Public Information

DUKE American Transmission Co.®

PROJECT PROPOSAL

Furnace Run to Perryman 230 kV Project

for

PJM 2016/17 RTEP Long Term Proposal Window

February 28, 2017

Table of Contents

A. Executive Summary

A.1. Name of Proposing Entity

Duke-American Transmission Company, LLC (DATC) is pleased to submit this Market Efficiency Project proposal in response to the PJM 2016/17 RTEP Long Term Proposal Window.

DATC is a joint venture of Duke Energy Transmission Holding Company, LLC (Duke Energy) and American Transmission Company LLC (ATC). DATC was established in 2011 to build, own and operate electric transmission infrastructure in North America. Equity ownership of DATC is split equally between Duke Energy, a wholly owned indirect subsidiary of Duke Energy Corporation, and ATC. DATC is governed by a four-member board of managers including two representatives from each of the parent companies.

A.2. Proposal Window and Issue Being Addressed

The proposed project is to address the following congested facilities in the PJM 2016-2017 RTEP Long Term Proposal Window:

ME-1: Conastone-Graceton 230 kV

ME-2: Graceton-Bagley 230 kV

A.3. Violations Not Addressed

In our analysis, DATC did not identify any new violations caused by the proposed project. Nearby violations are addressed through the various project portions described below.

A.4. Transmission Zones, Impacts

The proposed project will interconnect with three PJM Transmission Owner zones: Baltimore Gas and Electric Company (BGE), Metropolitan Edison Company and PECO Energy.

A.5. Indication of Intentions

DATC is proposing to construct/own/operate a new 230-kV line between the planned Furnace Run Substation and existing Perryman Substation. If the Project is selected by PJM to resolve the problem stated, DATC intends to be considered the Designated Entity to construct, own, operate, maintain and finance the Project.

Construction of the second portion of the Project (two series reactors) and third portion (rebuild 115-kV line from Glen Arm to Windy Edge) are expected to be awarded to the incumbent utility, and DATC expects the appropriate incumbent utility would construct, own, operate and maintain these facilities.

A.6. Description of Proposed Solution and Resolution

The proposed project addresses the Conastone-Graceton 230-kV line and Graceton-Bagley 230-kV line congestion in Maryland to allow for a more economic dispatch of energy. The Project consists of three portions working together to redirect power away from the congested lines by providing an attractive alternate path.

The first portion of the Project builds approximately 37 miles of new single-circuit 230-kV line between Furnace Run Substation (approved as part of the AP South relief project, the new 500/230-kV Furnace Run Substation is located between Three Mile Island Substation and Peach Bottom Substation) and the existing Perryman Substation.

The second portion of the proposed Project adds a series reactor to each of the Conastone-Graceton 230-kV lines (two total). The third portion of the proposed Project will rebuild the 115-line from Glen Arm to Windy Edge (approximately 3 miles).

Years 2017, 2021, 2024 and 2027 were evaluated in the economic study. For these four study years, congestion on Conastone-Graceton is completely relieved. Graceton-Bagley congestion is mostly relieved.

A.7. Description of How the Project should be Considered

To best address congestion described as ME-1 and ME-2 in the PJM 2016-2017 RTEP Long Term Proposal Window, the whole proposed project is recommended.

A.8. High Level Overview of Cost and Cost Containment

The total estimated cost for the proposed project is $93.7M in 2017 dollars without escalation. The second portion of the proposed Project (one series reactor on each of the Conastone-Graceton 230-kV lines) and the third portion of the proposed Project (rebuild 115-kV line from Glen Arm to Windy Edge) are assumed to be awarded to incumbent utility (BGE) and are included in this overall cost. The following is a high level overview of cost.

