- Mountain Valley will also construct a new compression station (Lambert Compressor Station) near the interconnect with the existing Mountain Valley Pipeline
    - From the Lambert Compressor Station, the H-650 pipeline will traverse southwest approximately 26.2 miles into Rockingham County, North Carolina
    - **Pg 11**
- Mountain Valley proposes to construct and operate a new, approximately 47,700 horsepower ("hp") compressor station near the beginning of the pipeline at milepost ("MP") 0.0 **[Lambert station]**, a new, approximately 11,500 hp compressor station near MP 26; **[Russell station]**
    - **Pg 9**

1.2.2 Aboveground Facilities

Table 1.2-2 provides a summary of the proposed aboveground facilities that include two compressor stations, four meter (interconnect) stations, pig launcher and receiver, and mainline block valves ("MLV").

Table 1.2-2
MVP Southgate Project Aboveground Facilities

Compressor Stations					
Facility	Approximate Milepost	County, State	Isometric HP	Suction PSIG	Discharge PSIG
Lambert Compressor Station	0.0	Pittsylvania, VA	47,700	780	1,450
Russell Compressor Station	26	Rockingham, NC	11,150	900	1,450
Pig Launchers/Receivers					

Pg 14

- Compressor Stations, **pg 14-18**
    - The Project will require two new compressor stations to move gas from the beginning of the pipeline at the existing Mountain Valley Pipeline system in Pittsylvania County, Virginia, to the associated delivery points along the pipeline. Mountain Valley's typical plot plans for each compressor station are included in Appendix 1-C2 (CEII). [Note: Mountain Valley will provide compressor station plot plans in the draft Resource Reports to be filed with the FERC.]
    - The Project will require approximately 58,850 hp as dictated by the flow rate, pressure conditions expected on the H-650 pipeline, and ambient temperatures. Mountain Valley anticipates the supply pressure at the Lambert Interconnect (MP 0.0) to be approximately 780 psig while the delivery pressure at the T-21 Haw River Interconnect (MP 72.75) is expected to be approximately 750 psig. The gas flow will drop in pressure due to frictional losses and elevation changes as it travels within the H-650 pipeline. To overcome these losses, as well as to meet the pressure requirements at the East Tennessee and PSNC Energy delivery interconnects, the pressure will be boosted by the two proposed compressor stations. Natural gas fired turbine engines will power the compressors on the

Project. The natural gas to power the compressors will be provided by the Project's shippers.

- **Lambert Compressor Station pg 15**
  - Mountain Valley will construct the Lambert Compressor Station at MP 0.0 in Pittsylvania County, Virginia on a parcel of land owned by Mountain Valley. The Lambert Compressor Station will pull gas from the existing Mountain Valley Pipeline system for delivery to the proposed Russell Compressor Station (approximate MP 26) and downstream interconnects via the H-650 pipeline. Mountain Valley anticipates that the Lambert Compressor Station will contain three gas-driven turbines which combined will provide approximately 47,700 hp of compression. The station is expected to include a compressor building, electrical control building, office, and air compressor building. A chain linked fence security will surround the perimeter of the station site upon completion of construction. Equipment at the compressor station includes but is not limited to gas filter/separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, and auxiliary micro-turbines. Mountain Valley has designed the Lambert Compressor Station to raise the pressure of the H-650 pipeline from 780 psig to 1,450 psig. Mountain Valley does not expect that this compressor station will require dehydration; however, typical filtration and separation equipment to protect the operating equipment will be installed. Mountain Valley's typical plot plan for the Lambert Compressor Station is included in Appendix 1-C2 (CEII). [Note: Mountain Valley will provide compressor station plot plans in the draft Resource Reports to be filed with the FERC.]
- **Russell Compressor Station, pg 15-16**
  - Mountain Valley will construct the Russell Compressor Station at approximate MP 26 in Rockingham County, North Carolina. The compressor station will contain one gas-driven turbine that will provide approximately 11,150 hp of compression. The station is expected to include a compressor building, electrical control building, office, and air compressor building. A chain-link security fence will surround the perimeter of the station site upon completion of construction. As currently designed, equipment at the compressor station includes but is not limited to gas filter/separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, and auxiliary micro-turbines. Mountain Valley has designed the Russell Compressor Station to raise the pressure of the gas from 900 psig to 1,450 psig depending on downstream pipeline conditions. Mountain Valley does not expect that this compressor station will require dehydration; however, typical filtration and separation equipment to protect the operating equipment will be installed. Mountain Valley's typical plot plans for the Russel Compressor Station are included in Appendix 1-C2 (CEII). [Note: Mountain Valley will

provide compressor station plot plans in the draft Resource Reports to be filed with the FERC.]

