January 28, 2018

Mr. Terry Turpin
Director, Office of Energy Projects
Federal Energy Regulatory Commission
888 First Street NE
Washington, D.C. 20426

Subject: Response to January 24, 2018 Letter
Tuscarawas River Mainline B Horizontal Directional Drill
Docket No. CP-15-93; Rover Pipeline Project

Dear Mr. Turpin:

Rover Pipeline LLC ("Rover") is frustrated by the inaccurate central premise underlying the letter received from the Federal Energy Regulatory Commission ("FERC" or "Commission") Office of Energy Projects ("OEP") on January 24, 2018 ("Letter"), directing operations to cease at the Tuscarawas River Mainline B Horizontal Directional Drill ("HDD") currently underway in Ohio for the Rover Pipeline Project ("Project"). The Letter states that "Rover has taken actions in accordance with its approved HDD contingency plans," but that during the course of this drill "some drilling fluid has been lost" to the underground formation. The letter goes on to say that "no fluid has reached the surface, and no impacts on sensitive resources have been documented." Notwithstanding these statements, and without any evidence to the contrary of any impacts, OEP asserts that "investigation into other approaches" is warranted before the HDD at the Tuscarawas River can continue.

Both the Commission and Rover fully expected the loss of drilling fluids during the HDD on Rover. Indeed, the Natural Gas Act ("NGA") Section 7 Certificate the Commission granted Rover expressly approved the use of HDD at the Tuscarawas River crossing. The Commission has also approved the revised construction plan for the Tuscarawas River Mainline B installation that was designed by Rover and was reviewed and approved by GeoEngineers, Inc. ("GeoEngineers"), Rover's expert HDD consultant, as well as by J.D. Hair and Associates ("J.D. Hair"), FERC's independent expert HDD consultant. Further, OEP has approved the Supplement to the Horizontal Directional Drill Contingency Plan – Ohio ("Supplemental HDD Contingency Plan"). The revised construction plans, as well as the Supplemental HDD Contingency Plan and the Rover Response to HDD Recommendations – Tuscarawas River HDD – 11/16/2017, as incorporated by FERC's Authorization to Resume Horizontal Directional Drill Activities – 12/14/2017 (collectively, "Plans") explicitly contemplate "complete or significantly diminished circulation loss that cannot be restored" during the HDD, with specific identified prescriptive and performance based responses when a loss of drilling fluids occur. And, most relevant here, the responses set forth in the Plans when returns are lost do not call upon Rover to halt the drill and stop construction. Instead, as approved by the Commission, the Plans affirm that as currently designed, the

Tuscarawas River Mainline B HDD has a lower risk of an inadvertent release occurring within the wetland adjacent to the Tuscarawas River, given that the revised HDD path for Mainline B is approximately 100 feet deeper than Mainline A and crosses consolidated rock for a longer length of the HDD. Thus, the approved Plans contemplate this exact scenario and support the continuation of the drill as planned.

Equally frustrating is the Letter's statement that "Rover has taken actions in accordance with its approved HDD contingency plans to attempt to resolve the loss of drilling fluid, but no approach to date has been completely successful." That is a very surprising statement from OEP since, as you know, completely eliminating loss of circulation was *never* contemplated, nor was it a condition of the approval from FERC to commence with the Mainline B HDDs. If this was and is the expectation here or on any pipeline, then no crossing methodology that involves a fluid carrier can proceed, which would include the Direct Pipe methodology suggested by OEP, as discussed further below. In fact, the Commission's own expert HDD consultant, J.D. Hair, has stated explicitly that even the best designed HDD can expect drilling fluid losses in the range of 20%. J.D. Hair also advises that drilling parameters may be adjusted to maximize drilling fluid circulation and minimize the risk of inadvertent returns, but the possibility of lost circulation and inadvertent returns cannot be eliminated. This is true for Rover or any pipeline. Indeed, both J.D. Hair and GeoEngineers have explained, on multiple occasions, that fluid loss to the formation is inevitable, particularly in the type of geologic formation present at this site, and that drills have, in fact, been completed without any returns at all. In other words, loss or reduction of circulation alone is absolutely no basis for shutting down this drill.

