, heat or power, and any related device apparatus, or auxiliary equipment, installed upon any pole or in any telegraph, telephone, electrical, cable television or communications right of way, duct, conduit, manhole or handhole or other similar facility or facilities owned or controlled, in whole or in part, by one or more public utility, telecommunications utility or consumer-owned utility.



A physical item (wire, cable, related device, apparatus, or auxiliary equipment)

for:    >transmission of intelligence by;

- telegraph
- telephone
- TV/CATV
- light waves
- other phenomena

>transmission of electricity for;

- light
- heat
- power




## Installed;

- upon pole\*
- in ROW of \_\_\_\_, \_\_\_\_, \_\_\_\_, \_\_\_\_, or \_\_ \*\*
- in duct, conduit, handhole, manhole, or other similar facility\*.

\* owned or controlled by PU, TU, or COU.

\*\* telegraph, telephone, electrical, cable television or communications



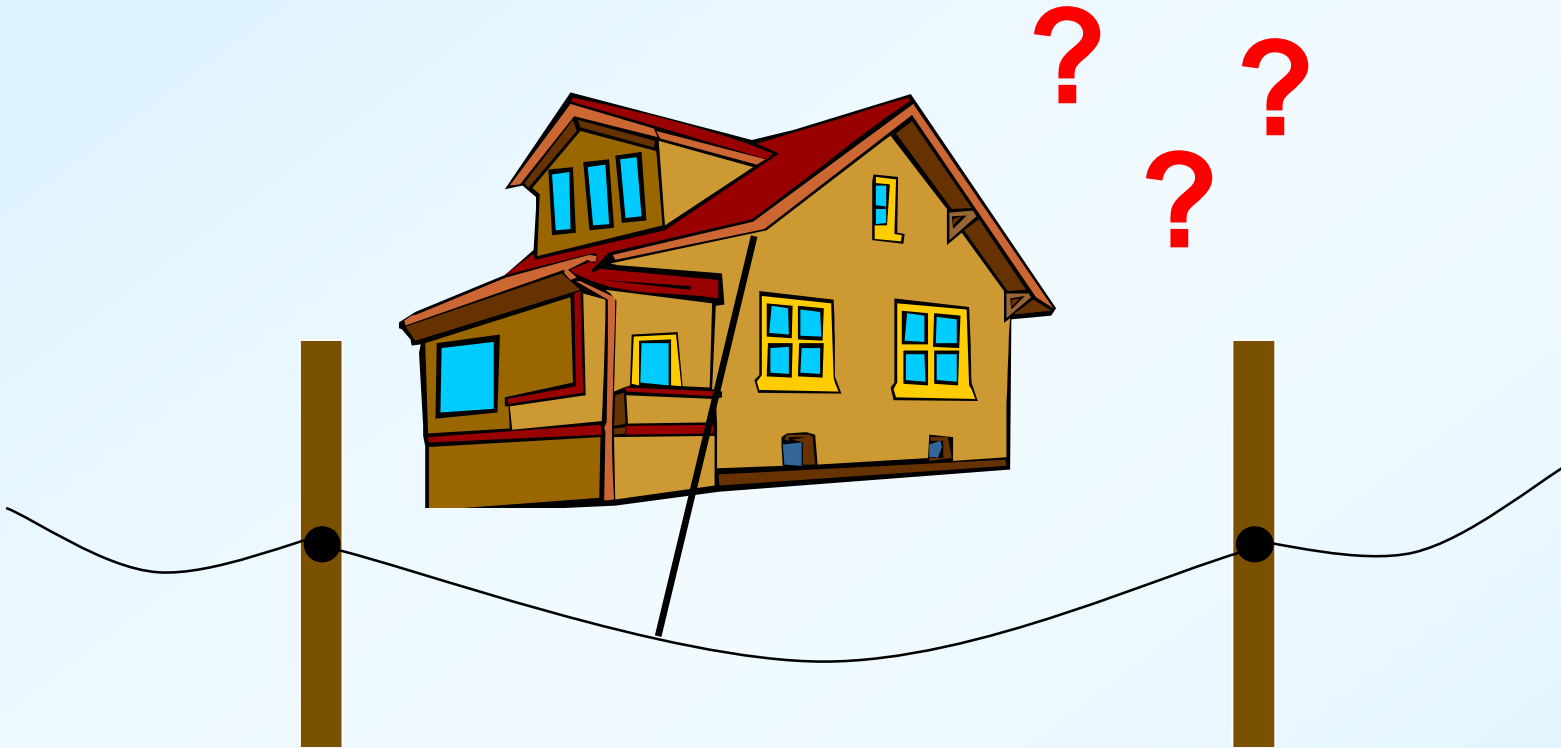
## **Safety Provisions for Joint-Use of Poles (OPUC Policy)**