        - The Russell Compressor Station will include suction piping that will connect to the H-650 pipeline approximately TBD feet to the TBD direction. Discharge piping from this compressor station to the LN 3600 Interconnect will be also be installed approximately TBD feet and TBD from the compressor station to the interconnect. [Note: Mountain Valley is designing suction/discharge piping and will provide this information in the draft Resource Reports to be filed with the FERC.]
    - **Pig Launchers and Receivers, pg 16**
        - A pig launcher is located at the origination point inside the Lambert Compressor Station fence line at approximate MP 0.0, in Pittsylvania County, Virginia. The corresponding pig receiver will be located at MP TBD in Rockingham County, North Carolina, and a second pig launcher will be located at this site. A second pig receiver will be located at the terminus of the pipeline at approximate MP 72 at the T-21 Haw River Interconnect near Graham, North Carolina.
    - **Telecommunications, pg 17**
        - Mountain Valley will provide primary and backup telecommunications services for the compressor stations, meter stations, and MLV sites. The local service provider will provide primary telecommunications service and back-up is expected to be Very Small Aperture Terminal (VSAT) service. In addition, the compressor station sites will have a communication tower installed inside within the station fence lines.
    - **Electric Utility Service, pg 18**
        - Mountain Valley will commercially purchase electric power for the compressor stations from the local distribution company. A series of microturbine generators will provide backup electric power to the compressor stations. Mountain Valley is currently evaluating backup electric systems and will provide additional information in the draft Resource Reports to be filed with the FERC. Electric services from the local distribution company will supply the meter stations, MLVs, and cathodic protection sites. In the event sites do not have convenient access to electrical services, solar power may be utilized.
- Aboveground Facilities, **pg 19**
    - Land requirements for compressor stations, pig launcher and receiver sites, and meter stations are included in Table 1.3-2. MLV sites will be entirely contained within the H-650 pipeline right-of-way and will therefore not require any additional land disturbance. In addition, pig launcher/receivers will be located inside the fenced areas for the meter and compressor stations and will therefore not require any additional land disturbance.

Table 1.3-2
Land Requirements for the MVP Southgate Project Aboveground Facilities a/

Facility Name	Approximate MP	Land Required for Construction (acres)	Land Required for Operation (acres)
Compressor Stations			
Lambert Compressor Station	0	TBD	TBD
Russell Compressor Station	26	TBD	TBD
Meter Stations			
Lambert Interconnect	0	TBD	TBD
LN 3600 Interconnect	28	TBD	TBD
T-15 Dan River Interconnect	30	TBD	TBD
T-21 Haw River Interconnect	72	TBD	TBD
Pig Launcher/Receiver b/			

Note: Impact calculations do not include associated access roads.
a/ MLVs are not included in aboveground facility calculations because these facilities will be completely within the 50-foot permanent right-of-way and will not require additional land outside of that necessary for the pipeline.
b/ Pig launchers will be within aboveground facility sites, therefore, acreages calculations for the pig launcher/receiver are included with those facilities.

- Foundations, **pg 42**
    - Excavation will be performed to accommodate the new reinforced concrete foundations for the compressors, meter stations, launcher and receiver facilities, filtration equipment, coolers, and buildings. Subsurface friction piles may be required to support the foundations, depending upon the bearing capacity of the existing soils and the equipment loads.
- Construction Schedule and Workforce, **pg 46**

A preliminary Construction Duration Schedule is provided in Table 1.4-2. Details on workforce required for the Project will be included in Pre-filing Draft Resource Report 5 (Socioeconomics) to be filed with the FERC.