Simply put, Rover is fully compliant with the FERC approved Plans. And it remains Rover's intent to cooperate as fully as possible with the Commission in order to complete this process and bring these badly needed gas supply to market. However, given the unwarranted shutdown of this drill, it is important to take a step back and put OEP's requests for additional information into context.

Rover is a 713-mile-long, dual 42-inch interstate natural gas pipeline. It is the largest natural gas pipeline under construction in the United States, and the first interstate natural gas pipeline to cross through Ohio under since the NGA was enacted. Mainline A is complete, and Mainline B is 94 percent complete with 35 of the 49 HDD's complete.

On April 13, 2017, during construction of Mainline A, an inadvertent return occurred at the HDD crossing the Tuscarawas River.

Since that inadvertent return, Rover has worked extensively with OEP to remediate its impacts and to address the agency's questions and concerns regarding the execution of all of the HDDs on the Rover project.[1] Rover worked with both FERC and the Ohio Environmental Protection Agency ("Ohio EPA") to modify and enhance its existing HDD contingency plans and other operational plans to ensure continued safety.[2] In addition to its own engineering staff and original design contractor, Rover also proactively retained GeoEngineers, a nationally-recognized expert in HDD technology to help create an

[1] Remediating the inadvertent return has cost more than $6 million so far, and Rover has spent tens of millions more on additional environmental safeguards.

[2] Ohio EPA was already offered multiple opportunities to comment on and amend those plans.

independent assessment of its HDD designs. And OEP also halted the initiation of any new HDDs until its own expert, J.D. Hair, had reviewed and recommended modifications to each of the HDD designs. As a result, it is likely that no other interstate pipeline has ever had the benefit of so much engineering experience and oversight.

Rover has striven to implement as many of the recommendations as it can from these experts and OEP, Indeed, the drilling plan for *every single* HDD on Mainline B has been reviewed by OEP and both independent experts. Sometimes the expert advice conflicts, but Rover has implemented all of the recommendations or agreed with OEP staff and JD Hair on alternate approaches, even where the recommendations have caused significant delays and increased costs to Rover without noticeable benefit.

For example, last fall, J.D. Hair, OEP staff and Ohio EPA each advocated to the Commission for the use of annular pressure monitoring ("APM") tools to monitor for increased pressures in the HDD during pilot hole and reaming operations. OEP staff, J.D. Hair, and Ohio EPA each believed that the APM tool would help prevent additional inadvertent returns. Rover and GeoEngineers, on the other hand, did not believe that the APM tools would provide better data than what Rover was already doing—using the APM tool for the pilot hole and continuous monitoring of injection pressures throughout the crossing process—or that their use during reaming passes would help prevent inadvertent returns. Indeed, it was Rover's and GeoEngineer's opinion that the FERC proposed use of the APM tools in this manner was not industry standard or best practices, would increase delays, would significantly increase costs without any real benefit, and would increase the likelihood of a failed crossing by compromising the bore hole. Despite those misgivings, and after extensive discussions with Staff, Rover and GeoEngineers agreed to use the APM tool as required. After a short period of time of using the APM, the results Rover and GeoEngineers had fully foreseen materialized. Inadvertent returns continued to occur, several of them likely caused or exacerbated by the effects of the APM tools themselves. Delays mounted and costs increased. Indeed, at one point Rover estimated that the use of the APM tool could result in more than $130 million in direct costs. To their credit, once OEP staff and J.D. Hair reviewed the data after the APM was in use, they agreed with Rover's and GeoEngineer's original assessment and withdrew the requirement that the APM be used during reaming passes. (Ohio EPA, on the other hand, has continued to advocate for the use of the APM tool despite its obvious negative effects.) This one example demonstrates how closely Rover has worked with OEP staff and the experts to increase safety, and also how Rover's and GeoEngineer's analyses have consistently been validated by real world data and on-the-ground facts and reality.

