

## **PSE's Wireless Collocation Process**

The collocation of wireless facilities on utility property and structures has over a decade under its belt. The number of utilities allowing collocation has increased significantly. Yet with this much time and acceptance, one can cross the country and find considerable variation in how utilities treat collocation.

Many utilities have embraced the building of communications towers and monopoles on utility owned properties, with substation sites being one of the most popular. Others have allowed attachment to their cross country transmission towers and structures. And a few, perhaps most notably in the west, allow attachment to their wood distribution and transmission system.

Puget Sound Energy (PSE) is one of those utilities. In addition to licensing carrier owned monopoles on PSE property and attachment to PSE dedicated communications towers, this utility regularly approves collocation of wireless equipment on its distribution poles, 115 kV transmission poles and certain classifications of street light poles. A straight forward process was developed for responding to requests from the wireless industry and today wood distribution and transmission pole collocations represent the bulk of PSE's 400+ sites.

Although the process is simple, getting there, and more importantly, gaining acceptance within the company, was not. Proponents of collocation faced questions on safety, reliability of the system, concern over impacts of service outages, available space, cost and even aesthetics. All of these issues were dealt with. Perhaps the most difficult hurdle were "old school" perceptions of many utility engineers and operating planners that the power company's poles should only support power company facilities. For those involved with joint use and wireline pole attachments, this is nothing new. One can still find the occasional engineer who doesn't like telephone conductor on his poles, even though that practice has been in effect for over a hundred years.

The safety issue was addressed by the simple determination that all engineering, installation and maintenance work on the equipment would be performed by our own engineering and line crews. For reliability it was pointed out that in nearly every instance the pole identified as a collocation candidate would be replaced by a taller, heavier class pole. In other words accommodating collocation could contribute to improved reliability. This reasoning was not accepted universally for every structure, as transmission engineers held out on what they considered to be "critical" structures, whose failure could have significant impact to our system. But eventually it was realized that the critical structure objection would only apply in instances where no replacement of the existing structure was proposed. Concern over service outages was greatly reduced by the simple method of applying existing construction practices, combined with some limiting conditions on what constituted an acceptable candidate. Nearly all distribution pole replacements take place with the system energized. PSE's separation requirement of 7 ft for distribution collocation provides a safe working space for the crew bucket. A variance to this clearance can be granted on a case by case basis, so long as the framing and configuration on the pole allows for safe access by the crew. Gradually, outage limitations from the distribution side have been reduced. Originally any pole with a transformer was rejected as a non-viable candidate. This was later amended to only poles with three-bank transformer mounts. Finally, even that limitation was removed. Experience showed that available space was much less of an issue than initially believed. The replacement pole is always a much heavier class, in addition to being taller, to accommodate the added loading from the attached wireless equipment. The larger pole has the added benefit of providing increased space to attach equipment and route conduit while still maintaining required clearances. Still, a larger pole cannot solve all "available space" issues and this remains as the most often seen cause of rejecting a candidate. The aesthetics issue was addressed by explaining that aesthetics was the concern of the presiding jurisdiction not the utility. Rejection due to cost was eliminated fairly early, as it was pointed out to engineering that since the customer was paying all of the cost, considerations as to how much was too much belonged to them. PSE's responsibility was to identify the scope of work required to accommodate the collocation and provide an estimate of the cost.

Today there are still issues and internal challenges facing wireless collocation, one of the biggest being how to gauge the impact of transmission line upgrades to wireless facilities and have the means to deal with

them. PSE has yet to have to terminate a license and decommission a site for this reason, but the ability to do so has been incorporated into our license agreements. Overall, the list of acceptable pole candidates has expanded greatly, while PSE's rejection rate remains below 10%. We are no longer looked upon by the carriers as a barrier to collocation and in some areas of our service territory certain carriers have designated PSE poles as the primary choice for new site candidates. Last year PSE installed a 100+ node Wi-Fi system for a local jurisdiction in less than 6 months from submittal of applications (helped along by applying our existing standard for our own automatic meter reading equipment). Implementation of DAS looks to be the next wave we tackle, with one system installed and two others ranging from probable to possible.

#### PSE Process:

##### 1) Carriers submit application

- minimum 3 complete copies (hard) ; must include photos ; sketch, twn/rng/sec ; address ; site name & number ; pole grid number ; written description of proposed installation
- encouraged to submit prelim photos so we can screen out poor candidates

##### 2) Dept attaches applicable system maps and cover memo and routes to applicable review groups

- Engineering
- Transmission Planning
- Distribution Planning
- Substation Design
- Real Estate
- Communications
- Streetlighting

##### 3) Review comments returned within 30 - 60 days ; Approval / Rejection notice (w/ conditions or reason for rejection) sent to carrier)

##### 4) Carrier submits NTP letter to start PSE Engineering & Design work

- PSE does all engineering (exceptions on carrier owned monopoles on PSE property & Streetlight only poles)
- PSE orders all utility related material (carriers responsible for all their equipment including mounts, conduit, standoff brackets, etc)

##### 5) Carrier may request Site License at any time after Approval notice

- must have PSE reviewed and approved final CD's
- 6 month "option" available (for a fee) to delay start of payment until start of construction

##### 6) Carriers are responsible for all permitting ; PSE applies for it's own RoW Construction permits

##### 7) When required, PSE provides Easement document - carrier responsible for getting it signed.

##### 8) Carrier submits Construction Scheduling request when they are ready to construct

- requested start or ready date
- copies of all applicable permits
- copy of jurisdiction approved CD's
- Contractor name & contact info
- prepayment check

- 9) PSE puts together Job Package and sends out to service provider to have crew scheduled.
  - scheduling based on availability of getting outages (for transmission)
  - distribution poles are normally done hot.
  
- 10) Carrier provides Closeout package - (currently no post inspection ; issue of resources)
  - signed As-Builts
  - photos