

## **Utilities Failure – Electric, Water, Gas, and Communications**

### **General**

Utility failures are a common secondary effect of many hazards, such as severe weather, landslides, hazardous material spills, and transportation accidents, to name a few. While they are common, they can present serious consequences with certain weather characteristics, such as severe cold weather. Below is a general description of the utility services in Juniata County.

### **Electric**

Pennsylvania Power and Light (PPL) provides electric service to the majority of Juniata County while Valley Rural Electric (REC) and Pennsylvania Electric Company's (Penelec) also provide service.

### **Water/Sewer**

Water and sewer services in Juniata County are provided by the municipal authorities listed below. On lot wells and septic systems are also utilized in the County. Water and Sewer service is provided through Thompsontown Borough Municipal Authority and Port Royal Municipal Authority. The Mifflintown Municipal Authority provides water service and Twin Boroughs Sanitary Authority provides sewer service.

### **Gas**

Gas service is limited in Juniata County.

### **Communications**

Service providers in Juniata County include DPI Teleconnect, Metro Teleconnect Companies, United Telephone Company of Pennsylvania, Verizon, and AT&T/Sprint. A few small independent providers also operate in the Juniata County.

### **History**

While this information is not well documented, it is commonly known that utility failures occur often. Future documentation of these instances may provide an opportunity for Juniata County to mitigate such service outages.

## **Vulnerability**

### **Electric**

Electrical failures are commonly a secondary effect of hazards such as severe weather, and flooding. High winds, along with heavy snow, ice, and rain, can affect an electrical system's ability to function. Worker strikes have also been known to cause minor power failures. Other causes of power outages include falling tree limbs, vehicular accidents, and small animals that destroy wiring. When power outages occur, they are typically on a regional scale. According to the 2000 census data, 18.8 percent of Juniata County households utilize electricity as their heating source. Additionally, 58.7 percent use fuel oil to heat their homes. In an extended power outage, these residents would have a difficult time efficiently heating their homes.

### **Water**

Contamination of the water supply can occur naturally, as a result of human error, or intentionally. Occasionally, the release of manure or other farming byproducts can contaminate water. Accidents resulting in hazardous material spills can also adversely affect groundwater.

Juniata County's water supply includes springs, streams, rivers, reservoirs, treatment plants, and pumping stations. Water distribution can be affected by: the amount of water available, the quality of water available, and the viability of the physical components of the distribution systems. The quantity of water depends on natural conditions, such as drought. Human action can affect the maintenance of water quality. Terrorism is a potential threat to water quality. Some terrorist organizations have stated a desire to infect the water supply or damage associated infrastructure. U.S. intelligence has stated this would be difficult to achieve, due to the amount of chemicals needed to contaminate the water supply.

### **Gas**

According to the U.S. 2000 Census, less than one percent of Juniata County homes use gas as a source of heat. With limited gas users in Juniata County, the effects of a gas shortage would probably be minimal. Gas has the potential to ignite, explode, or release toxic fumes. According to the American Gas Association, there are more than 2.6 million natural gas consumers in Pennsylvania<sup>1</sup>. A shortage of natural gas would not allow these residential, commercial, and industrial customers to efficiently heat their structures.

### **Communications**

While Juniata County residents receive their communication services from a range of service providers, they are still vulnerable to outages. Small-scale failures occur annually.

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<sup>1</sup> American Gas Association – [www.aga.org](http://www.aga.org)

### **Probability**

The probability of a large-scale, extended utility failure is low. However, small-scale failures lasting short periods of time occur annually.

### **Maximum Threat**

Utility failure poses a maximum threat to the special needs population in Juniata County. Resources, such as electricity, communications, gas, and water supply are critical to ensure the health, safety, and general welfare of the citizenry. The special needs population can be vulnerable to loss of heat or air conditioning during extreme weather months. The County must account for its special needs population during times of extended utility failure.

### **Secondary Effects**

The potential secondary effect of a loss of communications and water is an inadequate emergency response. Efficient and effective communications and adequate portable water supply are critical resources for first responders. A loss of electricity and gas can also have a negative impact on first responders. However, the most critical secondary effect would be the loss of heating compounded by periods of severe cold. The health and safety of at-risk populations in the affected area, such as the elderly, could be adversely affected by a loss of heat or air conditioning that results from a utilities failure.