

October 28, 2009

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

Re: Tennessee Gas Pipeline Company, Docket No. CP09-444-000  
Abbreviated Application for a Certificate of Public Convenience and Necessary to  
Construct, Install, Modify, Replace, and Operate Certain Pipeline and Compression  
Facilities  
Response to Informal Data Request

Dear Ms. Bose:

On July 17, 2009, Tennessee Gas Pipeline Company (“Tennessee”) filed the above-referenced certificate application with the Federal Energy Regulatory Commission (“Commission”) in Docket No. CP09-444-000. Tennessee is seeking a certificate of public convenience and necessity to construct, install, modify, replace, and operate certain pipeline looping and compression facilities to be located in Pennsylvania and New Jersey. On August 21, 2009, the Commission issued an Environmental Information Request to Tennessee in the above-referenced docket. Tennessee, on September 11, 2009 and September 24, 2009, submitted its responses to that Environmental Information Request.

Commission Environmental Staff, during informal discussions with Tennessee on October 2 and 5, 2009, requested that certain information, previously submitted in Exhibit F-1, Environmental Report, to the July 17, 2009 certificate application, be revised and resubmitted. In addition, the Commission Environmental Staff requested clarification to two of the responses that Tennessee submitted in response to the Commission’s August 21, 2009 Environmental Information Request. With this filing, Tennessee is now submitting the requested revised and clarified information and responses.

Tennessee is eFiling this document with the Commission’s Secretary in accordance with the applicable guidelines under the Commission’s Order No. 703, Filing Via the Internet, issued November 15, 2007 in Docket No. RM07-16-000.

Copies of this letter are being served on all parties on the official service list for the above-referenced docket. Copies of all attachments may be obtained by contacting the undersigned. Any questions concerning this filing should be addressed to the undersigned or to Mr. Thomas Joyce at (713) 420-3299.

Respectfully submitted,

TENNESSEE GAS PIPELINE COMPANY

By: /s/ Jacquelyne M. Rocan  
Jacquelyne M. Rocan  
Senior Counsel  
Telephone: (713) 420-4544  
Facsimile: (713) 420-1601

Enclosure

cc: Mr. David Hanobic (Commission Staff)(with enclosure)  
Mr. Robert Kopka (Commission Staff)(with enclosure)  
Official Service List (Docket No. CP09-444-000)(without enclosure)

State of Texas §

§

County of Harris §

**AFFIDAVIT**

I, Blake R. Hotzel, being first duly sworn, hereby state that I am a Senior Project Manager, and on behalf of Tennessee Gas Pipeline Company, I have reviewed the revised response to Data Request No. 5 of the Federal Energy Regulatory Commission's August 21, 2009, Environmental Data Request in Docket No. CP09-444-000, and such response is true and correct to the best of my knowledge, information, and belief.



Blake R. Hotzel.  
Senior Project Manager

Subscribed and sworn to before me this 28th day of October, 2009.



Notary Public  
My commission expires:

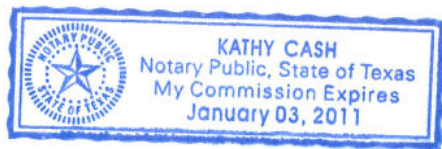
State of Texas           §  
  §  
County of Harris       §

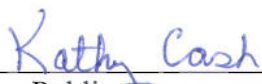
**AFFIDAVIT**

I, Robert E. Brink, Jr., being first duly sworn, hereby state that I am a Consultant, Project Management, and on behalf of Tennessee Gas Pipeline Company, I have reviewed the revised drawings in Appendices U, V, and W of Exhibit F-1, as well as revised responses to Data Request Nos. 2 and 5 of the Federal Energy Regulatory Commission's August 21, 2009, Environmental Data Request in Docket No. CP09-444-000, and such responses are true and correct to the best of my knowledge, information, and belief.

  
\_\_\_\_\_  
Robert E. Brink, Jr.  
Consultant, Project Management

Subscribed and sworn to before me this 28th day of October, 2009.



