Underground Gas Storage Fields in Pennsylvania

At this time, approximately 60 underground gas storage fields exist in 26 counties in Pennsylvania. Storage reservoirs are typically depleted hydrocarbon reservoirs or bodies of rock whose geological and engineering characteristics make them readily capable of holding injected natural gas. Gas is stored in large quantities in the summer months and withdrawn for sale in the winter months.

Natural gas has been used as an energy source in Pennsylvania for more than 100 years. It was not until the late 1880s that a market for natural gas evolved sufficiently enough to encourage development of gas reservoirs in Pennsylvania. In the 1920s, Pennsylvania began consuming more gas than it produced. This led to purchasing the needed gas from other Appalachian states. At the same time, the first gas storage field was developed by the United Natural Gas Company in Warren and Forest counties. By the 1940s, gas was commonly delivered to Pennsylvania from the western part of the country. Recent advances in well drilling and stimulation techniques have once again changed the natural gas market in Pennsylvania, leading to extensive development of the Marcellus Shale and a surplus of gas in the state.

Regulation

Regulation of underground gas storage fields began in 1955 with the passage of the Gas Operations Well-Drilling Petroleum and Coal Mining Act. Substantive changes followed in 1985 with the passage of the Oil and Gas Act. Gas storage regulations were adopted in 1994 with some related changes following in 2011. The Oil and Gas Act was most recently amended by the 2012 Oil and Gas Act (Act 13). Act 13 maintained the original Oil and Gas Act’s requirements for gas storage operations, and no new substantive provisions applicable to the operation of storage fields were included in the 2012 legislation.

Act 13 requires the exchange of important information about safety between underground gas storage operators, owners or operators of underground coal mines and the Pennsylvania Department of Environmental Protection (DEP). In particular, the locations and condition of wells used in the operation of underground gas storage fields and the locations of underground coal mines must be communicated. Gas storage operators and coal mine operators are also allowed to inspect each other’s records and facilities. Please note that the statute does not apply to strip or auger mines operating from the surface and the storage of gas or liquids in caverns. Injection of gas for storage into workable coal seams is also prohibited. The 1994 regulations added additional safety requirements for gas storage operations. Regulations adopted in 2011 enhanced well construction standards for new wells drilled in operating storage fields. Gas storage facility operators are presently required to:

- Case and cement gas storage wells to ensure no gas can leak from them.
- Conduct monthly inspections of all gas storage wells and all wells used for observation.
- Annually inspect the gas storage reservoir and storage protective area to make sure no gas is leaking or other hazardous condition exists.
- Implement gas storage well monitoring and integrity testing programs once every five years.
- Not exceed pressures that may cause the gas to begin leaking.
- Notify DEP within 24 hours of making emergency repairs to gas storage wells and submit a written explanation of the emergency and what action was taken within five days.
- Keep records of well inspection results and pressure data, integrity testing data, and inspections of abandoned and plugged wells.
- Notify DEP 15 days before the gas storage well is plugged to prevent migration of gas or other fluids within or outside of the well.
More information about underground gas storage fields is available from the DEP offices listed below:

**Northwest District**
230 Chestnut St.
Meadville, PA 16335-3481
814-332-6860

**Eastern District**
208 West Third St.
Williamsport, PA 17701-6448
570-327-3636

**Southwest District**
400 Waterfront Drive
Pittsburgh, PA 15222-4745
412-442-4924

**Central Office**
Bureau of Oil and Gas Planning and Program Management
P. O. Box 8765
Harrisburg, PA 17105-8765
717-772-2199

For more information, visit [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword: Oil and Gas.