Table 1
Cost Proposal Overview

DATC Proposal Estimate, In 2017 dollars, in millions	New 230-kV Single Line Furnace Run to Perryman ($M)	Incumbent Project 115-kV Line Rebuild Glen Arm to Windy Edge ($M)	Incumbent Project Two Reactors at Conastone ($M)
Total	$85.78	$6.18	$1.76
Total Project Implementation Costs	$93.7		

DATC recognizes that cost commitment is important to PJM and its stakeholders. DATC also recognizes that placing a firm cost cap exposes the Project Sponsor to the unlimited financial risks associated with building large transmission elements.

DATC is confident that the cost estimate presented is a fair and accurate representation of the cost to deliver the Project given the current stage of project development. The companies involved have a long and well recognized history of developing and constructing large, complex infrastructure projects on time and on budget.

DATC commits to not seek return on equity adders other than that allowed for RTO membership. This commitment does not include other incentives such as recovery of construction work in progress or abandonment.

DATC plans to use a construction contractor for the Project. DATC project managers focus on front-end-loaded scope development and management, schedule adherence, recovery plans (if necessary), cost and risk management through the use of Primavera schedules, internal processes and procedures, and employing internal and external functional support throughout a project.

DATC will implement a project management structure, employing the following practices to ensure the appropriate planning and execution of the project:

- A robust project controls infrastructure to track metrics tied to cost based on early indicators of cost overruns, such as productivity;
- Active monitoring of leading indicators of performance such as earned value metrics to proactively manage cost risk;
- Proactive management of contingency versus risks to ensure the project is carrying the appropriate amount of contingency;
- Focus on the contingency coverage ratio to ensure risks and remaining contingency are appropriately balanced;
- Early detection leading to appropriate corrective intervention as the basis of the risk management approach;

- Weekly schedule reviews, monthly execution reviews, and detailed quarterly reviews to actively manage project risks, looking for opportunities to identify new and further mitigate existing risk; and
- Project controls specialists with accountability for an integrated project schedule to ensure all work streams interact appropriately.

Specific techniques for controlling costs and ensuring supplier performance will be negotiated and agreed upon at the time of contract execution. The following are techniques frequently used by DATC's supply chain team:

Cost Control

- Lump sum, fixed price contracts or open book target price contracts with shared incentives for achieving or beating agreed-upon targets
- Owner-supplied major equipment when and where cost effective
- Equipment and labor rate increases tied to specific independent indices for contracts exceeding 12 months in duration
- Stringent change order approval process
- Owner oversight of contractor activities including engineering, environmental health and safety, construction management, and project controls and reporting
- Milestone payments based on completed and inspected work
- Invoices requiring detailed cost information for owner review and approval
- Joint management of EPC contingencies
- Right to audit all project costs
- Builder risk insurance

Ensuring Supplier Performance

- Performance bonds, letters of credit or parent company guarantees
- Liquidated damages if performance requirements are not achieved
- Delay liquidated damages
- Retention of 10% of all milestone payments until project completion and commissioning
- Strong warranty program
- Make right clause at contractor expense

DATC's parent companies have built more than $6 billion in new transmission infrastructure in the last decade, delivering effective solutions at competitive costs. DATC project teams are experienced in small and large-scale projects working in

challenging terrain, complex regulatory environments, across state lines and in environmentally and culturally sensitive areas. DATC is committed to planning and constructing projects that meet specific system needs without overbuilding or adding unnecessary costs.

A few examples of ATC and Duke Energy's recent projects delivered within or under budget and on schedule include:

Table 2
Recently Completed Duke Energy and ATC Transmission Projects within or under Budget