  
\_\_\_\_\_  
Notary Public  
My commission expires: 1-3-11

**Tennessee Gas Pipeline Company  
Docket No. CP09-444**

**Response to Informal Commission Data Request**

**Exhibit F-1 -- Environmental Report  
Appendix U – Residential Construction Plans (“RCPs”)**

Following an informal discussion with Commission Staff, Tennessee has determined that the RCP for the Terpstra property (LL 7089), submitted in Exhibit F-1, Appendix U to the certificate application filed on July 17, 2009, inaccurately represented the new permanent easement requirements. Tennessee has corrected that error on the above-referenced RCP and is now submitting a revised RCP with the permanent easement inaccuracy corrected. In addition, Tennessee has determined that other RCPs had a similar permanent easement inaccuracy and is now submitting revised RCPs with the permanent easement inaccuracy corrected. All of the revised RCPs may be found in the attached Appendix U excerpt. This does not serve to replace the entire Appendix U.

**Respondent: Bob Brink  
Title: Consultant Project Manager**

**Tennessee Gas Pipeline Company  
Docket No. CP09-444**

**Response to Informal Commission Data Request**

**Exhibit F-1 -- Environmental Report  
Appendix V – Public Lands Crossing Plans**

Following an informal discussion with Commission Staff, Tennessee has made revisions to the construction notes on all of the public lands drawings previously submitted in Exhibit F-1, Appendix V to the certificate application filed on July 17, 2009. Revised drawings are included in the revised Appendix V.

**Respondent: Bob Brink  
Title: Consultant Project Manager**

**Tennessee Gas Pipeline Company  
Docket No. CP09-444**

**Response to Informal Commission Data Request**

**Resource Report 1 – General Project Description**

**Data Request No. 5 (August 21, 2009 Environmental Information Request):**

**Confirm that the proposed modifications to existing compressor stations would not adversely impact visual screening or other mitigation measures previously required for these facilities. If any of the modifications would create an impact on mitigation required by a previous project, detail what measures TGP would take to replace or repair the previously required mitigation.**

**Data Response No. 5 (submitted September 24, 2009):**

The proposed modifications to the existing compressor stations will not impact visual screening measures previously required for those existing facilities as all Project construction and installation activities will be performed within the fenced yard of each existing compressor station. The removal of trees needed for the construction of Loop 323, near existing Station 323, will not impact the visual screening from the road for that compressor station, although the existing cleared right-of-way for Loop 323 near existing Station 323 will allow the new trap to be visible.

**Tennessee's Revised Data Response No. 5 (this revision supersedes the previously submitted data response):**

The proposed modifications to the existing compressor stations will not adversely impact any mitigation measures or visual screening measures previously required for these facilities.

The modifications to existing Station 313 include construction of a minor new facility outside the existing fence line of the compressor station. The fence line, however, will not be moved as a result of this construction and there will be no impact to any previously required visual screening.

At Station 315, there will be a minor relocation of the existing fence line to accommodate the proposed filter separator, and temporary work space will be required outside the fence line during construction. However, there will be no impact on existing visual screening or mitigation measures as a result of these activities at this facility.

At Station 319, there will be a minor relocation of the existing fence line to accommodate the pipeline loop tie-in, and temporary work space will be required outside the fence line during construction of the pipeline loop. However, there will be no impact on existing visual screening or mitigation measures as a result of these activities at this facility.

**Tennessee Gas Pipeline Company**  
**Docket No. CP09-444**

**Response to Informal Commission Data Request**

Station 323 will not require any new facilities to be constructed or modified outside of the existing fence line. Although workspace will be needed inside the fence line at this facility, it will be associated with pipeline construction and launcher installation. The removal of trees needed for the construction of Loop 323, near and within the existing Station 323, will not impact the visual screening for the compressor station due to the heavily forested area adjacent to the station.

Stations 325 will not require any new facilities to be constructed or modified outside of the existing fence line. Temporary workspace will be needed outside of the existing fence line; however, Tennessee will not be clearing any mature trees, only undergrowth to clear access to the proposed construction lay down area. Therefore, there will be no impact on existing visual screening or mitigation measures as a result of these activities at this facility.

