INDEPENDENT, INNOVATIVE, RELIABLE TRANSMISSION MANAGEMENT SERVICES

PPL companies

FS-LGE-2016-006
(TSR #82603171)

(Related Child TSR's #82603272, #82603375, #82603514, #82603608, and #82605013)

Facilities Study Report

September 20, 2016

Study & Preliminary Report Completed By:
LG&E and KU Transmission

Report Prepared By:
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Network Service
OASIS #82603171

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1. Executive Summary

A Facilities Study was performed by LG&E and KU for the following request:

Table 1-1
Request Details

Assign Ref	POR	POD	MW	TS Increment	TS Type	Request Type	Start Time	Stop Time	Q-Time
82603171	LGEE	LGEE	17/340	YEARLY	NETWORK	ORIGINAL	05/01/2017	05/01/2027	04/15/2016

TranServ International, Inc. (TranServ) as Independent Transmission Organization (ITO) completed a Transmission Service Request (TSR) System Impact Study (SIS). This study identified constraints to providing the requested transmission service and therefore, issued a Facilities Study agreement.

This request is a Parent TSR. The related Child TSRs are listed in Table 1-2. The Parent TSR is a load TSR and the Child TSRs are required for documenting the Designated Network Resources (DNRs) which will serve the load as given in the customer Network Integration Transmission Service (NITS) Application.

Table 1-2 Related Child TSRs

Assign Ref	POR	POD	MW	TS Increment	TS Type	Request Type	Start Time	Stop Time	Q-Time
82603272	LGEE	LGEE	11	Yearly	Network	Original	05/01/2017	05/01/2027	04/15/2016
82603375	MISO	LGEE	20	Yearly	Network	Original	05/01/2017	05/01/2019	04/15/2016
82603514	MISO	LGEE	200/300	Yearly	Network	Original	05/01/2019	05/01/2027	04/15/2016
82603608	EEI	LGEE	100	Yearly	Network	Original	05/01/2019	05/01/2022	04/15/2016
82605013	TVA	LGEE	33	Yearly	Network	Original	05/01/2019	05/01/2027	04/15/2016

The LG&E and KU Open Access Transmission Tariff (OATT) states that the Facilities Study will include a good faith estimate of: (i) the cost of Direct Assignment Facilities to be charged to the Eligible Customer, (ii) the Eligible Customer's appropriate share of the cost of any Network Upgrades, and (iii) the time required to complete such construction and initiate the requested service.

LG&E and KU Transmission performed a Facilities Study for the subject request and TranServ has reviewed the Facilities Study results and a draft Facilities Study report from LG&E and KU and prepared this final report in accordance with the LG&E and KU OATT.

2. Facilities Study Results from LG&E and KU

2.1 Direct Assignment Facilities

The network loads served through this request are all served from existing delivery points. Therefore, no new Direct Assignment Facilities were identified.

2.2 Network Upgrades

TranServ completed a TSR SIS and identified a reliability margin constraint shown in Table 2-1 for providing the requested transmission service for the subject request.

Table 2-1
2026 Summer Peak LG&E and KU Reliability Margin Constraint

Facility	Rating N/E	Pre TSR		Post TSR		DF	MVA Impact
		MVA	%	MVA	%		
West Lexington 345/138 kV	515	486.8	94.5	511.6	99	13%	45

LG&E/KU performed a Facilities Study and determined that mitigation of the reliability margin constraint can be achieved through implementation of the project described in the Table 2-2.

Table 2-2
Mitigation Descriptions and Cost Estimates

Facility to Mitigate	Mitigation Needed By	Mitigation	Cost ($k)	Expected In-Service Date
West Lexington 345/138 kV	2021S	Install second 345/138 kV transformer and associated terminal equipment at West Lexington.	11,000	5/2021

The Transmission Customer’s share of the Network Upgrades cost is $0.

2.3 Project Completion Timeframes

The completion of the Network Upgrade for this TSR is expected to be complete by May 30, 2021.