Table 1.4-2
Construction Schedule for Major Components of the MVP Southgate Project a/

Component	Commence Activity	Complete Activity
Clearing	Q1 2020	Q1 2020
Pipeline Construction	Q2 2020	Q4 2020
Compressor Stations	Q2 2020	Q4 2020
Restoration	Q4 2020	Q4 2020
Hydrostatic Testing	Q4 2020	December 2020

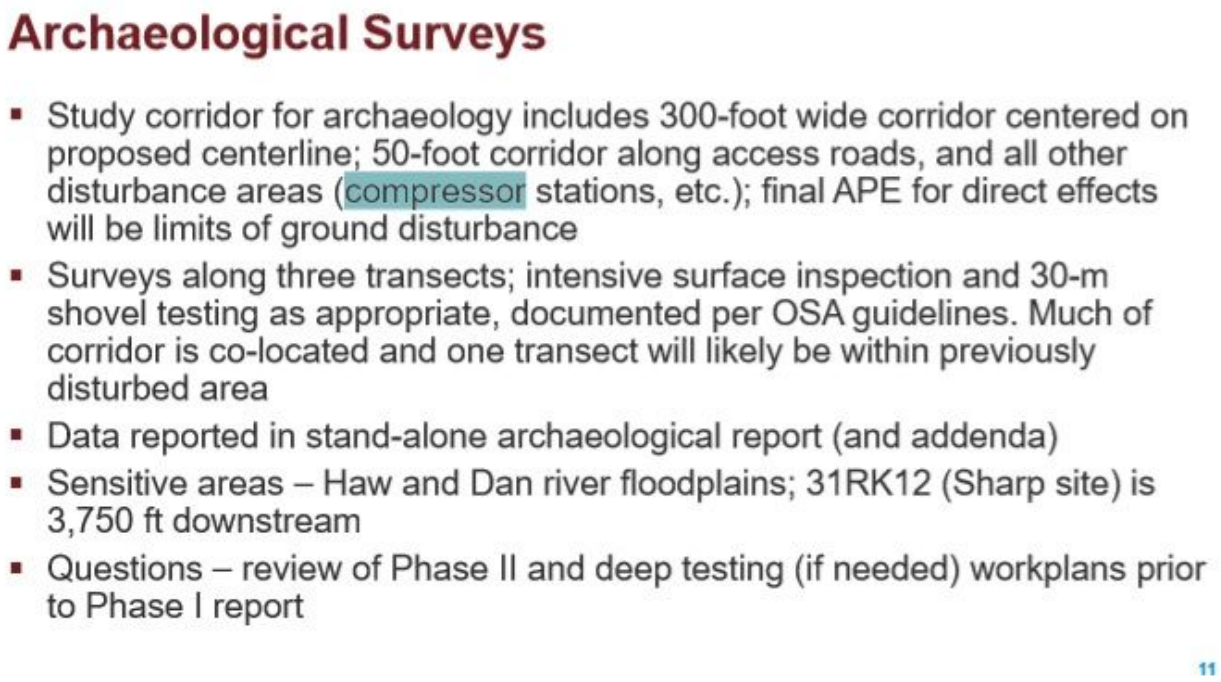
a/ Anticipated full in-service date of December 2020

- Aboveground Facilities
    - Compressor station personnel will perform operation and maintenance of all equipment. Personnel will perform routine checks of the facilities including calibration of equipment and instrumentation, inspection of critical components, and scheduled and routine maintenance of equipment. Safety equipment, such