**Respondent: Blake Hotzel**  
**Title: Senior Engineer**

**Respondent: Bob Brink**  
**Title: Consultant Project Manager**

**Tennessee Gas Pipeline Company  
Docket No. CP09-444**

**Response to Informal Commission Data Request**

**Resource Report 10 – Alternatives**

**Data Request No. 2 (August 21, 2009 Environmental Information Request):**

**TGP should use the same source of information (in addition to survey data if available for the proposed route) when comparing alternatives. That means, if NWI maps are used to detail wetland impacts for an alternative, they should also be used to describe the impacts from the proposed loop/compressor station in the alternative section. Clarify which information sources apply to which data in the tables in sections 10.3 and 10.4 and correct any text/tables where the same source was not used. See question 6.d. below for an example of how the comparison should be made using the same source of information and the actual survey value.**

**Data Response No. 2 (submitted September 24, 2009):**

Tennessee is providing revised Tables 10.3-1, 10.3-2, and 10.3-4 in Attachment W that include clarification for the information source applied to the data in the referenced tables. Table 10.3-3A-D has been created for Data Request No. 6 (Resource Report 10). These four tables clarify information sources used to compare alternatives identified in table 10.3-3. Tennessee has used the same source of information when comparing alternatives, as requested. Tables 10.4-1 and 10.4-2 were generated using the same information sources when comparing alternatives. Therefore, these tables did not require updating and are not included as part of this response.

**Tennessee's Clarification to its Previously Submitted Data Response No. 2:**

Commission Staff, in an informal discussion, informed Tennessee that Attachment W, submitted on September 24, 2009, did not include the tables referenced in such data response. Tables 10.3-1, 10.3-2, and 10.3-4 are included in Attachment W to this response.

**Respondent: Bob Brink  
Title: Consultant Project Manager**

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-1</b>				
<b>ANALYSIS OF USACE PROPERTY ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT – LOOP 321</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route<sup>a</sup></b>		<b>Northern Route</b>	<b>Southern Route</b>
	<b>Northern</b>	<b>Southern</b>		
Length (miles)	1.67 <sup>c</sup> (1.65) <sup>a</sup>	1.98 <sup>c</sup> (1.96) <sup>a</sup>	3.63 <sup>c</sup>	4.22 <sup>c</sup>
Temporary Workspace	19.17 <sup>a</sup>	22.73 <sup>a</sup>	44.04 <sup>b</sup>	51.32 <sup>b</sup>
Number of Property Owners	7 <sup>a</sup>	8 <sup>a</sup>	43 <sup>c</sup>	12 <sup>c</sup>
Federal Land Ownership (miles)	0.95 <sup>a</sup>	0.95 <sup>a</sup>	0 <sup>e</sup>	0 <sup>e</sup>
Waterbody Crossings (number)	1 <sup>c,f,g</sup> (1) <sup>a</sup>	2 <sup>c,f,g</sup> (4) <sup>a</sup>	1 <sup>c,f,g</sup>	3 <sup>c,f,g</sup>
Operational Impact on Forest (acres)	0.15 <sup>a,b</sup>	0.15 <sup>a,b</sup>	7.52 <sup>b,c</sup>	24.19 <sup>b,c</sup>
Operational Impact on Wetlands (acres)	0.03 <sup>b,g</sup> (0.08) <sup>a</sup>	0.03 <sup>b,g</sup> (0.13) <sup>a</sup>	0.04 <sup>b,g</sup>	0 <sup>b,g</sup>
Wetland Crossings (number)	1 <sup>b,g</sup> (3) <sup>a</sup>	1 <sup>b,g</sup> (3) <sup>a</sup>	1 <sup>b,g</sup>	0 <sup>b,g</sup>
Road Crossings	2 <sup>a</sup>	3 <sup>a</sup>	4 <sup>c</sup>	3 <sup>c</sup>
Occupied Structures within 50 feet of ROW	0 <sup>d</sup>	0 <sup>d</sup>	12 <sup>c</sup>	0 <sup>c</sup>

\*: Proposed route begins at Sta. 154+69 and ends at Sta. 242+00 (compared to the northern route) and 258+19 (compared to the southern route).

