In 2007, PJM Interconnection approved the construction of a new high-voltage transmission line from southwestern West Virginia to central Maryland designed to maintain reliability of the regional electric grid. The Potomac-Appalachian Transmission Highline (PATH) will help avoid the overload of existing transmission lines, which could threaten the electric power supply and lead to blackouts. Allegheny Energy and American Electric Power (AEP) have announced a joint venture to build the project as a backbone expansion to the regional electric transmission system. The project’s estimated cost is $1.8 billion. Targeted for completion in 2013, the PATH project consists of a single 765-kilovolt (kV) transmission line from AEP’s Amos substation near St. Albans, W.Va., to a new substation near Kemptown, southeast of Frederick, Md. The project also includes a new mid-point substation in the vicinity of eastern Grant County, northern Hardy County or southern Hampshire County in West Virginia.

The Need for PATH

The U.S. Department of Energy, the North American Electric Reliability Corporation and PJM all agree new transmission lines must be built to prevent looming reliability concerns. PJM has identified a number of power lines at risk of overloading between 2013 and 2022 in Maryland, West Virginia, Pennsylvania and Virginia.

PATH is the recommended solution to avoid overloading several of these transmission lines – a situation that threatens the regional electric power supply system and could trigger blackouts as soon as 2013. PJM is the regional grid operator that coordinates the movement of electricity, ensures reliability of the transmission system and plans transmission expansion in 13 states and the District of Columbia. The cost of the project will be shared by all customers in the PJM region.

Benefits of the Project

Due to the interconnected nature of the grid, each transmission zone is interdependent on its neighboring zones. The PATH project will benefit the entire region by:

- Helping to keep the lights on throughout the region;
- Creating jobs in construction, engineering, surveying and related industries, and supporting continued economic growth;
- Providing flexibility for scheduling outages for maintenance and upgrades of critical transmission infrastructure.

Regulatory Approvals

PATH began working on routing and environmental studies for the line in early 2008 and plans to complete the studies by early 2009. During the first quarter of 2009, PATH will seek authority to build the project from the respective state utility commissions the line will cross. Additional approvals from other federal, state and appropriate agencies will be sought as needed. The regulatory review process is expected to take about a year.
Why is the PATH project needed?
Our country’s top energy experts, including the U.S. Department of Energy, the North American Electric Reliability Corporation and PJM Interconnection, have called for new transmission lines to be built to prevent looming reliability concerns. The transmission grid works like a highway system, moving electricity throughout the region. And we have a traffic jam on that system. If something is not done to relieve stress on the transmission grid in the next few years, there could be adverse effects to our region, including blackouts.

Where will the new proposed transmission line be located?
PATH will connect AEP’s Amos substation in Putnam County, W.Va., to a proposed substation near Kemptown in Frederick County, Md. The project also will include a proposed mid-point substation in the vicinity of eastern Grant County, northern Hardy County or southern Hampshire County in West Virginia. The PATH team is developing new routing alternatives between the mid-point area and Kemptown. The team expects to determine the exact proposed route of the line during the first quarter of 2009.

How will the line route be decided?
Planning for the routing of the line began in early 2008 and will include an exhaustive routing study and environmental assessment. More than 20 public open houses will be held to gather public input for consideration. Allegheny Power and AEP are committed to working with landowners, neighboring residents, business owners and regulators to balance all interests in an effort to minimize environmental and land use impacts. Wherever possible, we are looking at routes that follow existing transmission lines. The companies expect to determine the exact proposed route of the line during the first quarter of 2009.

Isn’t Allegheny already building a transmission line? If TrAIL goes into service, why do we need PATH?
The TrAIL project is a separate, 210-mile project scheduled for completion in 2011 and is not part of the Allegheny/AEP joint venture. TrAIL and PATH are both urgently needed to strengthen our underlying transmission grid, and that’s why PJM has directed us to build both projects. In its most recent study, PJM identified a number of power lines that are at risk of overloading between 2013 and 2022 in Maryland, West Virginia, Pennsylvania and Virginia. TrAIL will address line overloads projected as early as 2011, and PATH will prevent potential overloads on additional lines forecasted by 2013.

Why is PATH now proposing one 765-kV line to Kemptown, when it previously said twin circuit 500-kV lines were needed?
Because of the configuration of the electrical system surrounding the Bedington, W.Va., substation, two 500-kV lines were necessary to meet the reliability requirements established by NERC and PJM. A single 765-kV line from Amos to Kemptown was one of the original alternatives considered, but PJM recommended the twin circuit 500-kV lines from Bedington because that configuration provided better system reinforcement. PJM has reviewed the reconfigured project eliminating Bedington as the mid-point substation and confirmed that one 765-kV line still meets NERC and PJM reliability requirements. This 765-kV technology offers the greatest load-carrying capacity in operation in the U.S. today. It will minimize land use impacts and greatly reduce line losses that can occur over long distances.

Does a 765-kV line require a wider right-of-way than a 500-kV line? Will the towers need to be taller?
For 765-kV and 500-kV lines, the right-of-way width typically is the same — 200 feet. As for the height of a transmission tower, it depends on the topography of the land and other factors. On average, the towers for 765-kV lines are only about 15 feet taller than the towers for 500-kV lines.