

SAFETY PRACTICES AND DESIGN IN EXCESS OF REGULATORY REQUIREMENTS



At Energy Transfer and with the Rover Pipeline, safety is our top priority. Our goal is to provide the safe and reliable transportation of natural gas for our customers. Rover Pipeline implements all federal standards into the design and operations of the pipeline, and in many instances, we exceed federal standards to ensure a safe and reliable pipeline.

Some of these safety measures include, but are not limited to:

- *Additional depth of cover over the pipeline*
- *Hydrotesting to higher pressure before in service*
- *More frequent aerial patrols during operation*
- *More stringent pipeline integrity program for the life of the pipeline*

Using advanced technology and a proven safety design, the project has added extra safety features that exceed federal requirements and will ensure minimal impacts to the environment and local communities along the route. Some of those features are outlined on this handout.

DOT CFR 192 Requirements	Rover Pipeline Standard	Benefit of Exceeding Requirement
Pipeline Coverage and Separation Distances		
The minimum clearance required between pipe and an underground structure is 12 inches .	Rover will provide a minimum clearance of 24 inches between any drain tiles and the pipeline as indicated in the Agricultural Mitigation Plan.	This will provide additional clearance between the pipeline and drain tiles. It will also provide additional coverage to help mitigate the threat of third-party damage during tile repairs and soil cultivating activities.
The code requires a minimum of 36 inches of coverage for waterbody crossings.	Rover will provide a minimum coverage of at least 60 inches for waterbody crossings.	The additional depth of coverage helps to protect the pipeline from third-party damage.
Minimum cover required for public road drainage ditch crossings is 36 inches .	Rover will provide a minimum cover of 60 inches (from the top of the pipe to ground level) at public road crossings.	The additional coverage protects the pipeline from third-party damage.
Pipeline Valves		
The requirement states that manual operators must be available for the valves on the pipeline. Rover is not required to install valves that are remotely operated.	All Mainline Valves will have motorized actuators that enable the valves to be remotely and quickly closed to isolate pipeline segments.	The motorized actuators help to remotely isolate the pipeline by valve section and help reduce the time to respond if there should be a need.
	All Mainline Valves will be equipped with Line Break Technology that is designed to close valves automatically if there is a detection of sudden decrease in pressure.	The Line Break Technology will reduce the reaction time should there be a sudden decrease in pressure.
External Coating		
The code requires the pipeline to use some type of corrosion preventative coating.	Rover will use Fusion Bonded Epoxy (FBE) to externally coat the pipe.	The FBE provides a high-quality protection for the pipeline and provides a non-shielding solution.
The code requires the pipeline has a corrosion preventative coating at all railroad crossings.	Rover will coat the pipe with 14 to 16 mils of FBE and 40 mils of Abrasion Resistant Overlay Coating (ARO).	The combination of coating will provide both a cathodic protection and an abrasion-resistant solution.

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Pipeline Strength		
The requirement states that the pipe must be specifically engineered for its purpose.	Rover pipe is specified to API 5L, PLS-2 standards which mandate additional metallurgical requirements, factory inspections and record retention. Additionally, the longitudinal seam of all pipe has been 100% examined by Non-Destructive Testing (NDT). All pipe mills were inspected for their quality assurance and quality testing programs prior to being allowed to bid as a contractor for the project.	The higher quality of pipe standards increase the resistance to third-party damage, shipping damage and overall pipe body cleanliness and weldability.
Inspection is required at the job site during installation.	For Rover, Inspectors were placed in each pipe mill while the pipe was being produced, and inspection is carried out all the way through installation.	This additional inspection ensures full compliance with quality control measures and additional safety and serviceability.
Pipeline Integrity Testing		
The code requires that we perform Non-Destructive Testing (NDT), by either radiographic or ultrasonic methods, for 10% of the girth welds made by each welder each day.	100% of all mainline girth welds will perform NDT inspection.	This helps to validate the welding, which ensures their integrity and the strength of the pipeline.
The line is required to be hydrotested for 8 hours above the Maximum Allowable Operating Pressure (MAOP) criteria: 1.1 X MAOP for a Class 1 pipe, 1.25 X MAOP for a Class 2 pipe, 1.5 X MAOP for a Class 3 pipe.	Rover will exceed the requirements by testing the pipe to higher pressures or a minimum of 90% Specified Minimum Yield Strength based on class design. 1.25 X MAOP in Class 1, 1.5 X MAOP in Class 2, 1.8 X MAOP in Class 3.	This is a requirement of Energy Transfer's Engineering Standards. It establishes test criteria above and beyond what is required and provides additional safety.
There is no code that requires that we perform an in-line inspection for the entire pipeline prior to start-up.	An in-line deformation run will be performed after completion of the hydrostatic testing to identify and address any potential defects.	This will help to validate the pipeline's integrity, further ensuring safety.
Operations		
The code requires inspection of the right-of-way during operations.	Rover right of way will be inspected by aerial means once every 7 days , weather permitting.	The aerial view provides visual information and provides increased awareness of activities taking place along the pipeline route.
The code requires Rover must engage in a program that mitigates potential third party damage.	Rover supports statewide local One-Call Centers to identify underground utilities for third parties working in the area.	This system helps to protect the pipeline from accidental damage due to local digging or construction in the area.
The code requires that we employ controllers to monitor and respond to potential emergencies.	A Gas Control Operations Center will monitor the pipeline 24 hours a day, 7 days a week .	Highly skilled personnel can identify changes in operating conditions and can respond quickly.