as pressure relief devices and fire and gas detection systems will be tested for proper operation. Corrective actions will be taken if problems are identified.
    - The compressor station will be equipped with combustible gas and fire detection alarm systems, as well as an emergency shutdown system. Automatic emergency shutdown of the compressors, evacuation or venting of gas from the station piping, and isolation of the station from the main pipeline will occur following an incident. The compressor stations will also be equipped with relief valves or pressure protection devices to protect the station piping from overpressure if station or unit control systems fail. The stations will be unmanned with start/stop control capabilities controlled by the Mountain Valley's Gas Control headquarters. A telemetry system will notify personnel locally and at the gas control headquarters of the activation of safety systems and alarms as appropriate. Mountain Valley will dispatch maintenance personnel as necessary to investigate and take proper corrective actions.
    - **Pg 48-49**
- Cumulative Impacts, **pg 55**
    - The Council on Environmental Quality regulations that implement NEPA define cumulative effects as "the impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions" (40 CFR § 1508.7). Cumulative effects include both direct and indirect, or induced, effects that would result from the Project, as well as the effects from other projects (past, present, and reasonably foreseeable future actions) not related to or caused by the Project. Cumulative impacts may result when the environmental effects associated with a Project are added to temporary (construction related) or permanent (operations-related) impacts associated with other past, present, or reasonably foreseeable future projects. Although the individual impact of each separate project might not be significant, the additive or synergistic effects of multiple projects could be significant. The cumulative effects analysis evaluates the magnitude of cumulative effects on natural resources such as wetlands, water quality, floodplains, and threatened and endangered species, as well as cumulative effects on land use, socioeconomics, air quality, noise, and cultural resources. The Council on Environmental Quality regulations (40 CFR § 1508.8) also require that the cumulative effects analysis consider the indirect effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable
        - "Projects with potential to result in longer-term impacts on air quality (for example natural gas pipeline compressor stations) located within air quality control regions crossed by the other Projects and organized by county. If the other projects are near the county border, the adjoining county will also be reviewed." **pg 56**
- **Pgs 61-72, good maps, appendix 1-B**

- Project Overview
    - Community Benefits: **pg 107**
        - Local communities can receive revenue from taxes paid on the pipeline and compressor station
        - States can receive revenue from sales and use taxes paid during the construction of the project
        - Potential employment opportunities for local residents during the construction phase of the project
        - Increased activity and revenue for restaurants, hotels/motels, and retailers
        - Natural gas supply diversity for PSNC Energy customers and other consumers in the region

pg



Pg 119, there is another version of this on pg 177 but they took out the bullet point on sensitive areas.

- Work involving ground disturbance
    - Is there any ground-disturbance that is part of this project? Ground Disturbance Yes
        - If yes, describe the nature and horizontal extent of ground-disturbing activities, including construction, demolition, and other proposed disturbance. Plans, engineering drawings, and maps may be uploaded on the next page at the end of the application.
        - Detailed plans are presently under development, but the project will involve some vegetation clearing, topsoil segregation, and construction over portions of the proposed 100-foot wide temporary construction

easement; trenching for the pipeline, construction of a compressor station and other ancillary facilities, and use of temporary and permanent access roads.

Aboveground facility alternatives, **pg 215**

- 10.6.1 Compressor Station Design Alternatives
    - Mountain Valley conducted a hydraulic analysis to determine the optimum horsepower and compression to provide the increased volumes of natural gas necessary to meet the purpose and need of the Project. As a result, Mountain Valley determined that two new compressor stations were necessary to meet the compression requirements for the increased delivery volume and delivery locations. The compressor station site selection process was influenced by multiple factors including land availability for purchase, property suitability for siting the new compressor stations: engineering design and construction, pipeline design limitations, land/workspace requirements, site elevation, road access, interconnecting pipe, and environmental and landowner constraints.
    - [Note: Current sites under evaluation for the proposed compressor stations are identified in Resource Report 1. The site selection process associated with the proposed compressor stations is currently ongoing, and additional information regarding preferred and alternative locations will be provided in the draft Resource Reports to be filed with the FERC.]
- 10.6.1.1 Electric Driven Compressor Units
    - The proposed Project compressor stations will include centrifugal turbines powered by natural gas, with the natural gas obtained directly from the pipeline. While compressor stations can be powered by electric motor driven compressors in some instances, this is not feasible for the Project because of the lack of the necessary amount of power required for each compressor station site.
    - To use electric driven compressor units, electric power at high voltage would be supplied by overhead transmission lines to a substation that would be located at each compressor station site. The substation would step down the voltage for electric driven compressor motors and other miscellaneous loads. Additionally, electric driven motors located at each compressor station could require a liquid cooled variable frequency drive, primarily to start the motor and then for speed control of the compressor. For these reasons, the use of electric driven compressor units is not a reasonable alternative for the proposed Project compressor stations