Sources of Information for Environmental Factors:

a= Alignment Sheets/Engineered Plans

b= GIS Data

c= Aerial photographic interpretation

d=Field Surveys

e=Consultation with applicable regulatory agencies

f= Topographic maps

g= National Wetlands Inventory maps

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-2</b>				
<b>ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route*</b>		<b>Northern Alternative</b>	<b>Southern Alternative</b>
	<b>Northern</b>	<b>Southern</b>		
Length (miles)	1.35 <sup>c</sup> (1.28 <sup>a</sup> )	1.56 <sup>c</sup> (1.28 <sup>a</sup> )	3.24 <sup>c</sup>	3.36 <sup>c</sup>
Steep Slope Construction (28 degrees or greater)	1,117 ft <sup>c</sup>	1,117 ft <sup>c</sup>	660 ft <sup>c</sup>	2,125 ft <sup>c</sup>
Additional Surface Disturbance Associated with Side Slope and Steep Slope Construction	0.64 acres <sup>c</sup>	0.64 acres <sup>c</sup>	1.19 acres <sup>c</sup>	1.22 acres <sup>c</sup>
Temporary Workspace Areas <sup>b</sup> (acres)	7.71 <sup>c</sup> (7.60)	8.94 <sup>c</sup> (8.81)	41.20 <sup>c</sup>	40.57 <sup>c</sup>
Number of Property Owners	10 <sup>e</sup> (6)	11 <sup>e</sup> (9)	5 <sup>e</sup>	6 <sup>e</sup>
State Land Ownership (miles; acres)	0.80 <sup>e</sup> ; 7.45 <sup>e</sup> (0.76 <sup>a</sup> ; 6.92 <sup>a</sup> )	0.80 <sup>e</sup> ; 7.45 <sup>e</sup> (0.76 <sup>a</sup> ; 6.92 <sup>a</sup> )	1.5 <sup>e</sup> ; 9.29 <sup>e</sup>	2.80 <sup>e</sup> ; 16.97 <sup>e</sup>
Long Pond Iron Works State Park (linear distance crossed)	0.60 miles <sup>c</sup> (0.56 miles <sup>a</sup> )	0.60 miles <sup>c</sup> (0.56 miles <sup>a</sup> )	0 <sup>c</sup>	0 <sup>c</sup>
Waterbody Crossings (number)	1 <sup>c</sup> (3 <sup>a</sup> )	1 <sup>c</sup> (3 <sup>a</sup> )	3 <sup>c</sup>	3 <sup>c</sup>
Operational Impact on Forest (acres)	12.70 <sup>c</sup> (7.6 <sup>a</sup> )	14.70 <sup>c</sup> (8.82 <sup>a</sup> )	19.33 <sup>c</sup>	18.43 <sup>c</sup>
Operational Impact on Wetlands (acres)	0.20 <sup>c</sup> (0.12 <sup>a</sup> )	0.30 <sup>c</sup> (0.12 <sup>a</sup> )	0.28 <sup>c</sup>	0.18 <sup>c</sup>