Project Description	Initial In-Service Date Final In-Service Date	Initial Budget Final Cost ($M)
Holmes-Old Mead Road New line from the Holmes Substation in Menominee County to the Old Mead Road Substation in Escanaba to reinforce the grid and address a number of factors, including emerging reliability concerns, generation changes, changes in demand and the evolution of the wholesale energy market.	Summer 2016 Initial ISD 8/2016 Final ISD	$120 Initial Budget $93 Final Cost
Rockdale-West Middleton New line serving multiple reliability functions as Dane County has some of the highest load growth in the state of Wisconsin. This line was needed to keep pace with the growing demand, and to strengthen the efficiency and reliability of existing lower voltage lines.	2013 Initial ISD 2/2013 Final ISD	$145 Initial Budget $140 Final Cost
Canal-Dunn Road New line provides significant voltage support and additional transformation capacity to the northern Door County area.	6/2012 Initial ISD 6/2012 Final ISD	$16 Initial Budget $14 Final Cost
Cranberry-Conover-Iron River-Plains New line and voltage conversion of an existing circuit provide increased reliability by reinforcing a previously overloaded part of the system vulnerable to interruptions.	5/2010 Initial ISD 3/2010 Final ISD	$111 Initial Budget $104 Final Cost
Fitchburg-Verona A new line that strengthens and maintains reliability in the rapidly growing areas of southern Dane County and northern Green County.	12/2010 Initial ISD 6/2010 Final ISD	$19 Initial Budget $19 Final Cost
Paddock-Rockdale A new line that improves local utility access to the regional energy market. Economic benefits of the project are expected to more than pay for the cost of the project. This is the first access project approved within the MISO footprint.	2010 Initial ISD 3/2010 Final ISD	$126 Initial Budget $111 Final Cost
Jefferson County Reliability Project This project improved the ability to ensure continued electric service in the event of an outage on a portion of the network by creating an alternate path for electrical flow.	Summer 2009 Initial ISD 10/2009 Final ISD	$32 Initial Budget $30 Final Cost

Project Description	Initial In-Service Date Final In-Service Date	Initial Budget Final Cost ($M)
North Madison-Huiskamp This new line is a reinforcement to the electric system in the area which was projected to be overloaded in summer 2009, resulting in increased vulnerability to outages for communities across northern Dane County.	Early 2009 Initial ISD 4/2009 Final ISD	$19 Initial Budget $17 Final Cost
Kathleen to Zephyr Hills North Built to address significant load growth in Southern Pasco and Northern Hillsborough County.	12/2013 Initial ISD 9/2013 Final ISD	$18 Initial Budget $18 Final Cost
Hines to West Lake Wales Addition of a second circuit resolved regional congestion and improved power flow from nearby generation.	12/2011 Initial ISD 11/2011 Final ISD	$11 Initial Budget $11 Final Cost
Charlestown to CMC New expedited line to serve new industrial customer load.	3/2010 Initial ISD 3/2010 Final ISD	$5 Initial Budget $5 Final Cost
Qualitech to Pittsboro New expedited line to serve new industrial customer load.	9/2013 Initial ISD 9/2013 Final ISD	$3 Initial Budget $3 Final Cost
Lilesville-Rockingham New line to improve regional reliability and load growth.	4/2013 Initial ISD 4/2013 Final ISD	$12 Initial Budget $12 Final Cost
Tap to Warrenton Additional line increases reliability and switching capability in rural part of system.	12/2013 Initial ISD 9/2013 Final ISD	$6 Initial Budget $6 Final Cost

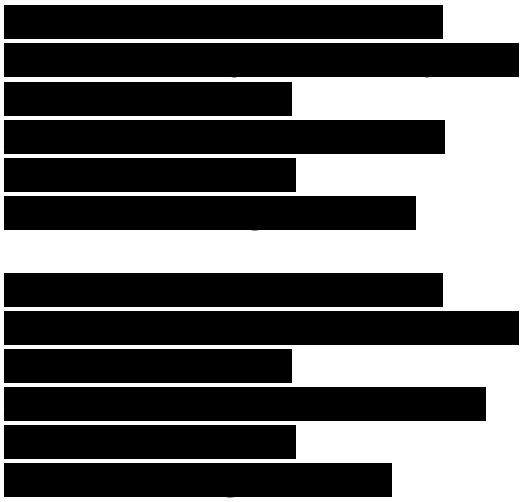
A.9. Additional Benefits

Besides economic benefits, the new 230-kV line between Furnace Run Substation and Perryman Substation also provides reliability benefits and helps to support the system during planned and forced outages of parallel lines.

