

Utilities Appendix

Introduction

The primary responsibility for planning for private utilities rests with the utility providers. Clearly, however, this planning cannot take place without open lines of communication between the City of Newcastle and the utility providers. The City acknowledges that some private utility providers are not willing to provide capacity or future construction plans, as some of this information may affect their competitiveness or be considered proprietary. The utilities, however, must recognize that this may hinder the City's ability to assist them in their projects.

Some utilities are regulated by the Washington Utilities and Transportation Commission (WUTC). The Washington Utilities and Transportation Commission is a three-member board with an associated staff who regulate the rates, services, and practices of privately-owned utilities and transportation companies, including electric, telecommunications, natural gas, water, and solid waste collection companies. The Commission regulates utilities under authority granted in Title 80, and transportation companies under Title 81, of the Revised Code of Washington (RCW). Most utilities under the WUTC's jurisdiction must provide suitable facilities to supply service on demand. State law regulates the rates, charges, services, facilities, and practices of these utilities. Any changes in policies regarding these aspects of utility provision require WUTC approval.

Electricity

Puget Sound Energy (PSE, formerly Puget Sound Power & Light) provides electrical service throughout the City of Newcastle and its potential annexation areas. PSE is an investor-owned utility regulated by the Washington Utilities and Transportation Commission serving approximately 950,000 residential, commercial, and industrial customers in portions of a nine county, 4,500 square mile service territory in Western and Central Washington. PSE owns, operates, and maintains electrical generation, transmission, and distribution systems. Power is generated from hydroelectric generating facilities on the Columbia, Baker, Snoqualmie, White and Puyallup rivers, as well as from other sources including coal, gas, and oil fired plants.

Electric utility services and facilities have changed little over the past several decades. However, recent and anticipated advances in technology offer the promise of more efficient and environmentally friendly electric transmission and delivery systems in the near future. Utility policies should be updated in the future to take into consideration changes in utility system technology, facilities, and services. For more detailed information on facilities, see PSE's *GMA Electrical Facilities Plan, King County, Newcastle*.

Facilities

PSE locates and operates electrical transmission and distribution system facilities within public rights-of-way in accordance with state law and a franchise agreement

with the City of Newcastle. Facilities are also located on property owned by PSE and in easements across other private property.

Electrical power is supplied to the Newcastle area from PSE's Talbot Hill and Sammamish transmission substations, located in Renton and Redmond respectively, which are connected to the regional transmission grid. Transformers at these substations reduce the power voltage from 230,000 volts (230kV(kilo-volts)) to 115kV. 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 substations to the customers.

PSE has three 115kV transmission lines located within and serving the Newcastle area. A single distribution substation is located within the City with additional service provided from distribution substations located in Bellevue and Renton. Two Seattle City Light 230kV transmission lines (on steel towers) run through Newcastle, but do not serve the City. Both of these lines are leased to 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 and therefore electrical demand grows, additional generation, transmission, and distribution capacity will be needed. Responding to these needs, PSE proposes future installation of additional 115kV transmission lines, future conversion of existing 115kV transmission lines to 230kV and future installation of additional distribution substations within the Newcastle area. PSE projects that the existing distribution substation in Newcastle can accommodate projected growth in electrical demand within the City through 2022. Additional commercial development within the Newcastle area may require future review of the existing electrical system capacity.

Existing and proposed electrical system facilities are shown in **Figure UT-1**.

Natural Gas

Natural Gas is a colorless and odorless mixture of hydrocarbon and non-hydrocarbon gases extracted from porous rock formations below the earth's surface. The gas makes its way from the producing fields via interstate pipelines at high pressure, often over one thousand pounds per square inch. At delivery points along the interstate pipelines, a powerful odorant (typically mercaptan) is added to the gas for safety purposes to make leaks easier to detect. Cleaner burning and typically less expensive than oil and electricity, natural gas has become the fuel of choice in many households for space and water heating, cooking and clothes drying. Today most new homes use natural gas where service is available.

Puget Sound Energy provides natural gas service throughout the City of Newcastle and its potential annexation areas. PSE is an investor-owned utility regulated by the Washington Utilities and Transportation Commission serving approximately 614,000 residential, commercial, and industrial customers in portions of Snohomish, King, Kittitas, Pierce, Thurston, and Lewis Counties. PSE is a Local Distribution Company (LDC) certificated to own, operate, and maintain natural gas distribution systems to

serve customers. PSE does not own or operate natural gas interstate pipeline facilities.