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

**TABLE 10.3-2**  
**ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES**  
**300 LINE PROJECT**

Factor	Comparative Segment of Proposed Route*		Northern Alternative	Southern Alternative
	Northern	Southern		
Wetland Crossings (number)	3 <sup>c</sup> (3 <sup>a</sup> )	3 <sup>c</sup> (3 <sup>a</sup> )	2 <sup>c</sup>	6 <sup>c</sup>
Operational Impact on Rare Species (acres)	14 <sup>b</sup>	16.73 <sup>b</sup>	38.22 <sup>b</sup>	33.22 <sup>b</sup>
Method of Construction for Water body Crossing	HDD = 4790 ft <sup>c</sup> (HDD = 4790 ft <sup>a</sup> )	HDD = 4790 ft <sup>c</sup> (HDD = 4790 ft <sup>a</sup> )	Open Cut <sup>c</sup>	HDD = 1,264 ft <sup>c</sup>
Road Crossings	1 <sup>b</sup> (1 <sup>a</sup> )	1 <sup>b</sup> (1 <sup>a</sup> )	4	2 <sup>b</sup>
Access Roads Required (number)	2 <sup>e</sup>	2 <sup>e</sup>	2 <sup>e</sup>	2 <sup>e</sup>
Hydrostatic Test Water <sup>c</sup> (sources and approximate gallons)	Monksville Reservoir: 231,600 gallons <sup>a</sup> ;  HDD: 164,477 gallons <sup>a</sup>	Monksville Reservoir: 231,600 gallons <sup>a</sup> ;  HDD: 164,477 gallons <sup>a</sup>	Monksville Reservoir: 595,587 gallons <sup>a</sup>	Monksville Reservoir: 609,679 gallons <sup>a</sup> ;  HDD: 43,403 gallons <sup>a</sup>
Environmental Hazards and / or Concerns	Geological formations may cause problem with HDD causing a Frac out. <sup>e</sup>		Potential runoff when removing a significant number of trees. Within 500 ft of 2 Long Pond Iron Works Historic Buildings. <sup>e</sup>	Geological formations may cause problem with HDD causing a Frac out. Potential runoff when removing a significant number of trees. <sup>e</sup>

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-2</b>				
<b>ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route*</b>		<b>Northern Alternative</b>	<b>Southern Alternative</b>
	<b>Northern</b>	<b>Southern</b>		
Occupied Structures within 50 ft of ROW	10 <sup>c</sup> (10 <sup>a</sup> )	10 <sup>c</sup> (10 <sup>a</sup> )	2 <sup>c</sup>	12 <sup>c</sup>

\*: Proposed routes begins at Sta. 844+30 (MP 15.99) and northern route ends at 914+24 (MP 17.32) and southern route ends at 968+71 (MP 17.53) downstream of proposed route ending.

Sources of Information for Environmental Factors:

a= Alignment Sheets/Engineered Plans

b= GIS Data

c= Aerial photographic interpretation

d= Field Surveys

e= Consultation with applicable regulatory agencies

f= Topographic maps

<b>TABLE 10.3-4</b>			
<b>ANALYSIS OF HIGHLANDS REGION ROUTE ALTERNATIVE</b>			
<b>300 LINE PROJECT</b>			
<b>Factor</b>	<b>Proposed Route*</b>	<b>Alternate Route*</b>	<b>Information Sources<sup>a</sup></b>
Length (miles)	17.26	46.01	A, C
Side-Slope Construction (miles) Steep Slopes (>28 degrees)	3.77	3.04	A, B, D, F
Additional Surface Disturbance Associated with Side Slope and Steep Slope Construction	22 acres	18.42	A, B, D, F
Acreage Affected (Construction and Operation)	206.27 <sup>b</sup> (98.7 acres)	Approximately 502 acres	A, C
Waterbody Crossings (number)	13 <sup>b</sup> (23)	44	C, D

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
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**Analyses of Route Alternatives**

**TABLE 10.3-4**  
**ANALYSIS OF HIGHLANDS REGION ROUTE ALTERNATIVE**  
**300 LINE PROJECT**

<b>Factor</b>	<b>Proposed Route*</b>	<b>Alternate Route*</b>	<b>Information Sources<sup>a</sup></b>
Operational Impact on Forest (acres)	58.75 <sup>b</sup> (36.76)	132	C, D
Operational Impact on Wetlands (acres)	4.92 <sup>b</sup> (8.93)	4.35	C, D
Wetland Crossings (number)	38 <sup>b</sup> (61)	65	C, D
Number of Property Owners	115 <sup>b</sup> (145)	>400	C, D
Road Crossings	43 <sup>b</sup> (23)	113	A, C, D
Federal Land Ownership (miles)	0.77 miles	0.44 miles	B, E
State Land Ownership (miles)	2.98 <sup>b</sup> (8.94 miles)	5.48	B, E
Hydrostatic Test Water (sources and approximate gallons)	Monksville Reservoir: 3,137,238	Source Unknown; 8,362,938	A
Constructability Constraints/Issues	Houses or Structures in CWS	Densely developed residential areas	C, D
Occupied Structures within 50 feet of ROW	79	>200	C, D

<sup>a</sup> Sources of Information for Environmental Factors: A=Alignment Sheets/Engineered Plans, B=GIS Data, C=Aerial photographic interpretation, D=Field Surveys, E=Consultation with applicable regulatory agencies, F= Topographic maps.