B. Company Evaluation Information

B.1. Name and Address of Entity and Point of Contact(s)

Questions and comments regarding this proposal should be directed to Randy Satterfield, President of DATC or Laurie Dunham, Vice President of DATC.



B.2. Pre-Qualification Submittal Identification Number

DATC has satisfied the pre-qualification requirements for Designated Entity status as defined in the PJM Amended and Restated Operating Agreement (PJM OA) in Section 1.5.8(a). DATC's PJM pre-qualification ID is Q13-16.

B.3. Additional Company Information

Duke Energy Corporation is a Fortune 250 company with over $100 billion in assets and is the largest electric power holding company in the United States with regulated utility operations serving approximately 7.5 million electric customers in a service territory covering 104,000 square miles in six states in the Southeast and Midwest. Through various subsidiaries, Duke Energy Corporation owns and operates approximately 32,000 miles of transmission lines and 57,700 megawatts of generating capacity from a diverse mix of coal, nuclear, natural gas, oil and renewable resources.

Formed in 2001 as the nation's first multi-state transmission-only utility, American Transmission Co., headquartered in Wisconsin, owns and operates more than 9,540 miles of transmission lines and 548 substations serving portions of Wisconsin, Michigan, Minnesota and Illinois. ATC has grown from $550 million in assets in 2001 to $4.4 billion. ATC has upgraded more than 1,944 miles of transmission line, built more than 620 miles of new line, improved 170 substations, connected 6,000 megawatts of new generation at 24 sites, and saved customers

more than $100 million a year in reduced energy costs with access to the wholesale energy marketplace and lower line losses.

Together, Duke Energy Corporation and ATC own and operate approximately 10 percent of the nation's transmission system, with more than 41,000 miles of lines and $12 billion in transmission assets. DATC's parent companies have successfully routed, permitted and acquired real estate for more than $6 billion in new transmission infrastructure in the last 10 years – more than anyone in the industry. DATC's parent companies have alliances with firms across the country to provide local experience and expertise on a project-specific basis.

DATC has experienced in-house engineering groups and will seek partnerships with external consulting companies when necessary.

DATC's parent companies have significant experience in successfully constructing, maintaining and operating transmission facilities outside of the PJM Region. Additionally, parent company Duke Energy Corporation subsidiaries Duke Energy Ohio and Duke Energy Kentucky joined PJM in 2012 and have operated and maintained facilities within the RTO since then. DATC has a proven track record of identifying and partnering with consultants with local expertise and effectively managing transmission projects from concept to completion.

The following table lists some examples of completed transmission projects by ATC and Duke Energy.

Table 3
American Transmission Co. and Duke Energy.
Completed Transmission Projects

Project Description	Location (County(ies), City(ies), State)	Voltage Level(s)	Length (Miles)	Capital Cost ($M)	Date Placed In Service
ATC					
Bay Lake Project – Michigan A single 58-mile, 138-kV line from the Holmes Substation in Menominee County to the Old Mead Road Substation in Escanaba, Michigan	Menominee County, WI; Delta County, MI	138 kV	58 miles	$93	August 2016
Milwaukee County Project Overhead, Steel Monopole Construction and 0.5 miles Underground Construction; two separate lines	Milwaukee County, WI	138 kV	4 (1.5 & 2.5 miles)	$23	May 2015
Monroe County-Council Creek Overhead, Steel Pole Construction and 1.5 miles of Underground Construction; Rebuilt 69-kV Line, added 161-kV Circuit	Monroe County, WI	161 kV & 69 kV	17	$48	April 2015

