



***Feasibility Study
PID 291
27 MW Plant***

Prepared by:

***Southwest Power Pool
Independent Coordinator of Transmission
415 N. McKinley, Suite 140
Little Rock, AR 72205***

Rev	Issue Date	Description of Revision	Revised By	Project Manager
0	10/8/12	Post Feasibility Study	EC	BR
1	10/17/12	Customer Requested Format Edits. Reclassified Jacinto-Splendora 138kV upgrade in Tables 3.3.2, 3.3.3, and 3.3.4 from Supplemental to Base Plan. Reclassified Caney Creek-Lewis Creek in Table 3.3.3 from Base Plan to Supplemental.	EC	BR

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Energy Resource Interconnection Service

1. Introduction

This Energy Resource Interconnection Service (ERIS) is based on the PID 291 request for a 27MW interconnection on Entergy's transmission system located at the Rich 138kV substation. The proposed commercial operation date of the project is December 31, 2014. The objective of this study is to assess the reliability impact of the new facility on the Entergy transmission system as well as its effects on the system's existing short circuit current capability. It is also intended to determine whether the transmission system meets standards established by NERC Reliability Standards and Entergy's planning guidelines when the plant is connected to Entergy's transmission system. If not, transmission improvements will be identified.

The Feasibility Study process required a load flow analysis to determine if the existing transmission lines are adequate to handle the full output from the plant for simulated transfers to adjacent control areas. A short circuit analysis is performed to determine if the generation would cause the available fault current to surpass the fault duty of existing equipment within the Entergy transmission system.

This ERIS Feasibility Study was based on information provided by the Customer and assumptions made by Entergy's Independent Coordinator of Transmission (ICT) planning group and Entergy's Transmission Technical System Planning group. All supplied information and assumptions are documented in this report. If the actual equipment installed is different from the supplied information or the assumptions made, the results outlined in this report are subject to change.

The load flow results from the ERIS study are for information only. ERIS does not in and of itself convey any transmission service.

2. Short circuit Analysis/Breaker Rating Analysis

2.1 Model Information

The short circuit analysis was performed on the Entergy system short circuit model using ASPEN software. This model includes all generators interconnected to the Entergy system or interconnected to an adjacent system and having an impact on this interconnection request, IPP's with signed IOAs, and approved future transmission projects on the Entergy transmission system.

2.2 Short Circuit Analysis

The method used to determine if any short circuit problems would be caused by the addition of the PID 291 generation is as follows:

Three phase and single phase to ground faults were simulated on the Entergy base case short circuit model and the worst case short circuit level was determined at each station. The PID 291 generator was then modeled in the base case to generate a revised short circuit model. The base case short circuit results were then compared with the results from the revised model to identify any breakers that were under-rated as a result of additional short circuit contribution from PID 291 generation. Any breakers identified to be upgraded through this comparison are mandatory upgrades.

2.3 Analysis Results

The results of the short circuit analysis indicated that the additional generation due to PID 291 generation caused no increase in short circuit current such that they exceeded the fault interrupting capability of the high voltage circuit breakers within the vicinity of the PID 291 plant **with and without priors**. Priors included are: PID 247, PID 287 and PID 289.

2.4 Problem Resolution

As a result of the short circuit analysis findings, no resolution was required.

3. Load Flow Analysis

3.1 Model Information

The load flow analysis was performed based on the projected 2017 summer peak load flow model. Approved future transmission projects in the 2012 ICT Base Plan were used in the models for scenarios three and four. These upgrades can be found on Entergy's OASIS web page at <http://www.oatioasis.com/EES/EESDocs/Disclaimer.html>.

The loads were scaled based on the forecasted loads for the year. All firm power transactions between Entergy and its neighboring control areas were modeled for the year 2017 excluding short-term firm transactions on the same transmission interface. An economic dispatch was carried out on Entergy generating units after the scaling of load and modeling of transactions. The PID 291 generation interconnection point was modeled at the Rich 138kV substation. These associated facilities were then modeled in the case to build a revised case for the load flow analysis. Transfers were simulated between thirteen (13) control areas and Entergy using the requesting generator as the source and adjacent control area as sink.

