Cleco Power LLC

System Impact Study for Transmission Reservation Request

OASIS Request 72310139

The purpose of this study is to determine the availability of transfer capability across Cleco Power LLC's transmission system. This study will determine the ability to accommodate OASIS Request 72310139 for 1160 MW of Yearly Firm Network Transmission Service beginning January 1, 2010 through January 1, 2040.

This study was performed using the base case models identified in the table below. The studies were run using Siemens® PSS/e version 30 and MUST version 8.3 programs. Power flow models were developed to reflect anticipated operational conditions, including load, generation, extended outages and confirmed firm transactions, from January 1, 2010 through January 1, 2040.

Modifications to the base cases were made to reflect the latest information available. Changes that were made include the following:

1. Existing network resource generation in the sink control area was re-dispatched to allow for the transaction.
2. Customer's resources were re-dispatched to allow the transaction.
3. Cleco load was scaled to reflect the latest load forecast.
4. Confirmed firm transmission reservations were modeled for the year 2010 - 2040.

If the flow on a monitored facility exceeds 100% of its emergency rating under normal and single contingency conditions with the transfer in place, the loading on the facility will be compared with the loading prior to the transfer. If the transfer causes an increase in flow greater than 3.0%, the facility is expected to require improvement.

Furthermore, if the transfer results in transmission bus voltage levels falling below criteria under single contingency conditions, then voltage support facility additions must be constructed.

With confirmed transactions, the ATC analysis indicates that the transaction is limited by the following facilities with an impact greater than 3.0%. These limiting elements must be upgraded to eliminate the transfer constraints they cause.

Study Results

ATC values were calculated for the study period and are listed below along with the limiting and contingency element. Due to the closely interconnected nature with neighboring systems, violations identified in directly interconnected transmission systems ("Affected System") will require an Affected System impact study and/or proof of Confirmed Firm Transmission service with the identified Affected System(s) prior to the granting of transmission service.

Identified Affected System: Entergy

Sensitivity
This study was performed with the sensitivity of including a proposed joint project in south Louisiana. This project is projected to be constructed in two phases in which phase 1 will be in service in 2011 and phase 2 in 2013. The overloads identified in 2010 below are eliminated with the construction of phase 1 in 2011.

This transmission service request exceeds the contract path limit between the source generator and Cleco Power's Transmission system. Therefore, transmission service must be purchased from Entergy in order for the full 1160 MW to be delivered into Cleco. Additional transmission facilities could be constructed to increase the contract path limit between the source generator and Cleco Power's Transmission system. However, the addition of assets to increase the contract path limit was not addressed in this analysis.