Project Description	Location (County(ies), City(ies), State)	Voltage Level(s)	Length (Miles)	Capital Cost ($M)	Date Placed In Service
Paris-Albers Replacement Overhead Wood and Steel Pole Construction	Kenosha County, WI	138 kV	12.5	$9.6	March 2015
Pleasant Prairie-Zion Energy Center Overhead, Steel Monopole Construction	Kenosha County, WI; Lake County, IL	345 kV	5.3	$33	December 2013
Rockdale-West Middleton Overhead, Steel Pole Construction	Dane County, WI	345 kV	32.4	$140	February 2013
Canal-Dunn Road Overhead, Steel Pole Construction	Door County, WI	138 kV	8.0	$14	June 2012
Fitchburg-Verona Overhead, Steel Pole Construction	Dane County, WI	138 kV	6.0	$19 (includes substation costs)	June 2010
Cranberry-Conover-Iron River-Plains Overhead, Steel Pole Construction and 3.5 miles Underground Construction	Vilas, Forest, and Florence Counties, WI and Iron County, MI	138 kV	89.0 (73.0 miles of existing line rebuilt)	$104	March 2010
Paddock-Rockdale Overhead, Steel Pole Construction	Rock and Dane Counties, WI	345 kV	35.0	$111	March 2010
Gardner Park-Central Wisconsin-Morgan-Werner West Overhead, Steel Pole Construction	Marathon, Shawano, Oconto, Waupaca, and Outagamie Counties, WI	345 kV	104.0	$276	December 2009
Jefferson County Reliability Project Overhead, Steel Pole Construction	Jefferson County, WI	138 kV	17.0	$30	October 2009
North Madison-Huiskamp Overhead, Steel Pole Construction	Dane County, WI	138 kV	9.0	$17	April 2009
Arpin-Rocky Run Structure Replacement Overhead, Steel H-Frame	Wood and Portage Counties, WI	345 kV	20.0	$25	May 2008
Arrowhead-Weston Overhead, Steel Pole Construction	Douglas, Washburn, Sawyer, Rush, Chippewa, Taylor, Clark, and Marathon Counties, WI	345 kV	220.0	$439	January 2008

Project Description	Location (County(ies), City(ies), State)	Voltage Level(s)	Length (Miles)	Capital Cost ($M)	Date Placed In Service
DUKE ENERGY (various subsidiaries)					
Kathleen to Zephyr Hills North Overhead, Concrete Pole Construction	Polk County, FL	230 kV	12.7	$18	September 2013
Intercession City to Gifford Overhead, Steel Pole Construction	Osceola County, FL	230 kV	12.3	$23	July 2013
Hines - West Lake Wales Overhead, Steel Pole Construction	Polk County, FL	230 kV	20	$11	November 2011
Charlestown to CMC Overhead, Steel Pole Construction	Clark County, IN	138 kV	8.5	$5	March 2010
Qualitech-Pittsboro Overhead, Steel Pole Construction	Hendricks County, IN	138 kV	2.6	$3	September 2013
Lilesville to Rockingham Overhead, Steel H-Frame	Richmond County, NC	230 kV	9	$12	April 2013
Tap to Warrenton Overhead, Steel Pole CAR-E	Warren County, NC	115 kV	11.5	$6	September 2013

DATC's pre-qualification document on file with PJM describes DATC's capabilities related to being a Designated Entity, including the previous record of adhering to standardized construction, maintenance and operating practices, including the capability for emergency response and restoration of damaged equipment. For more information on either parent company, please refer to the pre-qualification documents.

DATC is responsible for the financial aspects of this Project and has complete financial capability to develop, execute and maintain the Project. As of the time of this submittal, DATC is backed by Duke Energy Corporation and ATC. Many of the responses include information about the parent entities to provide PJM with the most accurate sense of DATC's financial position. ATC is in the process of transferring DATC ownership to ATC's development-focused holding company, ATC Holdco, which is owned, in turn, by ATC's investor-owned utility owners. Duke and ATC are able to provide financial backing for the Project, through the issuance of parental guarantees or other arrangements acceptable to PJM. Recourse would be limited to these arrangements and DATC will comply with all legal and regulatory requirements related to affiliate transactions at both the state and federal levels.