Throughout this process, Ohio EPA has actively sought to stop Rover's progress by spreading false information and innuendo and seeking to compel OEP staff to halt construction. For example, on Thanksgiving-eve, Ohio EPA sought to stop Rover's HDDs alleging, among other things, that Rover was suffering inadvertent returns negatively impacting the Captina Creek in Ohio. In reality, however, and as Rover explained in its December 11, 2017 response, these inadvertent returns occurred at geologic locations where they were expected and neither reached nor impacted the Creek. Rover also pointed out that despite Ohio EPA's complaints about these minimal-if-any impacts to this resource, Ohio EPA had simultaneously permitted *two direct crossings* of the same resource by another pipeline and by the Ohio Department of Natural Resources. These are not the actions of an agency truly seeking to protect the environment.

The Commission should not allow Ohio EPA to dictate how the Commission's Section 7 authority is used. Rover and the capacity it represents are badly needed. Rover is more than 95% subscribed. With a designed capacity of 3.255 BCF/day, Rover has contractual commitments for more than 3.1 BCF/day and offers for the remaining capacity. Given its unique nature, and the geology it must pass through, it has had more than its fair share of challenges. But the company has met those challenges and has acted

in good faith to be good environmental stewards. It is in this context that OEP staff and the Commission should review the information Rover provides below and allow this drill to continue under the current plan.

1. *Additional details on how Rover plans to address expected drilling fluid losses to subsurface formations present on the both entry and exit side of the drill through the remainder of the pilot drilling phase and during successive reaming passes, and how drilling fluid circulation would be maintained during the remaining phases of drilling;*

Response:
At this time, Rover is in full compliance with the FERC approved Plans in terms of drilling and monitoring procedures, and has exceeded the requirements for the Tuscarawas River HDD location by the implementation of additional contingency measures. These measures are precautionary, and are intended to identify the occurrence of an inadvertent return as quickly as possible, if one should occur. These measures include the addition of four monitors who patrol the right-of-way and the adjacent area continuously, day and night, while drilling operations are underway; Environmental Inspectors on site during day and night shifts; thermal imaging cameras for increased monitoring capacity at night; and two drones to observe the right of way and surrounding area. There are now at least 6 inspectors who monitor the drilling area day and night.

In response to the FERC-approved Supplemental HDD Contingency Plan, the crossing has been cased and grouted to prevent backflow on the outside of the casing, and drilling operations have been interrupted on multiple occasions to manage loss of circulation. At each progressive formation encountered where loss of returns became evident, Rover has successfully deployed FERC-approved lost circulation materials ("LCM") up to this point to inhibit the circulation loss and regain drilling fluid returns. In general, circulation was then maintained until the hole was advanced far enough to where the rate of fluid loss exceeded the rate of drilling fluid being pumped downhole. The current status of the HDD, as well as where casing has been installed and LCM and grout have been inserted are depicted in the attached Plan and Profile figure.

The current plan would have Rover continue advancing the drill into competent rock, approximately 4-5 joints (approximately 150 feet), where the losses are anticipated to decrease. As the drill is further advanced, the cuttings from the rock formation may help to seal off the borehole wall in the area with less consolidated material, where fluid loss has been problematic. Additional applications of LCM will also be utilized as necessary.

The casing was installed to facilitate the pilot hole operations, which is the phase of the drilling operation that experiences the highest downhole pressures, through the shallow, unconsolidated strata, and to help reduce fluid losses to the formation. However, casing is not a viable option during the reaming operations, as the casing would have to be retracted for each reaming pass, a hole opener of incremental size would need to be progressed downhole, then casing of incremental size would be installed. LCM would be injected as the drilling progressed, and grout would be injected again within and surrounding the casing once installed. Similarly, to extend the casing approximately 150 feet to the competent rock

formation, the existing casing would have to be removed, a 24-inch hole opener would need to be progressed into the competent rock, which would bore through the previously installed grout and LCM, then the casing would need to be extended to the new depth, and grout would need to be injected again within and surrounding the casing. It is important to understand that *all* of these activities would *increase* the amount of drilling fluid required to be introduced to the formation.