This study considered the following four scenarios:

Scenario No.	Approved Future Transmission Projects	Pending Transmission Service & Study Requests
1	Not Included	Not Included
2	Not Included	Included
3	Included	Not Included
4	Included	Included

The generator step-up transformers, generators, and interconnecting lines were modeled according to the information provided by the customer.

3.2 Load Flow Analysis

3.2.1 Load Flow Analysis:

The load flow analysis was performed as a DC analysis using PSS/E and PSS/MUST software by Power Technologies Incorporated (PTI). A Transmission Reliability Margin (TRM) value that effectively reduced line ratings by 5% was used in the model. With the above assumptions implemented, the First Contingency Incremental Transfer Capability (FCITC) values are calculated. The FCITC depends on various factors – the system load, generation dispatch, scheduled maintenance of equipment, and the configuration of the interconnected

system and the power flows in effect among the interconnected systems. The FCITC is also dependent on previously confirmed firm reservations on the interface. The details of each scenario list each limiting element, the contingency for the limiting element, and the Available Transfer Capacity (ATC). The ATC is equal to the FCITC.

3.2.2 Performance Criteria

The criteria for overload violations are as follows:

A) With All Lines in Service

- The MVA flow in any branch should not exceed Rate A (normal rating).

B) Under Contingencies

- The MVA flow through any facility should not exceed 95% Rate A.

3.3 Analysis Results

Summary of the analysis results are documented in following table for each scenario.

Table 3.3.1: Summary of Results for PID 291 – ERIS Load Flow Study

Interface		Summer Peak Case Used	FCITC Available for Scenario 1	FCITC Available for Scenario 2	FCITC Available for Scenario 3	FCITC Available for Scenario 4
AECI	Associated Electric Cooperative, Inc.	2017	-4	-21	21	27
AEPW	American Electric Power West	2017	-575	-22	-570	-11
AMRN	Ameren Transmission	2017	-4	-21	22	27
CLEC	CLECO	2017	27	-20	27	27
EAI	Entergy Arkansas	2017	-3	-21	18	27
EES	Entergy LA., TX., and N.O.	2017	27	-20	27	27
EESLoad	Entergy System Load	2017	-135	-19	-139	27
EMI	Entergy Mississippi	2017	27	-20	27	27
EMDE	Empire District Electric Co	2017	-1052	-21	-1044	-19
LAFSA	Lafayette Utilities System	2017	-852	-277	-785	-193
LAGN	Louisiana Generating, LLC	2017	27	-20	27	27
LEPA	Louisiana Energy & Power Authority	2017	-1635	-2051	-880	-225
OKGE	Oklahoma Gas & Electric Company	2017	-871	-21	-864	-16
SMEPA	South Mississippi Electric Power Assoc.	2017	-748	-969	27	-41
SOCO	Southern Company	2017	27	-21	27	27
SPA	Southwest Power Administration	2017	-3	-21	20	27
TVA	Tennessee Valley Authority	2017	27	-21	27	27

TABLE 3.3.2: DETAILS OF SCENARIO 1 RESULTS (WITHOUT FUTURE PROJECTS AND WITHOUT PENDING TRANSMISSION SERVICE & STUDY REQUEST)

Limiting Elements	Est. Cost	AECI	AEPW	AMRN	CLECO	EAI	EES	EES Load	EMDE	EMI	LAF A	LAGN	LEPA	OKGE	SMEPA	SOCO	SPA	TVA
Champagne - Plaisance (CLECO) 138kV	Included in 2012 ICT BP										X		X					
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Other Ownership										X		X					
Fancy Point - Port Hudson 230kV ckt 1	210,000												X					
Fancy Point - Port Hudson 230kV ckt 2													X					
International Paper - Mansfield 138kV (CLECO)	Other Ownership		X						X					X				
International Paper - Wallake 138kV (CLECO)	Other Ownership		X						X					X				
Jacinto - Splendor a 138kV	Included in 2012 ICT BP		X					X										
Ray Braswell - West Jackson 115kV	Included in 2012 ICT BP														X			
Vatican - Scott1 138kV	Included in 2012 ICT BP												X					
Winnfield 230/115kV transformer	6,560,000	X	X	X		X			X					X			X	