### **Attachment Project**

Any addition, modification or removal of any electric supply line, signal line, device, apparatus, equipment, or structural member that materially changes the clearance, mechanical, structural, or electrical characteristics of the joint-pole installation.

Maintenance replacements that do not modify the installation or affect other joint-pole users are intended to be exempted.

... that materially changes ...



1 little telecom service  
3/8" – 50' long  
tension 25 lbs (?)



# **Ask some questions:**

## **grade of construction**

loading zone

local conditions

height of attachment

capacity of pole before/after

clearance problems





# Grade B or C or D or N



**Tele**



**Power**



**Tele**



**Power**



# Ask some questions:

grade of construction

**loading zone**

# Storm Loading Map Rule 250B

## Combined Ice and Wind

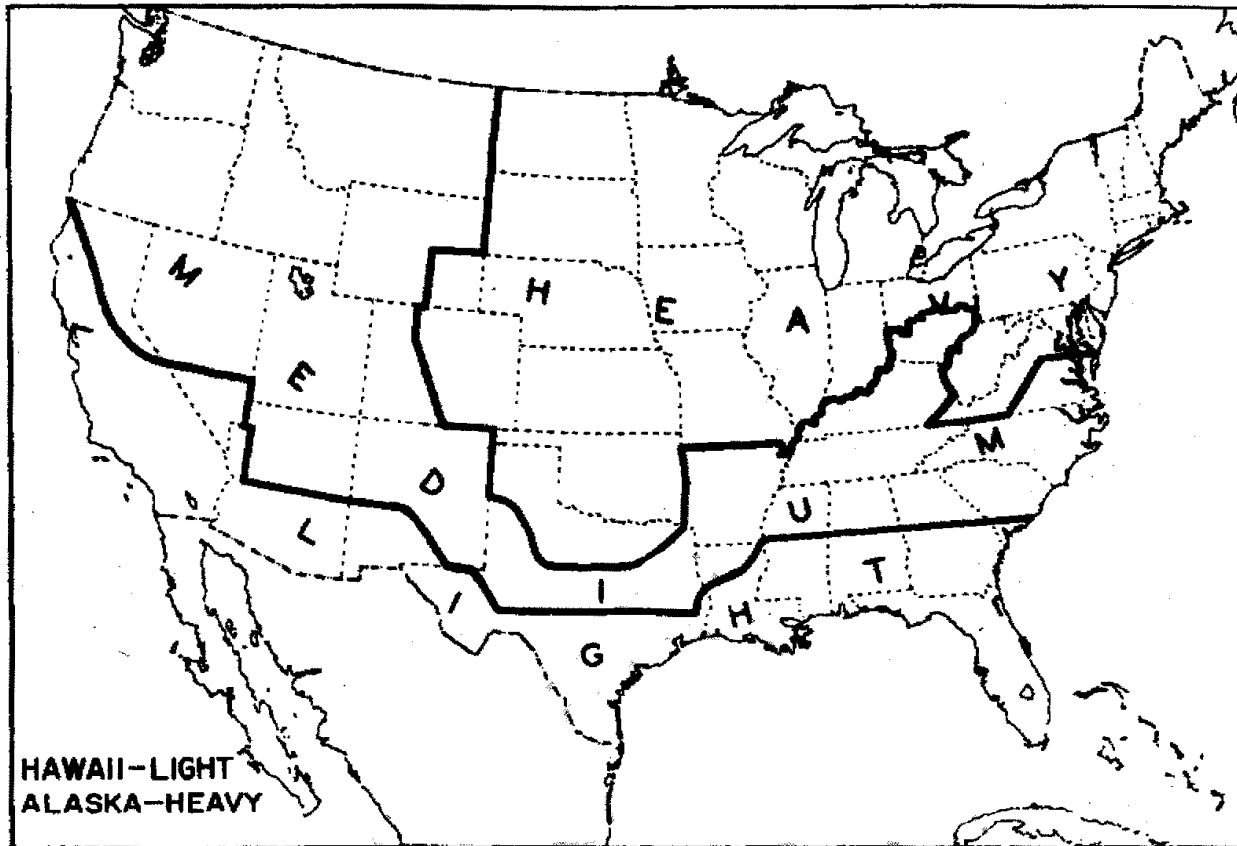


Fig 250-1  
General Loading Map of United States  
with Respect to Loading of Overhead Lines



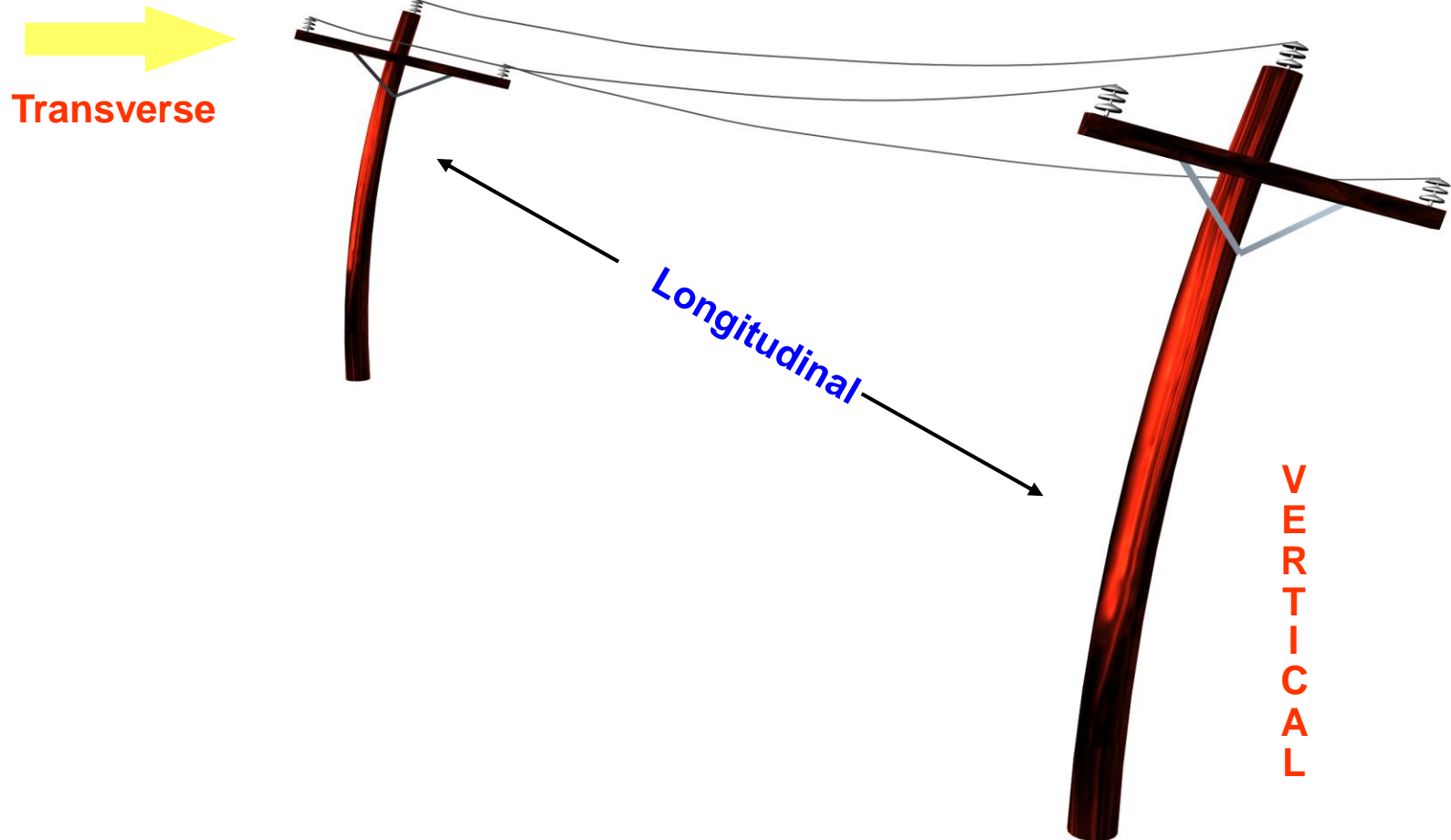
# Ask some questions:

grade of construction

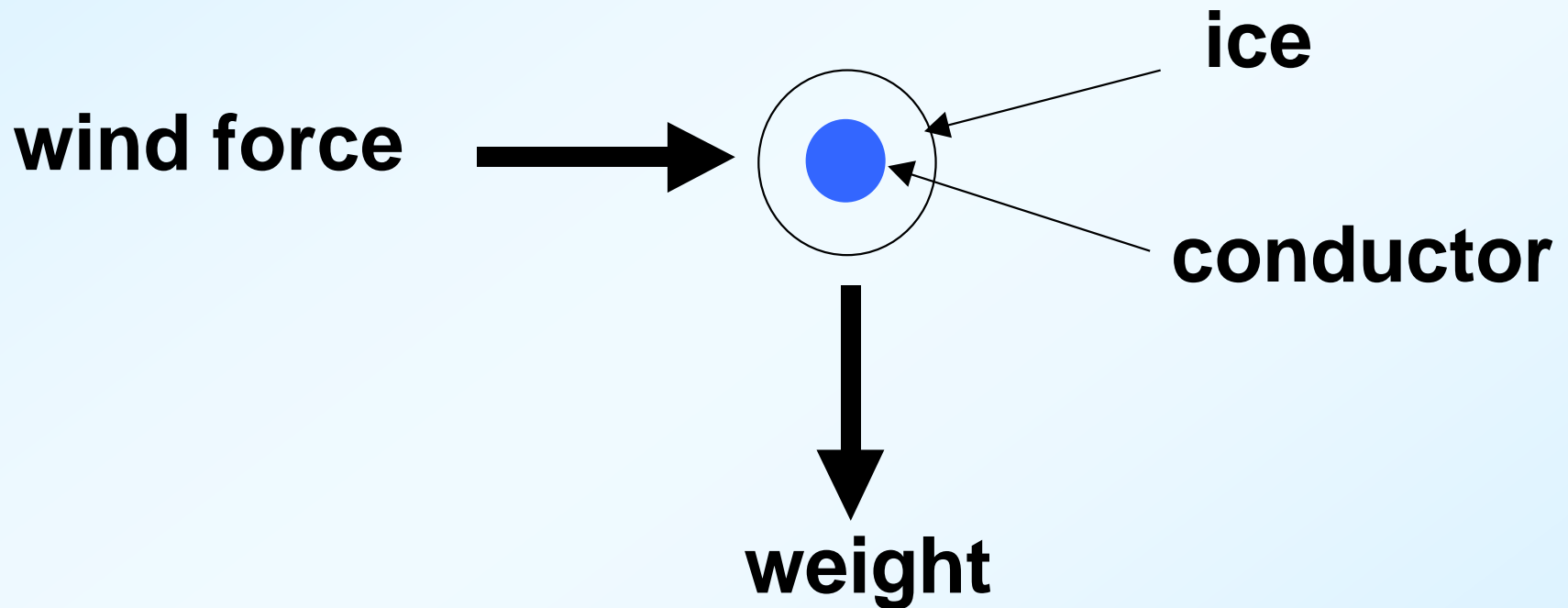
loading zone

**local conditions**

# Pole Loading



# Conductor Loading





# Ask some questions:

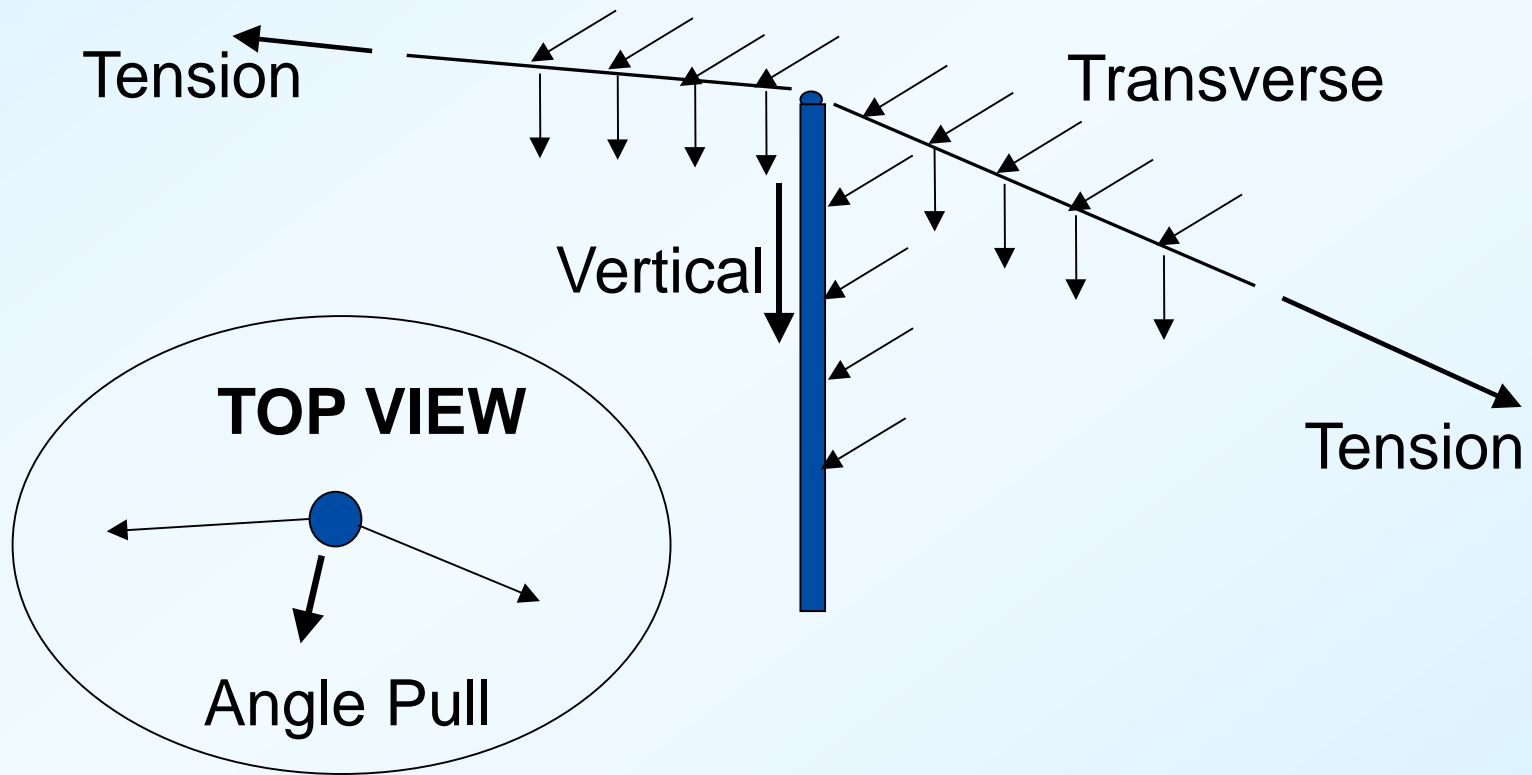
grade of construction

loading zone

local conditions

**height of attachment**

# Loads on Line Supports







# Ask some questions:

grade of construction

loading zone

local conditions

height of attachment

**capacity of pole before/after**



# Pole Loading

- horizontal loads
  - conductor and cable tension
  - wind on conductors, cables and equipment
- vertical loads