As for the possibility of lost circulation once the pilot hole exits the more competent formations on the east side of the crossing, GeoEngineers estimates that this risk will be increased within the shallower geologic strata beginning approximately 350 feet from the designated entry point on the east side of the crossing, approximately 1,400 feet east of the Tuscarawas River. This zone is where drilling fluid returns were initially lost during the construction of the Mainline A crossing. One aspect that helps to minimize the risk of fluid loss and inadvertent returns while progressing the pilot bore through this area is that the pilot bore was initiated from the exit (west) side, and the elevation of this terminal portion of the bore hole is at or above the elevation of the west side of the crossing, reducing the downhole drilling fluid pressures. In addition, the right-of-way in this area is not located within a sensitive area.

During subsequent reaming passes, cuttings from the formation and the LCM pumped downhole to control fluid loss during pilot hole operations may have penetrated the formation sufficiently to aid in maintaining drilling fluid returns during reaming. The current plan would be to utilize additional applications of approved LCM during reaming, as needed, to improve or maintain drilling fluid returns. Rover will also continue to implement the prescriptive and performance based responses OEP approved to complete or significantly diminished returns as committed to in the Plans.

2. *A feasibility analysis of the Direct Pipe crossing technique for the Mainline B crossing of the Tuscarawas River at the current crossing location;*

Response:
The HDD installation method was selected and approved by the Commission because it would avoid or minimize impacts to environmental resources as detailed in Response 3 below. In fact, Rover has successfully completed one crossing at this location already. The Direct Pipe method is not a "dry" method and is not suitable in formations where large boulders are present, as were encountered during the installation of the previous crossing at this location. There is no guarantee that a Direct Pipe method would be successful, and the method will not eliminate potential introduction of fluids to the formation beneath the crossing feature. The Direct Pipe Method also introduces new risks to the environment inherent to the technology.

The feasibility of a Direct Pipe installation for the current crossing location does not appear to be viable. The length and depth of this crossing, as currently designed, would not be feasible with the Direct Pipe method. In fact, the length would be nearly a world-record for the method. In order to utilize the Direct Pipe method on the current alignment, the drill would have to be redesigned to a shorter length. Rover designed a theoretical alternative of approximately 2,369 feet, with the entry and exit locations both

closer to the Tuscarawas River. Please refer to the attached Alternative Overview for the location of the Theoretical Direct Pipe Route.

The Direct Pipe method is a relatively new construction installation technique. While it has advantages for use in some situations, the method is not suitable for all types of geologic formations. For this proposed application, we offer the following cautions and limitations:

- Although lower (compared to HDD) drilling fluid pressures and fluid volumes are typical, Direct Pipe will still require circulation of bentonite-based drilling fluid, with the associated risk of fluid loss to the formation and inadvertent drilling fluid returns. To be clear, GeoEngineers expects that, if attempted, this method would also lose some drilling fluid into the surrounding soil and rock formations.
- The operation will need to be interrupted for welding operations. Since the crossing is longer than the potential workspace, the operation will need to be shut down 6-8 times to weld on 400-500-foot sections. The slurry lines and any ancillary connections (power/hydraulic lines/controls) would need to be disconnected multiple times to facilitate the operation, which increases the chances of leaks or spills, both above and below ground.
- If the Direct Pipe method encounters a mechanical failure or high-wear formation necessitating a cutter head change, the contractor would need to completely extract the pipe and the cutting tool from the bore hole, and flood the entire hole with bentonite drilling slurry. The pipe sections and drilling apparatus would be disassembled as it is retracted, as described above, and would then be reassembled when boring recommences. As mentioned above, the bore hole is flooded with drilling slurry in an attempt to maintain the integrity of the bore hole when the apparatus is extracted. However, with the reduced downhole pressure compared to an HDD, there is an increased chance that the borehole will collapse, and the contractor would then have to begin the Direct Pipe installation again along the same profile, or along a modified path.
- If any rocks or boulders greater than one-third the size of the pipe are encountered, the Direct Pipe method could result in abandoning the hole. During installation of the Mainline A, Rover encountered fractured bedrock, or boulders, in several strata along the bore path that hindered the HDD reaming process, and ultimately required Rover to excavate approximately 300 feet from the exit side of the HDD to remove the boulders and install the pipeline conventionally in that area.
- The method introduces the risk for hydraulic fluid releases into the formation, as the cutter head is hydraulically driven, and a reserve of hydraulic fluid is maintained within the apparatus. Fitting and hose leaks and/or failures would be an anticipated risk, even with new equipment.

