

## **F. E. WARREN AFB, WY UTILITY SYSTEM DESCRIPTIONS**

**System Descriptions:** The following information provided is only an estimate and is subject to change.

**Electric:** F.E. Warren AFB receives approximately 30 percent of its electrical supply from Western Area Power Administration (WAPA) and approximately 70 percent from Rocky Mountain Generation Company (RMGC). In addition, Cheyenne Light, Fuel and Power (CLFP) supplies power to a few small facilities such as the back gate, stables, and antenna facility. Both WAPA and RMGC supply power to the Base through a WAPA-owned 115-kilovolt (kV) transmission line into the Base-owned substation. The substation contains a 115 kV ring bus with SF6 circuit breakers, transformers, and switchgear. The substation is currently operated by WAPA under contract to the Base. The 115 kV ring bus feeds two 115-13.8 kV transformers. The electrical distribution system consists of three-phase, three-wire line rated at 15 kV. The primary overhead portions total approximately 78,850 circuit feet (cf), and the primary underground portions total approximately 93,000 cf. The system also includes 89 three-phase transformers, 263 single-phase transformers, 551 utility poles, 40 switches (2-, 3-, and 4-way), 66 utility vaults, and 1,097 streetlight fixtures. Annual power consumption at F.E. Warren AFB is approximately 43,000,000 kWh with a peak demand of approximately 7.11 MW, occurring in July 1999.

**Natural Gas:** Natural gas is supplied to F.E. Warren AFB by CLFP through one utility-owned metering station at 30 to 35 psig. The Base has a propane plant that is used as an alternate fuel source and enables the Base to purchase natural gas on an interruptible basis. The propane plant is not being considered for privatization. There are two Base-owned district regulator stations that reduce the pressure to 9 psig for distribution on the Base. The gas system includes approximately 110,000 linear feet (lf) of polyethylene (PE) piping and 31,000 lf of coated carbon steel piping. The PE piping ranges from ¾-inch to 8-inch. The steel piping ranges from 2-inch to 8-inch. The steel piping is protected with a sacrificial anode cathodic protection system. Each building has at least one regulator to lower the gas pressure for equipment and appliance use. There are approximately twelve revenue meters that are read on a regular basis. Approximately 40 additional meters have been installed for energy management purposes. Peak gas demand is approximately 67,000 thousand cubic feet (MCF) per month.

**Potable Water:** The City of Cheyenne Board of Public Utilities (BOPU) supplies potable water to F.E. Warren AFB through 14 connections. No additional treatment is performed on Base. Each connection has a utility-owned meter. Five of these connections are trunk mains with Base-owned pressure reducing valve (PRV) stations. Nine smaller connections supply potable water to remote areas of the Base. The distribution system piping totals approximately 252,445 lf, including mains and service connections. Pipe sizes range from 1-inch through 16-inch. Pipe materials include PVC, ductile iron, cast iron, steel, and asbestos cement. Current water demand averages 32 million gallons (MG) per month.

**Sanitary Wastewater:** Wastewater treatment is provided by the City of Cheyenne BOPU. Wastewater collection piping totals approximately 150,960 lf of collection piping, including

mains and service connections. Pipe sizes range from 4-inch to 15-inch. Pipe materials include PVC, vitrified clay, and cast iron. The wastewater collection system includes one lift station consisting of a wet well, two 20 hp pumps located in a dry pit adjacent to the wet well, and a 100 kW emergency generator. Wastewater flows average approximately 0.56 million gallons per day.

The point of contact is Brent Smeltzer ([brent.smeltzer@tyndall.af.mil](mailto:brent.smeltzer@tyndall.af.mil)),  
FAX: (850) 283-6336