

# Cleco Power LLC

## System Impact Study for Transmission Request

March 2008

Oasis Request 71853931

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 the Oasis Reservation # 71853931 for 580 MW of Firm Yearly Network Transmission Service beginning January 1, 2010 through January 1, 2013.

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, 2013.

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 years 2010–2013.

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. Only Cleco Transmission elements are identified in this report. Due to the closely interconnected nature with neighboring control areas, violations in neighboring control areas ("Affected System") will require an Affected System study or proof of Confirmed Firm Transmission service with the identified Affected System in order to grant this transmission service request.

Affected System: Entergy

Year	Limiting Element	Contingency Element	ATC (MW)
2010	SW Bayou Rapides to Twin Bridges 138 kV line	Pineville 230/138 kV Auto	0

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 Projects

Upgrade costs are planning estimates for transmission facilities owned by Cleco Power and/or tie lines. A facility study will provide detailed cost estimates and solutions for 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. External facilities will require a system impact study or a partial facility study to obtain estimates.

Limiting Element	Planning Estimate for Upgrade	Year Needed
SW Bayou Rapides to Twin Bridges 138 kV line	\$24,000,000	2010

