

Utilities Appendix

Introduction

The Utilities Appendix provides information about private utilities (those not provided by the Town) that serve the Town of Skykomish and its urban growth area, including electricity, telecommunications, and solid waste collection and disposal.

Electricity

Puget Sound Energy locates and operates electrical transmission and distribution system facilities within public right-of-way in accordance with state law and a franchise agreement with the Town of Skykomish. Facilities are also located on property owned by PSE and in easements across other private property.

Electrical power is supplied to the Skykomish area regional transmission grid. Transmission lines carry the power to distribution substations where transformers further reduce the voltage to PSE's standard distribution voltage of 12kV. Distribution lines distribute the power throughout the community from the distribution substation to the customers.

Facilities

The two 115kV transmission lines located within and serving the Skykomish area are Summit - Skykomish and Skykomish-Beverly Park. A single distribution substation is located within the Town. Two 345kV lines and one 500kV transmission line, all on steel towers, run north of Skykomish but do not serve the Town directly. These lines are owned and operated by the Bonneville Power Administration as part of the regional transmission grid.

Future Capacity

Electrical load (consumption) is directly related to (driven by) both local and regional land use development. As local and regional development grows, and therefore electrical demand, additional generation, transmission and distribution capacity will be needed. Responding to these needs, PSE proposes future improvements to the existing 115kV volt transmission serving the Town. Old poles, insulators and crossarms are replaced as necessary to maintain proper reliability. Larger conductors would be installed, when needed, to provide additional capacity.

Natural Gas

No natural gas service is provided to Skykomish.

Telecommunications

Conventional telephone, fiber optics cable, cellular telephone, and cable television are addressed in this section. Interstate and international telecommunication activities are regulated by the Federal Communications Commission (FCC), an independent United States government agency.

Conventional Telephone

Service to Skykomish is provided by Verizon.

General Location of Facilities

Telephone services within Skykomish and its planning area include switching stations, trunk lines, and distribution lines. Switching stations, also called "Central Offices" (CO), switch calls within and between line exchange groupings. The CO serving Skykomish is located in a building on Rail Road Avenue in Skykomish.

Four main "feeder" cable routes generally extend from each CO, heading to the north, south, east and west. Connected to these main feeder routes are branch feeder routes. The branch feeder routes connect with thousands of local loops that provide dial tone to every subscriber. These facilities may be aerial, or buried, copper or fiber optic. Local loops can be used for voice or data transmission. A variety of technologies are utilized including electronics, digital transmission, fiber optics, and other means to provide multiple voice/data paths over a single wire. Methods of construction are determined by costs and local regulations.

Forecasted Capacity

Verizon is required to upgrade their system to provide sufficient capacity to accommodate the growth projected in the Land Use Element. However, as stated in the Utilities Element, the Town would like enhanced telecommunication services provided in the area and especially to Town businesses.

Cellular Telephone

Cellular telephone service is provided by broadcasting and receiving radio signals to and from cellular facilities and cellular phone handsets. Cellular facilities consist of base station antennas that serve a local area and connect cellular phones to the regional phone network. Cellular antennas must be placed at a height that allows them to broadcast throughout their local area. Antennas are often located on building tops, water tanks, utility towers, and freestanding communication towers.

Siting of cellular facilities depends on how the system is configured. The cell sites must be designed so that channels can be reused because the FCC allocates a limited

number of channels to each cellular telephone company. Topography and other built features can effect signal transmission, so the cell is configured to locate the cell site at an appropriate place to provide the best transmission conditions.

When antennas cannot be located on existing structures, towers (monopoles or lattice structures) are often constructed to support cellular facilities. Monopoles generally range in height from 45 feet to 150 feet. The base of the monopole varies between 24 to 72 inches in diameter, depending on the weight supported. Lattice structures are typically used to achieve higher heights and generally range from 80 feet to 200 feet or more in height. Lattice towers may be self-supporting or stabilized by guy wires.

Service Area

Cellular telephone service is licensed by the FCC for operation in Metropolitan Service Areas (MSAs) and Rural Service Areas (RSAs). The FCC grants several licenses within each service area. Current licensed cellular service providers for the Skykomish area include AT&T Wireless, Verizon, Sprint, Cingular, Voicestream, Qwest, and Nextel.

Future Capacity

Expansion of cellular facilities is demand driven. Raising the density of transmission/reception equipment to accommodate additional subscribers follows, rather than precedes, increase in local system load.