Thus we estimate that the duration of the Theoretical Direct Pipe Route installation would take 4-6 months after preparing the site and setting equipment. The result of the Direct Pipe method would be an extension of schedule 6-8 months from the time Rover provides a notice to proceed to the contractor, if the equipment is available at the time.

The Direct Pipe method has been proven as beneficial in many applications on other projects. However, given that the Direct Pipe method would still require drilling fluid to be introduced to the geologic formation; it would also require hydraulic fluid to be maintained within the drilling apparatus downhole

and handled at the entry location; and it has a high rate of failure in geologic formations with fractured bedrock or boulders. As a result, this approach should not be considered the preferred construction alternative for this location, given its limitations in this application and the potential risk of downhole hydraulic fluid leaks to the existing environmental resources in the area, including wetlands, waterbodies, groundwater, and residential water wells.

3. *A feasibility analysis of alternate crossing locations of the Tuscarawas River using the HDD and/or Direct Pipe crossing methods for Mainline B. Include a desktop environmental analysis of pipeline routing and relevant permitting for Mainline B that would be required to reach these alternate crossing locations; and*

Response:
Rover conducted a desktop analysis of geological data as publically available, as well as the data previously obtained by conducting the multiple analyses completed during the extensive scoping effort, during the permitting process, and through the subsequent reviews of this crossing during construction. Rover has reviewed the data within a half-mile radius of the current Tuscarawas River HDD location and found no geographic features that differ materially from those which are present at the current crossing location. Without conducting geotechnical core samples upstream and downstream, Rover is unable to offer a firm opinion on subsurface conditions; however, given that the geology is influenced by the historical movements of the Tuscarawas River, which is linear in nature and the crossing of which is unavoidable, Rover and GeoEngineers have no reason to believe that geological conditions would differ materially between any crossing location in the vicinity. Therefore, pipeline installation at an alternative location would not further decrease the potential for loss of returns or an inadvertent return from those associated with the currently approved location.

Nonetheless, Rover also conducted a desktop analysis of potential surface impacts and permitting requirements that would be associated with pipeline installation along an alternative route. Since Mainline A has already been completed at this crossing location and the Mainline B installation utilizes the same footprint as Mainline A, any route adjustment would automatically increase the Project impacts. Acreage impacts for construction and operation would at least double with any route that lies adjacent to the current route, but outside of the approved footprint, and acreage impacts would increase with any longer alternative route, as the alternative route would be required to connect to the already constructed pipeline.

The Approved Route and the HDD construction method were selected and approved because they would avoid or minimize impacts to:

- land use acreage,
- forested areas,
- wetlands,
- landowners,
- state and federally listed mussel species,

- the historic Ohio and Erie Canalway ("Stark County Towpath Trail"),
- a cultural resources site identified during surveys for the Project that is of "undetermined" eligibility,
- Riverland Avenue SW ("Ohio and Erie Canalway Scenic Byway"), and
- the Tuscarawas River, which is listed on the National Rivers Inventory and is a federally navigable waterway.

Rover evaluated the area within a half-mile radius of the currently approved location to identify an alternative location. Reroutes to the south would enclose multiple residences between Mainlines A and B. Therefore a route to the north was identified, which encloses one residence between Mainlines A and B. The alternative route was also designed to provide adequate distance from the affected residence, and accommodate a back string. Please refer to the attached Alternative Overview for the location of the Alternate Route.

The Alternate Route would deviate from the proposed route at approximate MP 41.8, would continue north-northwest for approximately 0.3 mile to the HDD/Direct Pipe entry site, at which point the Alternate Route would turn west and continue for 1.2 miles, before turning south-southwest to rejoin the proposed route at approximate MP 43.6 on the east side of Blough Avenue SW.