The financial statements of DATC, Duke Energy Corporation, and ATC are included in the following attachments:

- DATC Financial Statements.pdf (for the Years Ended December 31, 2015 and 2014; these are the most current financial statements for DATC)
- Duke Energy Corporation 2016 Q3 Financial Statements.pdf
- Duke Energy Corporation 2015 Financial Statements.pdf
- Duke Energy Corporation 2014 Financial Statements.pdf
- Duke Energy Corporation 2013 Financial Statements.pdf
- ATC FERC Form 3Q Q3 2016.pdf
- ATC 2015 FERC Form 1.pdf
- ATC 2014 FERC Form 1.pdf
- ATC 2013 FERC Form 1.pdf

Upon award of the proposed project, DATC plans to create special purpose entities (DATC Pennsylvania, LLC and DATC Maryland, LLC) which will be project-financed limited liability companies, wholly owned by DATC. As of this submittal, DATC is 50% owned by ATC and 50% owned by Duke Energy Transmission Holding Company, LLC. Duke Energy Transmission Holding Company, LLC, is a wholly-owned subsidiary of Duke Energy Corporation.

DATC will finance 50% of the cost of the Project with debt, consistent with anticipated Federal Energy Regulatory Commission (FERC) ratemaking policy. To ensure that the lowest cost financing is utilized for the Project, DATC has also had discussions with commercial lenders and has received strong interest in financing the Project. The remaining 50% of the cost of the Project will be funded by equity from DATC via Duke Energy Corporation and ATC equally. Upon selection DATC will obtain guarantees for the equity funding necessary to construct the Project from the parent companies, if required.

To illustrate the applicant's ability to procure capital, since inception, DATC has secured more than $71 million in equity capital for development and acquisition activities, including DATC's acquisition of Atlantic Power's economic interest in the Path 15 Upgrade in California in April 2013. Duke Energy Corporation and ATC will provide the necessary guarantees for the equity funding needed to construct the Project.

Additionally, Duke Energy Corporation and ATC have financed numerous projects. Below is a listing of some of the projects Duke and ATC have successfully financed.

Table 4
Sampling of Projects financed by DATC's Parent Entities

Project Description	Financing Structure	Equity and Debt Contribution	Debt Sources	Banks Involved	Capital Cost ($M)
Rockdale-West Middleton Overhead, Steel Pole Construction	Corporate	45.5% Equity and 54.5% Debt	Private Placement	Wells Fargo & US Bank	$140
Gardner Park-Central Wisconsin-Morgan-Werner West Overhead, Steel Pole Construction	Corporate	45.5% Equity and 54.5% Debt	Private Placement	Goldman Sachs, Wachovia and J.P. Morgan	$276
Arrowhead-Weston Overhead, Steel Pole Construction	Corporate	45.5% Equity and 54.5% Debt	Private Placement	LaSalle & Lehman	$439
Lilesville-Rockingham Overhead, Steel H-Frame	Corporate	50% Equity and 50% Debt	A combination of revolving credit and bonds	A variety; top tier partners include, but are not limited to, Wells Fargo, BAML, Barclays, Citibank, JP Morgan, Credit Suisse, RBS and UBS	$12
Hines-West Lake Wales Overhead, Steel Pole Construction	Corporate	50% Equity and 50% Debt	A combination of revolving credit and bonds	A variety; top tier partners include, but are not limited to, Wells Fargo, BAML, Barclays, Citibank, JP Morgan, Credit Suisse, RBS and UBS	$11

DATC is responsible for the financial aspects of this Project and has complete financial capability to develop, execute and maintain the Project. Duke Energy Corporation and ATC are able to provide financial backing for the Project, through the issuance of parental guarantees or other arrangements acceptable to PJM. Recourse would be limited to these arrangements and DATC will comply with all legal and regulatory requirements related to affiliate transactions at both the state and federal levels. Both Duke Energy Corporation and ATC have strong credit ratings from Standard & Poor's and Moody's.