TABLE 3.3.3: DETAILS OF SCENARIO 2 RESULTS (WITHOUT FUTURE PROJECTS AND WITH PENDING TRANSMISSION SERVICE & STUDY REQUEST)

Limiting Elements	Est. Cost	AECI	AEPW	AMRN	CLECO	EAI	EES	EES Load	EMDE	EMI	LAFA	LAGN	LEPA	OKGE	SMEPA	SOCO	SPA	TVA
Caney Creek - Lewis Creek SES 138kV	1,200,000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Champagne - Plaisance (CLECO) 138kV	Included in 2012 ICT BP										X		X					
Cleveland - Tarking 138kV	11,500,000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Florence - South Jackson 115kV - Supplemental Upgrade	Committed to by Others														X			
International Paper - Mansfield 138kV (CLECO)	Other Ownership		X						X					X				
Jacinto - Splendora 138kV	Included in 2012 ICT BP		X					X										
Jackson Miami - Rex Brown-W 115kV	2,800,000														X			
Ray Braswell - West Jackson 115kV	Included in 2012 ICT BP														X			
South Jackson - West Jackson 115kV	6,200,000														X			
Vatican - Scott1 138kV	Included in 2012 ICT BP												X					

TABLE 3.3.4: DETAILS OF SCENARIO 3 RESULTS (WITH FUTURE PROJECTS AND WITHOUT PENDING TRANSMISSION SERVICE & STUDY REQUEST)

Limiting Elements	Est. Cost	AECI	AEPW	AMRN	CLECO	EAI	EES	EES Load	EMDE	EMI	Lafa	LAGN	LEPA	OKGE	SMEPA	SOCO	SPA	TVA
Champagne - Plaisance (CLECO) 138kV	Included in 2012 ICT BP										X		X					
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Other Ownership										X		X					
Fancy Point - Port Hudson 230kV ckt 1	210,000												X					
International Paper - Mansfield 138kV (CLECO)	Other Ownership		X						X					X				
International Paper - Wallake 138kV (CLECO)	Other Ownership		X						X					X				
Jacinto - Splendora 138kV	Included in 2012 ICT BP		X					X										
Winnfield 230/115kV transformer	6,560,000	X	X	X		X			X					X			X	

TABLE 3.3.5: DETAILS OF SCENARIO 4 RESULTS (WITH FUTURE PROJECTS AND WITH PENDING TRANSMISSION SERVICE & STUDY REQUEST)

Limiting Elements	Est. Cost	AECI	AEPW	AMRN	CLECO	EAI	EES Load	EES	EMDE	EMI	LAFA	LAGN	LEPA	OKGE	SMEPA	SOCO	SPA	TVA
Champagne - Plaisance (CLECO) 138kV	Other Ownership										X		X					
Florence - South Jackson 115kV - Supplemental Upgrade	Committed to by Others														X			
International Paper - Mansfield 138kV (CLECO)	Other Ownership		X						X					X				

APPENDIX A: Approved Projects and Transactions in Study Mode

Prior Generation Interconnection NRIS requests that were included in this study:

PID	Substation	MW	In Service Date
PID 247	Stowell 138kV	180	10/1/2010
PID 287	Lewis Creek 138kV	340	12/1/2009
PID 289	Jacinto 230kV	425	1/1/2017

Prior transmission service requests that were included in this study:

OASIS		PSE	MW	Begin	End
74846159		AEPM	65	1/1/2015	1/1/2020
75206836		ETEC	125	1/1/2015	1/1/2020
76235101		NRG Power Marketing	450	1/1/2014	1/1/2024
76523750		SRMP	180	6/1/2012	6/1/2018
76523753		SRMP	30	6/1/2012	6/1/2016
76523754		EWOM	45	6/1/2012	6/1/2016
76744419		SMEPA	280	1/1/2014	1/1/2025
76794133	undesignation	NRG Power Marketing	1	1/1/2014	1/1/2022
76794134	undesignation	NRG Power Marketing	1	1/1/2014	1/1/2022
76794135	undesignation	NRG Power Marketing	1	1/1/2014	1/1/2022
76794138	undesignation	NRG Power Marketing	1	1/1/2014	1/1/2022
76794140		NRG Power Marketing	309	1/1/2014	1/1/2019
76794150	undesignation	NRG Power Marketing	1	1/1/2014	1/1/2019
76794151		NRG Power Marketing	309	1/1/2014	1/1/2019
76902738		CPWM	80	1/1/2013	1/1/2018
76975184		Entergy Services (SPO)	28	1/1/2013	1/1/2033
77011417		NRG Power Marketing	1	6/1/2014	6/1/2019
77011419		NRG Power Marketing	110	6/1/2014	6/1/2019
77025018		Entergy Services (SPO)	9	1/1/2013	1/1/2033
77161524		Entergy Services (SPO)	495	1/1/2014	1/1/2017
77176931		NRG Power Marketing	525	6/1/2014	6/1/2024
77184456		Entegra Power (PUPP)	515	5/1/2015	5/1/2020
SPP 74240998_1004_1007_1231_1265		AEP	20-116	1/1/2011	1/1/2020
SPP 75191922		AEP	70-73	6/1/2014	6/1/2019
SPP 76213455		AEPM	31	12/1/2012	12/1/2032

APPENDIX B: Details of Scenario 1 - 2017

AECI

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-4

AEPW

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-575
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-328
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	-129
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	-129
Jacinto - Splendora 138kV	Porter - China/Porter 230kV Series Compensation	-75
Jacinto - Splendora 138kV	Porter 230/138/13.8kV 3 Winding Transformer	-73
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-3

AMRN

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-4

CLECO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EAI

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-3

EESSLoad

Limiting Element	Contingency Element	ATC
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	-135
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	-135
Jacinto - Splendora 138kV	Porter - China/Porter 230kV Series Compensation	-79
Jacinto - Splendora 138kV	Porter 230/138/13.8kV 3 Winding Transformer	-76

EES

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EMDE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-1052
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-601
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-4

EMI

Limiting Element	Contingency Element	ATC
NONE	NONE	27

Lafa

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-852
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-678
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-590
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-386
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-213
Coughlin (CLECO) - Plaisance 138kV (CLECO)	West Fork - Wells 230kV	-124

LAGN

Limiting Element	Contingency Element	ATC
NONE	NONE	27

LEPA

Limiting Element	Contingency Element	ATC
Vatican - Scott1 138kV	Coughlin (CLECO) - Plaisance 138kV (CLECO)	-1635
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-992
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-790
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-687
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-450
Champagne - Plaisance (CLECO) 138kV	Vatican - Scott1 138kV	-335

Limiting Element	Contingency Element	ATC
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-248
Coughlin (CLECO) - Plaisance 138kV (CLECO)	West Fork - Wells 230kV	-145
Fancy Point - Port Hudson 230kV ckt 1	Fancy Point - Port Hudson 230kV ckt 2	-70

OKGE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-871
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-497
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-3

SMEPA

Limiting Element	Contingency Element	ATC
Ray Braswell - West Jackson 115kV	South Jackson 230/115kV transformer 1	-748

SOCO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

SPA

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	-3

TVA

Limiting Element	Contingency Element	ATC
NONE	NONE	27

APPENDIX C: Details of Scenario 2 – 2017

AECI

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

AEPW

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-22
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-10
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	2
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	2

AMRN

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

CLECO

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

EAI

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

EESSLoad

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-19
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	3
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	3

EES

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-4

EMDE

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-18
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

EMI

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

Lafa

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-277
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-101
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-19
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-11
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

LAGN

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

LEPA

Limiting Element	Contingency Element	ATC
Vatican - Scott1 138kV	Coughlin (CLECO) - Plaisance 138kV (CLECO)	-2051
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-337
Champagne - Plaisance (CLECO) 138kV	Vatican - Scott1 138kV	-207
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-123
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-14
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

OKGE

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-15
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