In comparison to the Alternate Route, the Approved Route is 0.08 mile shorter than the Alternate Route, affects 4.99 fewer acres of land during construction and 2.23 fewer acres for operation, including 3.8 fewer acres of forest and 4.97 fewer acres of open land (see table). The Approved Route affects 0.02 fewer acres of wetlands according to the National Wetlands Inventory (NWI) database and would cross seven fewer tracts. For comparison purposes, only NWI data was used for wetlands rather than survey data, since surveys have not been conducted of the Alternate Route. Whereas the HDD for the Approved Route crosses under one waterbody (Tuscarawas River), the HDD for the Alternate Route crosses under the Tuscarawas River as well as three crossings of two tributaries to the Tuscarawas River. The HDD for the Approved Route includes one crossing of the Stark County Towpath Trail; the HDD for the Alternate Route includes two crossings of the Towpath Trail. The HDD for the Alternate Route would be approximately 3,555 feet in length, or approximately 1,105 feet shorter than the Approved Route.

Given that Mainline A has already been installed along the Approved Route and Mainline B utilizes the same workspace, all of the actual impacts associated with the Approved Route for Mainline B have already been realized. In addition, the Mainline B pipe has been installed up to the HDD entry and exit points on each side along the Approved Route. While the impact estimates described in this analysis are desktop quality and not field-verified, the actual installation of the Mainline A along the Approved Route affected emergent wetlands, agricultural land, and residential areas, but avoided direct impacts to multiple wetland areas and the Tuscarawas River by use of the 4,616-foot HDD. Therefore, any adjustment in the route would increase the footprint of the Project by the total extent of the impacts realized by implementation of that route. Thus, the impacts associated with the Alternate Route would be cumulative to the impacts already incurred during the installation of Mainline A, and the Mainline B pipeline approaches up to the HDD entry and exit locations.

Alternate Route – Tuscarawas River				
Environmental Factor	**Unit**	**Alternate Route (Jan. 2018)**	**Approved HDD (Feb. 2017)**	**Variance [1]**
Total length:	miles	1.89	1.81	-0.08
Length adjacent to existing rights-of-way	miles	0.00	0.00	0.00
Total construction right-of-way	acres	20.25	15.26	-4.99
Permanent right-of-way	acres	9.12	6.89	-2.23
NWI emergent wetlands outside of HDD	acres	0.02	0.00	-0.02
NWI scrub-shrub wetlands outside of HDD	acres	0.00	0.00	0.00
NWI forested wetlands outside of HDD	acres	0.00	0.00	0.00
NWI wetlands within HDD	number	1	1	0.00
Forest [2]	acres	5.85	2.02	-3.83
Agricultural land [2]	acres	9.93	15.20	5.27
Open land [2]	acres	4.97	0.00	-4.97
NHD intermittent streams outside of HDD	number	0	0	0.00
NHD perennial streams outside of HDD	number	0	0	0.00
NHD streams within HDD	number	4	1	-3.00
NRHP listed properties within 500 feet	number	0	0	0.00
Roads/railroads crossed outside of HDD	number	0	0	0.00
Roads crossed within HDD	number	1	1	0.00
Railroads crossed	number	1	1	0.00
Tracts crossed	number	14	7	-7.00
Residences within 50 feet of the centerline	number	0	0	0.00
NSAs (e.g., schools, hospitals) within 500 feet	number	0	0	0.00
Public lands [3] crossed outside of HDD	miles	0.00	0.00	0.00
Public lands [3] crossed within HDD	miles	0.08	0.03	-0.05

[1] Variance calculated by subtracting Alternate Route (Jan. 2018) route from Proposed Route (Feb. 2017).
[2] Based on September 2015 aerial imagery.
[3] Stark County Towpath Trail.
NWI - National Wetlands Inventory
NHD - National Hydrography Dataset