Standard & Poor's

Duke Energy Corporation: A- ATC: A+

Moody's Investor Services

Duke Energy Corporation: Baa1 ATC: A2

DATC will implement procedures and practices of its parent companies regarding timely remedy of failure of facilities. For example, ATC has a very robust forced outage response program as evidenced by its industry performance. In the most recent benchmarking study based on 2015 data, ATC ranked in the top 10 percent of its peer group for reliability performance. In addition, ATC reduced the number of overall unplanned outages on its system by 12% over its last three-year average. In a current industry reliability benchmarking study, ATC earned “best in class” for 100 to 161-kV circuits, and ranked in the top decile for 69-kV circuits. ATC’s five-year average performance demonstrated excellent sustained reliability with top decile rankings at all voltages. The improved performance can be attributed to monitoring leading failure indicators and targeted maintenance and equipment replacement programs. ATC reviews every forced outage that occurs on its system to identify the cause, correct that cause, and implement measures to prevent recurrence where possible. ATC conducts a weekly management-level conference call to review each of these outages and discuss corrective actions.

DATC will have policies, procedures and guidelines that define and dictate forced outage response, including line patrol requirements (planned and unplanned), equipment testing and diagnostic requirements (planned and unplanned), major equipment fault analysis and troubleshooting, and processes for emergency clearance and coordination with other entities, including generation, distribution and transmission. System protection specialists will review every auto-operation associated with an outage to ensure equipment operated correctly and as designed. The system protection engineer will remotely access the event recording devices associated with the affected high-voltage equipment, and download the associated events for all relays that should have operated for the event to support a root cause analysis. All event determinations will be fully documented, including any needed corrective action plans.

For new protective systems, updates to existing protective systems, or emergent coordination concerns, protective system coordination with other entities will follow established detailed procedures of DATC’s parent companies to document the communication and relevant technical data. This process will be fully compliant with NERC PRC-001.

DATC intends to contract out for almost all real estate acquisition activities, including acquiring rights-of-way. DATC’s RFP process for real estate acquisition will include selection criteria such as availability of staff and experience in the local region of the Project. DATC’s parent companies have strong experience with real estate project management and management of contractors for real estate acquisition work. For example, ATC has managed the acquisition of more than 620 miles of new rights-of-way for high- and extra-high voltage transmission lines and has a consistently positive record of working with landowners and a very low condemnation rate.

C. Proposed Project Constructability Information

[REDACTED]

D. Analytical Assessment

[REDACTED]

E. Cost

[REDACTED]

F. Schedule

[REDACTED]

G. Operations/Maintenance

G.1. Previous Experience

DATC relies on its parent companies to provide operations and maintenance specialists who will be assigned to oversee operations as well as the emergency and periodic maintenance of the equipment (both line and substation). These personnel collaborate with the required contracted entities to ensure successful completion of the required work, estimating resources needed, ensuring appropriate materials are available and providing budgetary oversight.

G.2. Intentions for Control Center

DATC is cognizant of the difficulties of remotely operating electric transmission system equipment. Data lag time and limited situational awareness of the surrounding area create reliability concerns, while operating remotely also increases exposure to data security issues. Maintenance of remotely located assets can also pose unique challenges.

G.3. Maintenance Contracts

With these issues in mind, DATC will create operations and maintenance agreements with locally established entities who are positioned to support these types of activities. Operations will be contracted to a local transmission operator; primary operation of the proposed project will therefore be performed from a local operating center.

Maintenance agreements will cover the entire spectrum of maintenance activities required to ensure reliable continuous operation of the facilities. Depending on the particular circumstances, certain maintenance tasks may be bid out to other entities that specialize in particular type of work (ground line inspections, aerial patrols, maintenance of HVDC facilities, etc.). Also, depending upon the scope of the work, additional labor resources may be called upon to assist in completing maintenance projects. This is determined through communication with all affected entities.