\* The Proposed Route impacts as shown are based on data collected in the field, unless shown in parentheses. Data shown in parentheses was obtained by analyzing GIS/mapping sources. The Alternative Route impacts were obtained by analyzing GIS/mapping data.

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-1</b>				
<b>ANALYSIS OF USACE PROPERTY ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT – LOOP 321</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route<sup>a</sup></b>		<b>Northern Route</b>	<b>Southern Route</b>
	<b>Northern</b>	<b>Southern</b>		
Length (miles)	1.67 <sup>c</sup> (1.65) <sup>a</sup>	1.98 <sup>c</sup> (1.96) <sup>a</sup>	3.63 <sup>c</sup>	4.22 <sup>c</sup>
Temporary Workspace	19.17 <sup>a</sup>	22.73 <sup>a</sup>	44.04 <sup>b</sup>	51.32 <sup>b</sup>
Number of Property Owners	7 <sup>a</sup>	8 <sup>a</sup>	43 <sup>c</sup>	12 <sup>c</sup>
Federal Land Ownership (miles)	0.95 <sup>a</sup>	0.95 <sup>a</sup>	0 <sup>e</sup>	0 <sup>e</sup>
Waterbody Crossings (number)	1 <sup>c,f,g</sup> (1) <sup>a</sup>	2 <sup>c,f,g</sup> (4) <sup>a</sup>	1 <sup>c,f,g</sup>	3 <sup>c,f,g</sup>
Operational Impact on Forest (acres)	0.15 <sup>a,b</sup>	0.15 <sup>a,b</sup>	7.52 <sup>b,c</sup>	24.19 <sup>b, c</sup>
Operational Impact on Wetlands (acres)	0.03 <sup>b,g</sup> (0.08) <sup>a</sup>	0.03 <sup>b,g</sup> (0.13) <sup>a</sup>	0.04 <sup>b,g</sup>	0 <sup>b,g</sup>
Wetland Crossings (number)	1 <sup>b,g</sup> (3) <sup>a</sup>	1 <sup>b,g</sup> (3) <sup>a</sup>	1 <sup>b,g</sup>	0 <sup>b,g</sup>
Road Crossings	2 <sup>a</sup>	3 <sup>a</sup>	4 <sup>c</sup>	3 <sup>c</sup>
Occupied Structures within 50 feet of ROW	0 <sup>d</sup>	0 <sup>d</sup>	12 <sup>c</sup>	0 <sup>c</sup>

\*: Proposed route begins at Sta. 154+69 and ends at Sta. 242+00 (compared to the northern route) and 258+19 (compared to the southern route).

Sources of Information for Environmental Factors:

