

Frequently Asked Questions

Gas-Electricity Reliability



Q. Are there issues surrounding increased use of natural gas in power generation?

A. We all agree that natural gas demand for power generation will grow in coming years because of environmental regulations, abundant domestic natural gas supplies and low natural gas prices. As demand increases, electric generators will need both gas supplies and pipeline transportation to get the natural gas to their power plants. Interstate pipelines do not sell natural gas; they simply transport it.

As gas demand for electric generation grows, pipeline capacity likely will become tighter. This means that on high-demand days—when both generators need to operate and the pipeline's firm customers need to use all their pipeline capacity—customers that have not contracted for firm capacity may not be able to get space on the pipeline to move their natural gas. If a gas-fired generator is one of those interrupted customers, it may not be able to produce electricity on a high-demand day.

Q. Can pipelines accommodate new demand from electric generators?

A. Absolutely. There are no operational impediments to pipelines serving electric generators as long as the electric industry contracts for the appropriate level and type of pipeline transportation service. Interstate pipelines have a proven record of reliably delivering supply to customers, including generators, and are well equipped to continue that reliable service. Where additional pipeline capacity is needed to support increased demand for gas-fired generation, the electric industry must make the firm commitments that will support the addition of pipeline capacity. When that happens, the pipeline industry can, and will, build the infrastructure to support those needs.

Q. If you know this demand is coming, why don't you just build pipelines now?

A. Pipelines companies do not build infrastructure on speculation. Rather, they build pipelines once the market expresses its support for a project by contracting for firm transportation capacity. These contracts give the regulator, the Federal Energy Regulatory Commission, the confidence it needs to deem the pipeline to be in the public interest, a requirement necessary for regulatory approval. Contracts also help the pipeline finance the new infrastructure needed to support increased natural gas demand. Unlike the electric power system, pipelines do not design their systems with a reserve margin, nor do they build to meet projected future market demand on speculation. This means that customers cannot expect that capacity will be available to them on an interruptible basis.

When a customer buys interruptible transportation, it pays less because it buys the transportation with the understanding that it may not be available at all times. When a pipeline cannot schedule interruptible transportation, it is not a reliability issue. It is a contracting issue. Customers that want to ensure gas delivery pay for firm transportation.

Q. The natural gas industry talks about the need for firm contracting by the electric industry. Why are firm contracts so critical?

A. We all want natural gas and electric reliability. Firm contracts are the most reliable form of natural gas pipeline service. In many cases, electric generators have opted not to hold firm transportation capacity because adequate interruptible capacity or “released capacity” from other pipeline customers holding firm pipeline capacity has been available on most days of the year. This practice is reinforced by the pricing in organized wholesale power markets (i.e., RTO markets), which does not provide generators with an effective means to recover the costs associated with ensuring reliability through firm pipeline transportation.

As natural gas demand grows, interruptible transportation will become harder to come by, and it is just that—subject to interruption. If a generator wants to ensure it will have the natural gas it needs to generate electricity every day—even on high-demand days—it needs to contract for firm transportation service.

Moreover, because pipelines generally only expand or build new pipelines when they have firm contractual commitments in place, customers needing pipeline service must be willing to sign up for firm transportation.

The problem is that some electric wholesale power market rules create disincentives for generators to hold firm transportation contracts. Wholesale electric market design—which bases clearing prices on the lowest marginal costs—creates little incentive to hold firm capacity, which is more reliable but more expensive than interruptible capacity.

Q. Are you saying that all generators need firm transportation?

A. Not at all. INGAA suggests that the electric industry, along with FERC, the North American Electric Reliability Corporation (NERC) and state regulators, should look at the level of firm transportation needed to obtain the desired level of electric reliability in a particular region. In some regions with tight pipeline capacity, firm transportation may be the only way to ensure both pipeline transportation service and construction of pipeline infrastructure to alleviate constraints. In other regions, including those with excess pipeline capacity or where there is a healthy reserve margin and a diversity of generating resources, firm pipeline transportation may not be needed to ensure the desired level of reliability to the bulk power system.