Year	Limiting Element	Contingency Element	ATC (MW)
2010	#Greenwood to Terrebonne 115 kV line	Teche Unit #3	0
2010	#Semere to Scott 138 kV line	Wells to Pont Des Mouton 230 kV line	0
2010	#Semere to Scott 138 kV line	Pont Des Mouton to Labbe 230 kV line	0
2010	#N. Crowley to Scott 138 kV line	Wells to Pont Des Mouton 230 kV line	0
2010	#Judice to Scott 138 kV line	Flanders to Hopkins 138 kV line	0
2010	#N. Crowley to Scott 138 kV line	Pont Des Mouton to Labbe 230 kV line	0
2010	#Judice to Scott 138 kV line	Greenwood to Terrebonne 115 kV line	148.0
2010	Flanders to Hopkins 138 kV line	Teche Unit #3	188.7
2010	#Judice to Meaux 138 kV line	Flanders to Hopkins 138 kV line	319.9
2010	#Richard to Col. Academy 138 kV line	Wells to Pont Des Mouton 230 kV line	337.9
2010	#Judice to Scott 138 kV line	Greenwood to Humphry 115 kV line	360.3
2010	#Moril to Cecelia 138 kV line	Teche Unit #3	387.9
2010	#Richard to Col. Academy 138 kV line	Pont Des Mouton to Labbe 230 kV line	425.7
2010	#Richard to Scott 138 kV line	Wells to Pont Des Mouton 230 kV line	430.5
2010	#Moril to Cecelia 138 kV line	Flanders to Hopkins 138 kV line	475.7
2010	Wells 230/500 kV Auto	RPS 3	527.5
2010	#Col. Academy to Acadia(GSU) 138 kV line	Wells to Pont Des Mouton 230 kV line	539.4
2010	#Judice to Meaux 138 kV line	Greenwood to Terrebonne 115 kV line	567.0
2010	Wells 230/500 kV Auto	Rodemacher Unit #2	603.0
2010	#Col. Academy to Acadia(GSU) 138 kV line	Pont Des Mouton to Labbe 230 kV line	623.1
2010	Richard to Habetz 138 kV line	Wells to Pont Des Mouton 230 kV line	627.1
2010	#Acadia(GSU) to Scanlin 138 kV line	Wells to Pont Des Mouton 230 kV line	648.3
2010	Richard to Habetz 138 kV line	Pont Des Mouton to Labbe 230 kV line	743.4
2010	#Richard to Scott 138 kV line	N. Crowley to Richard 138 kV line	746.0
2010	#Moril to Cecelia 138 kV line	Judice to Scott 138 kV line	772.3
2010	#Semere to Scott 138 kV line	Base Case	835.5
2010	#N. Crowley to Richard 138 kV line	Richard to Scott 138 kV line	873.2
2010	#N. Crowley to Richard 138 kV line	Wells 230/500 kV Auto	928.1
2010	#Acadia(GSU) to Scanlin 138 kV line	Wells 230/500 kV Auto	951.0
2010	Richard to Eunice 138 kV line	Wells 230/500 kV Auto	1074.4
2011	#Scott to Semere 138 kV line	Richard 500/230 kV Auto	879.9
2011	#Scott to Semere 138 kV line	Richard to Sellers Rd. 230 kV line	877.7
2011	#N. Crowley to Scott 138 kV line	Richard to Scott 138 kV line	1063.2
2011	#Scott to Semere 138 kV line	Wells 500/230 kV Auto	1113.4

Limiting Element Notations:
Limiting elements on Entergy's transmission system which cause Entergy to be an Affected System.

The following transmission bus voltage levels fall below planning criteria (0.92 p.u. under N-1) as a direct result of the transaction for certain single contingencies. Affected busses and their worst offending single contingency are provided below.

Year	Bus Voltage Violations	Contingency Element	Bus Voltage (P.U.)
	No Cleco Facility Limit		

Upgrade Cost Estimates
Upgrade cost estimates are planning estimates for transmission facilities owned by Cleco Power and/or tie lines jointly owned by Cleco Power and City of Alexandria and are listed below.

A facility study will provide detailed cost estimates and solutions for the required upgrades on the limiting elements. Facility study results may be different due to transmission system configuration changes and/or prior OASIS requests in the facilities study phase. Facilities owned by others will require a system impact study and a facility study to obtain estimates of costs of required upgrades on the systems owned by others.

Limiting Elements	Planning Estimate for Upgrade	Year Needed
No Cleco Limiting Element		

Summary of System Impact Study Results:

OASIS Request	Period	Cases Used	Capacity (MW)	ATC Available	Conditional Firm ATC Available
72310139	January 1, 2010- January 1, 2011	2010 Summer Peak	0	No	
72310139	January 1, 2011- January 1, 2013	2011 Summer Peak	*600	No	
72310139	January 1, 2013- January 1, 2040	2013 Summer Peak 2018 Summer Peak	*600	No	

* Contract path limit of 600 MW exist from source generator to Cleco Power transmission system.

The requested transfer capability is available for the transactions specified in the study as stated below,

OASIS Request 72310139: January 1, 2010 through January 1, 2011 0 MW

Total: 0 MW

OASIS Request 72310139:	January 1, 2011 through January 1, 2013		879 MW
		Total:	879 MW
OASIS Request 72310139:	January 1, 2013 through January 1, 2040		1160 MW
		Total:	1160 MW

These results are based upon the most recent information available at the time of the study. TTC and ATC values obtained in the study are for Cleco Power's transmission system and are subject to change as a result of any modifications to the assumptions utilized in the study.

The results of this study indicate violations within Entergy's transmission system. Accordingly, an Affected System study is required to be performed by Entergy.