a= Alignment Sheets/Engineered Plans

b= GIS Data

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f= Topographic maps

g= National Wetlands Inventory maps

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**Resource Report 10**  
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**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-2</b>				
<b>ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route*</b>		<b>Northern Alternative</b>	<b>Southern Alternative</b>
	<b>Northern</b>	<b>Southern</b>		
Length (miles)	1.35 <sup>c</sup> (1.28 <sup>a</sup> )	1.56 <sup>c</sup> (1.28 <sup>a</sup> )	3.24 <sup>c</sup>	3.36 <sup>c</sup>
Steep Slope Construction (28 degrees or greater)	1,117 ft <sup>c</sup>	1,117 ft <sup>c</sup>	660 ft <sup>c</sup>	2,125 ft <sup>c</sup>
Additional Surface Disturbance Associated with Side Slope and Steep Slope Construction	0.64 acres <sup>c</sup>	0.64 acres <sup>c</sup>	1.19 acres <sup>c</sup>	1.22 acres <sup>c</sup>
Temporary Workspace Areas <sup>b</sup> (acres)	7.71 <sup>c</sup> (7.60)	8.94 <sup>c</sup> (8.81)	41.20 <sup>c</sup>	40.57 <sup>c</sup>
Number of Property Owners	10 <sup>e</sup> (6)	11 <sup>e</sup> (9)	5 <sup>e</sup>	6 <sup>e</sup>
State Land Ownership (miles; acres)	0.80 <sup>e</sup> ; 7.45 <sup>e</sup> (0.76 <sup>a</sup> ; 6.92 <sup>a</sup> )	0.80 <sup>e</sup> ; 7.45 <sup>e</sup> (0.76 <sup>a</sup> ; 6.92 <sup>a</sup> )	1.5 <sup>e</sup> ; 9.29 <sup>e</sup>	2.80 <sup>e</sup> ; 16.97 <sup>e</sup>
Long Pond Iron Works State Park (linear distance crossed)	0.60 miles <sup>c</sup> (0.56 miles <sup>a</sup> )	0.60 miles <sup>c</sup> (0.56 miles <sup>a</sup> )	0 <sup>c</sup>	0 <sup>c</sup>
Waterbody Crossings (number)	1 <sup>c</sup> (3 <sup>a</sup> )	1 <sup>c</sup> (3 <sup>a</sup> )	3 <sup>c</sup>	3 <sup>c</sup>
Operational Impact on Forest (acres)	12.70 <sup>c</sup> (7.6 <sup>a</sup> )	14.70 <sup>c</sup> (8.82 <sup>a</sup> )	19.33 <sup>c</sup>	18.43 <sup>c</sup>
Operational Impact on Wetlands (acres)	0.20 <sup>c</sup> (0.12 <sup>a</sup> )	0.30 <sup>c</sup> (0.12 <sup>a</sup> )	0.28 <sup>c</sup>	0.18 <sup>c</sup>

**ATTACHMENT W**  
**Resource Report 10**  
**Data Request No. 2**  
**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

**TABLE 10.3-2**  
**ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES**  
**300 LINE PROJECT**

Factor	Comparative Segment of Proposed Route*		Northern Alternative	Southern Alternative
	Northern	Southern		
Wetland Crossings (number)	3 <sup>c</sup> (3 <sup>a</sup> )	3 <sup>c</sup> (3 <sup>a</sup> )	2 <sup>c</sup>	6 <sup>c</sup>
Operational Impact on Rare Species (acres)	14 <sup>b</sup>	16.73 <sup>b</sup>	38.22 <sup>b</sup>	33.22 <sup>b</sup>
Method of Construction for Water body Crossing	HDD = 4790 ft <sup>c</sup> (HDD = 4790 ft <sup>a</sup> )	HDD = 4790 ft <sup>c</sup> (HDD = 4790 ft <sup>a</sup> )	Open Cut <sup>c</sup>	HDD = 1,264 ft <sup>c</sup>
Road Crossings	1 <sup>b</sup> (1 <sup>a</sup> )	1 <sup>b</sup> (1 <sup>a</sup> )	4	2 <sup>b</sup>
Access Roads Required (number)	2 <sup>e</sup>	2 <sup>e</sup>	2 <sup>e</sup>	2 <sup>e</sup>
Hydrostatic Test Water <sup>c</sup> (sources and approximate gallons)	Monksville Reservoir: 231,600 gallons <sup>a</sup> ;  HDD: 164,477 gallons <sup>a</sup>	Monksville Reservoir: 231,600 gallons <sup>a</sup> ;  HDD: 164,477 gallons <sup>a</sup>	Monksville Reservoir: 595,587 gallons <sup>a</sup>	Monksville Reservoir: 609,679 gallons <sup>a</sup> ;  HDD: 43,403 gallons <sup>a</sup>
Environmental Hazards and / or Concerns	Geological formations may cause problem with HDD causing a Frac out. <sup>e</sup>		Potential runoff when removing a significant number of trees. Within 500 ft of 2 Long Pond Iron Works Historic Buildings. <sup>e</sup>	Geological formations may cause problem with HDD causing a Frac out. Potential runoff when removing a significant number of trees. <sup>e</sup>