The Alternate Route would require additional field surveys for cultural and biological resources. The U.S. Army Corps of Engineers Sections 404 and 10 permits and Ohio EPA Section 401 Water Quality Certification would need to be revised to account for the new crossing location for the Tuscarawas and the three additional stream crossings, as well as impacts to any new wetlands that were identified during the surveys. The U.S. Fish and Wildlife Service consultation would need to be revised to account for the newly impacted area, and the consultation would require that tree clearing be completed by March 31, 2018 to avoid impacts to listed bat species in the region, with other conditions possible if any additional

species or preferred habitat were identified during surveys. The Ohio State Historic Preservation Office consultation would also need to be revised following surveys. Any new cultural resource sites identified during surveys would require additional route adjustments or further investigation if they were potentially eligible for listing on the National Register of Historic Places. No additional impacts to the Stark County Towpath Trail or the Ohio and Erie Canal way Scenic Byway are expected to occur from the Alternate Route; therefore, no additional consultation should be required for visual or direct impact to those resources. However, the county road crossing permit and railroad crossing agreement would need to be amended to change the construction method to a bored crossing of each. Easement agreements for seven new tracts with previously unaffected landowners, as well as amendments to the existing easement agreements where the Alternate Route would deviate from the Approved Route, would be required for the Alternate Route. All of this would delay the project by at least a year, and delay bringing badly needed gas to the market.

Rover also conducted a desktop review of the Theoretical Direct Pipe Route. The Theoretical Direct Pipe Route would begin at the approved HDD east drill pad site for the Tuscarawas River at approximate MP 41.8, and would continue west for approximately 0.45 mile using standard pipeline construction techniques. Approximately 2,369 feet of the pipeline would then be installed using the Direct Pipe method under the Tuscarawas River, associated field delineated wetlands, and the Stark County Towpath Trail. From there, the Theoretical Direct Pipe Route would be installed using standard pipeline construction techniques for approximately 1,500 feet across agricultural land, the Wheeling/Lake Erie Railroad and the Riverland Avenue SW (Ohio and Erie Canalway Scenic Byway), approximately 1,500 feet to the approved west drill pad site for the Tuscarawas River HDD.

In comparison to the Theoretical Direct Pipe Route, the proposed route would affect 7.29 fewer acres of land during construction, including 0.63 fewer acres of forest and 6.66 fewer acres of agricultural land, and would require crossings of one road and one railroad that are avoided by use of the proposed HDD (see table). However, as described above, the geological formations present in the vicinity are not conducive to the Direct Pipe construction method. Therefore, this is not a true alternative warranting further investigation and this data is only provided for discussion purposes.

Theoretical Direct Pipe Route – Tuscarawas River				
Environmental Factor	**Unit**	**Alternate Direct Pipe (Jan. 2018)**	**Approved HDD (Feb. 2017)**	**Variance [1]**
Total length:	miles	1.81	1.81	0.00
Length adjacent to existing rights-of-way	miles	0.00	0.00	0.00
Total construction right-of-way	acres	8.80	1.51	-7.29
Permanent right-of-way	acres	6.89	6.89	0.00
NWI Emergent wetlands crossed	acres	0.00	0.00	0.00
NWI Scrub-shrub wetlands crossed	acres	0.00	0.00	0.00
NWI Forested wetlands	acres	0.00	0.00	0.00
Forest [2]	acres	0.63	0.00	-0.63

Theoretical Direct Pipe Route – Tuscarawas River				
Environmental Factor	**Unit**	**Alternate Direct Pipe (Jan. 2018)**	**Approved HDD (Feb. 2017)**	**Variance [1]**
Agricultural land [2]	acres	8.17	1.51	-6.66
Open land [2]	acres	0.00	0.00	0.00
NHD streams crossed	number	0	0	0.00
NRHP listed properties within 500 feet	number	0	0	0.00
Railroads crossed	number	1	0	-1.00
Roads crossed	number	1	0	-1.00
Tracts crossed	number	7	7	0.00
Residences within 50 feet of the centerline	number	0	0	0.00
NSAs (e.g., schools, hospitals) within 500 feet	number	0	0	0.00
Public lands crossed	miles	0.00	0.00	0.00

[1] Variance calculated by subtracting Alternate Direct Pipe Route (Jan. 2018) route from Proposed Route (Feb. 2017).

[2] Based on September 2015 aerial imagery.