Facilities

PSE operates under a franchise with the City of Newcastle, which allows PSE to locate facilities within the public street right-of-ways of the City. Facilities are also located on property owned by PSE and in easements across other private property.

The natural gas distribution system consists of a network of distribution mains and smaller lines that convey natural gas throughout the Newcastle area. Natural gas is provided to PSE by Williams, which operates a high pressure interstate transmission pipeline system extending from Canada to New Mexico. PSE takes delivery of natural gas to serve Newcastle from two parallel Williams pipelines in Renton for distribution locally through a series of smaller lines and pressure regulators. Through a series of reduction valves, natural gas is delivered to homes at pressures of from 0.25 to 2 pounds per square inch. **Figure UT-1** shows the location of these major facilities.

Future Capacity

Natural gas consumption is directly related to (driven by) both local and regional land use development. As local and regional development and therefore natural gas demand grows, additional supply and distribution capacity will be needed. The natural gas distribution system serving the Newcastle area is primarily supplied from the South Seattle Gate Station located in Renton. The capacity of the distribution system is generally a function of pipe size, operating pressure, and consumer load size and location within the system.

Based on current trends, PSE projects that the existing natural distribution system serving the Newcastle area can accommodate projected growth in natural gas demand within the City through 2022 without major system improvements. Future extensions of the natural gas distribution system within the City will occur on an as-needed basis as development warrants. Additional commercial development within the Newcastle area may require future review of the existing natural gas supply and distribution system capacity.

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 Newcastle is provided by Qwest Communication International, Inc (Qwest). Qwest is an investor-owned corporation, whose holdings include companies serving regional, national, and international markets, including telephone services to 25 million customers in 14 western states. The subsidiaries include directory publishing, cellular mobile communications systems sales and service, communications software and financial services.

All cities within the State of Washington fall within a particular Local Access and Transport Area (LATA). These LATAs are telephone exchange areas that define the

area in which Qwest is permitted to transport telecommunications traffic. There are 94 exchanges within Washington where Qwest provides dial tone and other local services to customers.

Facilities

Telephone services within Newcastle 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 Newcastle is located in a building on 3rd Avenue South in downtown Renton.

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.

Future Capacity

Ample capacity exists in the Newcastle/Renton area CO to accommodate growth projected in the Land Use Element.

Cellular Telephone

Cellular telephone service is provided by broadcasting and receiving radio signals to and from cellular facilities and cellular phone handsets. 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 Newcastle area include AT&T Wireless, Verizon, Sprint, Cingular, T-Mobile, Qwest, and Nextel.

Facilities

Cellular facilities consist of one to several 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.

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. Therefore, cellular companies must maintain a short response time and a tight planning horizon.

Cable

Cable or CATV (Community Antenna Television) provides television and other broadband data services, including internet and telephone, to users via a network of coaxial cables. AT&T Broadband currently holds a cable television franchise to serve the City of Newcastle. The service area includes the entire incorporated City and potential annexations. Most residential neighborhoods within the City are currently served. Service is still unavailable in some commercial areas due to conditions that presently preclude line extensions.

Facilities

AT&T Broadband facilities supplying Newcastle with cable television and data service are composed of a receiver, a headend, a trunk system, and a feeder system. The receiver and the headend, which amplifies, processes, and combines signals for distribution by the cable network, are located in Bellevue, Washington. Signal strength is maintained by amplifiers placed at intervals along the cables. The amplifiers also serve as junction points where the feeder system taps into the trunk cables. Service drops then provide the final connection from the feederline to the subscriber.

Generally following street right-of-ways, the present network encompasses residential neighborhoods within the City of Newcastle to the east, north, and south. Future extension of cable service to unserved areas of the City will occur on an as-needed basis as development warrants.

Future Capacity

According to the provisions of AT&T Broadband franchise agreement with the City, the company and any successor must continue to make cable service available upon request when reasonable for any residential property within the current or future city limits. Therefore, under the current terms of this franchise, AT&T Broadband would be required to provide cable service to projected growth within the City and the remainder of the Planning Area with the understanding that some areas may be subject to AT&T Broadband's line extension policy. In some circumstances, costs associated with a line extension may be borne by the service recipient.

List of Utilities Appendix Figures

- Figure UT-1 City of Newcastle Utilities
- Figure UT-2 CCUD Sewer Coverage Map