**ATTACHMENT W**  
**Resource Report 10**  
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**Tables 10.3-1, 10.3-2, 10.3-3, and 10.3-4**  
**Analyses of Route Alternatives**

<b>TABLE 10.3-2</b>				
<b>ANALYSIS OF MONKSVILLE RESERVIOR ROUTE ALTERNATIVES</b>				
<b>300 LINE PROJECT</b>				
<b>Factor</b>	<b>Comparative Segment of Proposed Route*</b>		<b>Northern Alternative</b>	<b>Southern Alternative</b>
	<b>Northern</b>	<b>Southern</b>		
Occupied Structures within 50 ft of ROW	10 <sup>c</sup> (10 <sup>a</sup> )	10 <sup>c</sup> (10 <sup>a</sup> )	2 <sup>c</sup>	12 <sup>c</sup>

\*: Proposed routes begins at Sta. 844+30 (MP 15.99) and northern route ends at 914+24 (MP 17.32) and southern route ends at 968+71 (MP 17.53) downstream of proposed route ending.

Sources of Information for Environmental Factors:

a= Alignment Sheets/Engineered Plans

b= GIS Data

c= Aerial photographic interpretation

d= Field Surveys

e= Consultation with applicable regulatory agencies

f= Topographic maps

<b>TABLE 10.3-4</b>			
<b>ANALYSIS OF HIGHLANDS REGION ROUTE ALTERNATIVE</b>			
<b>300 LINE PROJECT</b>			
<b>Factor</b>	<b>Proposed Route*</b>	<b>Alternate Route*</b>	<b>Information Sources<sup>a</sup></b>
Length (miles)	17.26	46.01	A, C
Side-Slope Construction (miles) Steep Slopes (>28 degrees)	3.77	3.04	A, B, D, F
Additional Surface Disturbance Associated with Side Slope and Steep Slope Construction	22 acres	18.42	A, B, D, F
Acreage Affected (Construction and Operation)	206.27 <sup>b</sup> (98.7 acres)	Approximately 502 acres	A, C
Waterbody Crossings (number)	13 <sup>b</sup> (23)	44	C, D

**ATTACHMENT W**  
**Resource Report 10**  
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**Analyses of Route Alternatives**

**TABLE 10.3-4**  
**ANALYSIS OF HIGHLANDS REGION ROUTE ALTERNATIVE**  
**300 LINE PROJECT**

<b>Factor</b>	<b>Proposed Route*</b>	<b>Alternate Route*</b>	<b>Information Sources<sup>a</sup></b>
Operational Impact on Forest (acres)	58.75 <sup>b</sup> (36.76)	132	C, D
Operational Impact on Wetlands (acres)	4.92 <sup>b</sup> (8.93)	4.35	C, D
Wetland Crossings (number)	38 <sup>b</sup> (61)	65	C, D
Number of Property Owners	115 <sup>b</sup> (145)	>400	C, D
Road Crossings	43 <sup>b</sup> (23)	113	A, C, D
Federal Land Ownership (miles)	0.77 miles	0.44 miles	B, E
State Land Ownership (miles)	2.98 <sup>b</sup> (8.94 miles)	5.48	B, E
Hydrostatic Test Water (sources and approximate gallons)	Monksville Reservoir: 3,137,238	Source Unknown; 8,362,938	A
Constructability Constraints/Issues	Houses or Structures in CWS	Densely developed residential areas	C, D
Occupied Structures within 50 feet of ROW	79	>200	C, D

<sup>a</sup> Sources of Information for Environmental Factors: A=Alignment Sheets/Engineered Plans, B=GIS Data, C=Aerial photographic interpretation, D=Field Surveys, E=Consultation with applicable regulatory agencies, F= Topographic maps.

\* The Proposed Route impacts as shown are based on data collected in the field, unless shown in parentheses. Data shown in parentheses was obtained by analyzing GIS/mapping sources. The Alternative Route impacts were obtained by analyzing GIS/mapping data.