

## Launchers and Receivers: Critical to the Integrity of Our Pipelines

Pipeline integrity management is a systematic approach to identifying and mitigating potential risks to pipelines and natural gas infrastructure. Under the Pipeline Safety Improvement Act of 2002, the Pipeline and Hazardous Materials Safety Administration (PHMSA) mandated natural gas transmission pipeline operators develop and implement Integrity Management Programs.

Spectra Energy's Integrity Management Program provides "real time" information about pipeline integrity to further enhance the safety and reliability of our natural gas transmission system. The program meets and oftentimes exceeds PHMSA standards.

Inspection tools, referred to as "smart pigs" or in-line inspection (ILI) tools, are important components of the Integrity Management Program. Pigs are mechanical devices that travel through the pipeline collecting critical data and information on the inside of the pipeline. The process of "pigging" the pipeline begins by inserting a pig into an aboveground launcher and ends by retrieving the pig at an aboveground receiver. Typically, the launchers and receivers are located at the beginning and end of each pipeline segment.

Cleaning pigs are used to clean the inside of the pipeline minimizing internal corrosion and maintaining a high-flow efficiency. Smart pigs enable us to also examine a pipeline from the inside providing important information on corrosion or other irregularities such as metal loss or dents. This valuable information allows us to properly monitor and repair the pipeline as needed.

Maintenance of the inside of the pipeline is as important as maintenance on the outside of the pipeline to ensure a safe, efficient and reliable system. Our company's pipelines pioneered many of the in-line inspection techniques currently used by the industry.

### From Launcher to Receiver:

1. The pig is inserted into the pipeline at the launcher.
2. Natural gas moves the pig along the pipeline. A specific range of natural gas flow is necessary to keep the pig moving. Therefore, we sometimes must restrict the amount of natural gas flowing through the pipeline during the pigging process.
3. Along the way, the pig cleans the pipeline and takes calibration measurements of the pipe. The data is analyzed to ensure the integrity of the pipeline.
4. The pig is retrieved at the receiver.
5. Liquids that may have been gathered by the pig are properly removed from the receiver and disposed of in compliance with the requirements set forth in the U.S. Environmental Protection Agency's Resource Conservation & Recovery Act. Since cleaning is done on a regular basis, there may be no liquids present or there may be minimal amounts, generally less than a gallon, collected.

### Launching/Receiving Smart Pigs