NWI - National Wetlands Inventory

NHD - National Hydrography Dataset

Notes:
Resources (e.g. Tuscarawas River, Stark County Towpath Trail, wetlands, waterbodies, forest, etc.) located within the area spanned by the HDD or Direct Pipe are not included.
Wetland and water resources are from biological surveys.

Given that Mainline A has already been installed along the Approved Route and Mainline B utilizes the same workspace, all of the actual impacts associated with the Approved Route for Mainline B have already been realized. Installation of the Theoretical Direct Pipe Route would increase the footprint of the Project by extending the surface impacts incurred during the standard pipeline installation required to reach the entry and exit locations for the Theoretical Direct Pipe Route, which is a shorter span than the current HDD path within the Approved Route. Therefore, the Direct Pipe Route would increase the footprint of the Project by the total extent of the impacts realized by implementation of that route. Thus, the impacts associated with the Theoretical Direct Pipe Route would be cumulative to the impacts already incurred during the installation of Mainline A, and the Mainline B pipeline approaches up to the HDD entry and exit locations.

The Theoretical Direct Pipe Route would not require additional field surveys for cultural and biological resources. The U.S. Army Corps of Engineers Sections 404 and 10 permits and Ohio EPA Section 401 Water Quality Certification would not need to be revised since neither the Direct Pipe nor the HDD methods directly impact the Tuscarawas River and no additional waterbody or wetland crossings would occur with the Theoretical Direct Pipe Route. The U.S. Fish and Wildlife Service consultation would need to be revised to account for the newly impacted area near the workspace necessary for the Direct Pipe method on the west side of the Tuscarawas, and the consultation would require that tree clearing be

completed by March 31, 2018 to avoid impacts to listed bat species in the region. The Ohio State Historic Preservation Office consultation would not need to be revised as long as impacts to the previously identified cultural site of undetermined eligibility can be avoided. No additional impacts to the Stark County Towpath Trail or the Ohio and Erie Canalway Scenic Byway are expected to occur from the Theoretical Direct Pipe Route; therefore, no additional consultation should be required for visual or direct impact to those resources. However, the county road crossing permit and railroad crossing agreement would need to be amended to change the construction method to a bored crossing of each. Amendments to the existing easement agreements would be required where the Theoretical Direct Pipe Route would deviate from the Approved Route.

4. *A detailed flow diagram and corresponding hydraulic model reflecting the gas volumes and pressure that Rover would be able to provide should the Mainline B crossing not be completed. To complete this, assume that Rover would construct an appropriate crossover to Mainline A within 10 miles upstream and downstream of the Tuscarawas River crossing.*

Response:
Rover has conducted the hydraulic studies, as requested by FERC, and will submit the requested flow diagrams, models, and impact assessments under separate cover, as it contains non-public information.

As the recent prolonged cold period in that Northeast showed, the nation is relying more and more on natural gas to fuel electric generation. As that continues, the country will need more and more interstate natural gas pipeline capacity to meet this ever increasing demand. Projects like Rover will be needed more and more as this trend continues.

We therefore urge the Commission to authorize Rover to complete this pipeline as certificated and to authorize Rover to recommence with the Tuscarawas River HDD immediately. Rover has fully complied with the required measures for HDD activities as approved in the Plans. We remain committed to fully complying with these Plans. Rover respectfully requests that this letter and associated attachments be accepted as a complete response to the January 24, 2018 letter from OEP.

Certain information included in this filing is considered commercially-sensitive, business confidential information. Pursuant to Rule 388.112 of the Commission's regulations, Rover requests confidential treatment for these materials, which have been marked "CUI/PRIV — PRIVILEGED AND CONFIDENTIAL—DO NOT RELEASE." Questions regarding this request for privileged and confidential treatment should be directed to the undersigned. This filing is being submitted electronically to the Commission's eFiling website pursuant to the Commission's Order No. 703, Filing via the Internet Guidelines issued on November 15, 2007 in FERC Docket No. RM07-16-000. Any questions or comments regarding this filing should be directed to the undersigned at (713) 989-2812.

Sincerely,

Chris Sonneborn
SVP – Engineering
Energy Transfer Partners