



INDEPENDENT, INNOVATIVE, RELIABLE TRANSMISSION MANAGEMENT SERVICES

**TSR LGE-2016-009**  
**(TSR #83133530)**  
**System Impact Study Report**  
**Executive Summary**

**PROPRIETARY**

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## 1. Executive Summary

TranServ has evaluated the Long-Term Firm Network Transmission Service Request (TSR) listed in Table 1-1. A System Impact Study (SIS) was performed to determine the impact of this TSR on the transmission network, to determine if any transmission constraints prohibit granting the requested service and to identify any limiting constraints. This report documents that SIS.

**Table 1-1  
 Request Details**

Assign Ref	POR	POD	MW	TS Increment	TS Type	Request Type	Start Time	Stop Time	Q-Time
83133530	LGEE	LGEE	9	Yearly	Network	Original	01/01/2017	12/31/2024	07/22/2016

As shown in Table 1-1, TSR #83133530 (TSR LGE-2016-009) is a yearly network request for 9 MW.

This TSR SIS was performed using the fast track TSR methodology. No Ad Hoc Study Group was formed and no flowgate analysis was performed in accordance with the LG&E and KU TSR Study Criteria document posted on the LG&E and KU Open Access Same-Time Information System (OASIS). Also no off-peak analysis was performed as part of this fast track study.

As given in the LG&E and KU TSR Study Criteria Document, posted on the LG&E and KU OASIS, TSR SISs include both near-term and out year models. Due to the nature of the Network Integrated Transmission Service (NITS) application, the subject TSR was evaluated using 2016 winter peak, 2017 summer peak, and 2026 summer and winter peak power flow models based on the LG&E and KU 2017 Base Case Study (BCS) r20160307 models (2017 BCS Models).

All appropriate prior queued transactions were modeled prior to the modeling of the subject request. Representation of these earlier queued requests may also have necessitated the representation of associated planned transmission improvements. Thus, it is important to note that, if the planned improvements do not come to fruition, the subject request's impact on the transmission system as identified by this study may become invalid and a revised study may become necessary before transmission service can be granted.

The subject request starts within the posted Available Transfer Capability (ATC)/Available Flowgate Capability (AFC)/Available Share of Total Flowgate Capability (ASTFC) horizons, an OASIS ATC/AFC/ASTFC check was performed.

## 1.1 Summary of Power Flow Analysis Results

### 1.1.1 Thermal Constraints

The LG&E and KU thermal constraints, due to the subject request, are given in Table 1-2.

**Table 1-2  
 LG&E and KU Thermal Constraints**

Year Season	Facility	Rating	Pre TSR		Post TSR		DF
			MVA	%	MVA	%	
2017S	Trimble County - Clifty Creek 345 kV line	1451	1486	102	1490	103	47%

No third party thermal constraints, impacted by the subject request, were found.

### 1.1.2 Voltage Constraints

No system intact or contingency voltage constraints, impacted by the subject request, were found.

### 1.1.3 LG&E and KU Reliability Margin Constraints

No LG&E and KU reliability margin constraints, impacted by the subject request, were found.

### 1.1.4 Non-LG&E and KU Flowgate Constraints

Consistent with LG&E and KU's fast track TSR methodology, no flowgate analysis was performed.

## 1.2 Summary of ATC/AFC/ASTFC Check Results

No ATC, AFC, and ASTFC constraints due to the subject request were found.

## 1.3 Conclusion

One LG&E AND KU constraint has been identified for the subject TSR as shown in Table 1-2. However LG&E and KU has determined that this constraint will be mitigated by an existing operating guide. Thus the granting of this request is not contingent upon LG&E and KU system upgrades. However, the Transmission Owner (TO) has determined that direct assignment facilities are required for this request. LG&E and KU has provided a good faith estimate of the cost to provide the direct assignment facilities. LG&E and KU's non-binding planning level cost estimate is **\$450,001 USD**. These costs are further discussed in Section 6 of the full report. Since this TSR was studied under the fast track process, no Facilities Study will be performed.

No third party constraints have been identified. Thus no third party mitigation is required.

The full report is available on the LG&E and KU Critical Energy Infrastructure Information (CEII) File Transfer Protocol (FTP) site. See the study report title posting on OASIS for instructions pertaining to accessing the LG&E and KU CEII FTP site. The LG&E and KU secure CEII FTP site URL is: <https://eft.lge-ku.com/EFTClient/Account/Login.htm>.