  - weight of conductors, cables and equipment
- longitudinal loads
  - tension imbalance
  - conductor and cable changes
- eccentric loads
  - equipment
  - non-symmetrical configurations
- secondary effects
  - p-delta effects
  - guy elongation



# Ask some questions:

grade of construction

loading zone

local conditions

height of attachment

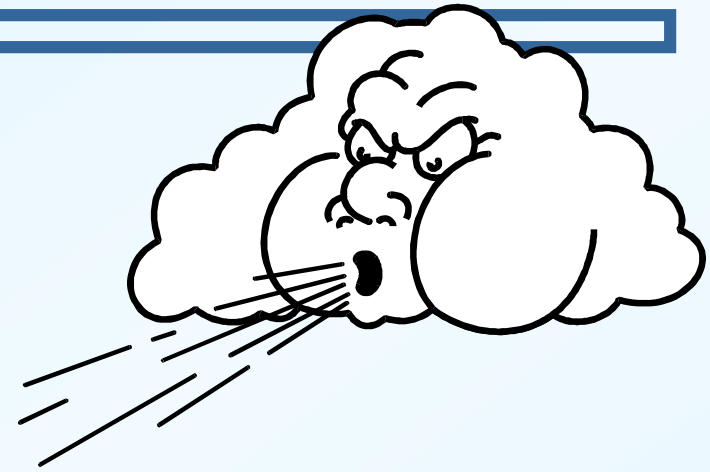
capacity of pole before/after

**clearance problems**



**Now**

- add wind
- add ice -  $\frac{1}{4}$ " radial (medium)
  - $\frac{1}{2}$ " radial heavy)



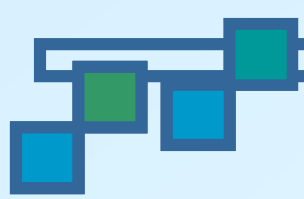
**Conclusion . . .**

**What's "material"?**

# The Structural Challenge

- Existing Pole Loading
- Pole Loading with Proposed Attachment





# **So ...**

## **What is an “attachment” related to only joint-use of poles?**

It depends on the

Context !

Definitions

Exceptions

Agreements

etc. etc. !

**Parties must decide and agree!**



**Financial People**

**\$\$ allocated fairly**

**Attorneys**

**Contracts**

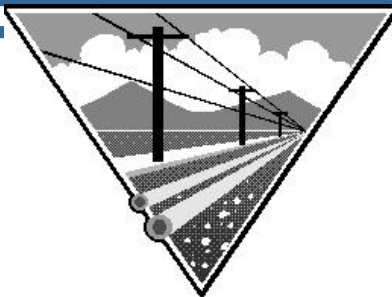


**Engineers**

**Designs**

**Operating folks**

**Maintenance & Safety**



## **Contacts:**

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