Q. Is this a new problem?

A. These issues have been on the horizon for a number of years. Over the last decade, two events triggered renewed interest in this issue: the prolonged New England cold snap of 2004 and the severe winter event in the Southwest in 2011. In both cases, the electric grid experienced significant operational stresses, which led parties to examine the role of gas-fired electric generation more closely.

We believe the issues surrounding the reliability of the electric power grid have garnered further attention with the announced coal retirements due to new environmental regulations, tight pipeline capacity in certain regions of the

country, low natural gas prices causing some generators to switch to gas, and strong weather-related demand cycles (winter or summer peak days).

Q. Isn't this just a winter issue?

A. In the past, we have seen this issue intensify in the winter when a pipeline's traditional customers, the local distribution companies or LDCs, were using all their pipeline capacity to meet winter heating demand.

Historically, we did not see problems during the summer because while summer is the period when natural gas-fired peaking generators typically are dispatched to meet peak demand for air conditioning load, it also is a time when weather-sensitive LDCs typically use only a small portion of their pipeline capacity. As a result, interruptible and released pipeline capacity was available for electric generators.

Today, gas-fired generators are not limited to peak loads. Increasingly, they generate electricity during both the winter and the summer. Nevertheless, many of these electric generators continue to rely on traditional interruptible and released capacity for their natural gas transportation. As gas demand increases to fuel electric generators, competition for pipeline capacity on an interruptible basis or in the secondary market will intensify. At a certain point—and this differs by pipeline and by region—interruptible and released capacity may be exhausted during the summer months. As a result, looking ahead, the electric industry should not expect abundant pipeline capacity to be available in the summer.

Q. What's your suggested solution?

A. As evidenced by the Polar Vortex of 2014, organized markets must ensure that generators are compensated for having the means necessary to preserve the reliability of the electric grid. While natural gas is not the only option, it is reasonable to assume that natural gas and the means to ensure its delivery will be part of the answer. As a result, organized markets and the regulators and public officials responsible for protecting consumers and ensuring reliability should craft solutions that provide creditworthy shippers with the ability to support the pipeline infrastructure needed to ensure natural gas delivery.

Q. Can pipelines provide new or innovative services that don't cost as much as firm transportation that could meet generators needs? How about a higher-priority interruptible service?

A. Many pipelines offer transportation services tailored to generators' needs, including flexible hourly swings, additional nomination opportunities, and no- or little-notice requirements. The electric industry largely is not using these pipeline services.

Pipelines will continue to offer flexible services to meet generators' needs. Some services, however, may require the pipeline to reserve capacity in order to meet the particular needs of a generator. This pipeline space is valuable and therefore, in some cases, such services may be more costly than standard firm transportation service. While pipelines can offer a higher-priority interruptible transportation service, the service remains interruptible. That means there is no guarantee of its availability during peak demand for pipeline transportation.

Q. Would increasing communications between gas pipelines and electric generators or synchronizing the gas and electric days solve the problem?

A. Eliminating barriers to communication has the potential to facilitate inter-industry responses during an emergency or on days when both electric generators and LDCs need gas (coincident peak days). Increasing communications between pipeline operators and operators of the electric grid will help manage the status quo and help manage an emergency or difficult situation. It will not, however, create additional pipeline capacity or provide generators with transportation service if they have not contracted accordingly.

Similarly, reconciling the natural gas and electric days may permit the market to operate more effectively. Still, this reconciliation will not resolve the fundamental contracting questions. Modifications in these areas alone will not solve the ultimate wholesale electric power pricing questions needed to ensure electric reliability.

Q. Would additional gas storage solve the problem? Why not just site storage next to the generator and eliminate the need for additional pipeline capacity?

A. Natural gas typically is stored below-ground in natural geological formations. Only certain areas of the country have geology that supports storage. Even if a location has the potential for natural gas storage, just like transportation, storage requires customers to sign up for firm, long-term contracts in order for the storage developer to build or expand facilities. While above-ground storage may be technically feasible, its costs often are prohibitive.