SMEPA

Limiting Element	Contingency Element	ATC
Ray Braswell - West Jackson 115kV	South Jackson 230/115kV transformer 1	-969
Jackson Miami - Rex Brown-W 115kV	South Jackson 230/115kV transformer 1	-103
Florence - South Jackson 115kV - Supplemental Upgrade	Bogalusa - Adams Creek 500/230kV transformer	-36
Florence - South Jackson 115kV - Supplemental Upgrade	Bogalusa - Franklin 500kV	-36
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-20
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3
South Jackson - West Jackson 115kV	South Jackson 230/115kV transformer 1	7

SOCO

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

SPA

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

TVA

Limiting Element	Contingency Element	ATC
Cleveland - Tarking 138kV	Porter - New Caney 138kV	-21
Caney Creek - Lewis Creek SES 138kV	Alden - Lewis Creek SES 138kV	-3

APPENDIX D: Details of Scenario 3 – 2017

AECI

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	21

AEPW

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-570
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-324
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	-133
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	-133
Jacinto - Splendora 138kV	Porter - China/Porter 230kV Series Compensation	-79
Jacinto - Splendora 138kV	Porter 230/138/13.8kV 3 Winding Transformer	-77
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	19

AMRN

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	22

CLECO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EAI

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	18

EESSLoad

Limiting Element	Contingency Element	ATC
Jacinto - Splendora 138kV	China - China/Porter 230kV Series Compensation	-139
Jacinto - Splendora 138kV	China/Porter - China/Porter 230kV Series Compensation ckt 2	-139
Jacinto - Splendora 138kV	Porter - China/Porter 230kV Series Compensation	-83
Jacinto - Splendora 138kV	Porter 230/138/13.8kV 3 Winding Transformer	-80

EES

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EMDE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-1044
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-592
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	20

EMI

Limiting Element	Contingency Element	ATC
NONE	NONE	27

Lafa

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-785
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-598
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-503
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-279
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-92
Coughlin (CLECO) - Plaisance 138kV (CLECO)	West Fork - Wells 230kV	3

LAGN

Limiting Element	Contingency Element	ATC
NONE	NONE	27

LEPA

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-880
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-671
Champagne - Plaisance (CLECO) 138kV	West Fork - Wells 230kV	-564
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-313
Coughlin (CLECO) - Plaisance 138kV (CLECO)	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-104
Fancy Point - Port Hudson 230kV ckt 1	Fancy Point - Port Hudson 230kV ckt 2	-10
Coughlin (CLECO) - Plaisance 138kV	West Fork - Wells 230kV	3

Limiting Element	Contingency Element	ATC
(CLECO)		

OKGE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-864
International Paper - Wallake 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-491
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	20

SMEPA

Limiting Element	Contingency Element	ATC
NONE	NONE	27

SOCO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

SPA

Limiting Element	Contingency Element	ATC
Winnfield 230/115kV transformer	Clarence (CLECO) - Montgomery 230kV	20

TVA

Limiting Element	Contingency Element	ATC
NONE	NONE	27

APPENDIX E: Details of Scenario 4 – 2017

AECI

Limiting Element	Contingency Element	ATC
NONE	NONE	27

AEPW

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-11

AMRN

Limiting Element	Contingency Element	ATC
NONE	NONE	27

CLECO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EAI

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EESLoad

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EES

Limiting Element	Contingency Element	ATC
NONE	NONE	27

EMDE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-19

EMI

Limiting Element	Contingency Element	ATC
NONE	NONE	27

LAFA

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-193
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-4

LAGN

Limiting Element	Contingency Element	ATC
NONE	NONE	27

LEPA

Limiting Element	Contingency Element	ATC
Champagne - Plaisance (CLECO) 138kV	Cocodrie (CLECO) - Vil Plat (CLECO) 230kV	-225
Champagne - Plaisance (CLECO) 138kV	Vil Plat (CLECO) - West Fork (CLECO) 230kV	-5

OKGE

Limiting Element	Contingency Element	ATC
International Paper - Mansfield 138kV (CLECO)	Dolet Hills (CLECO) - S.W. Shreevport 345kV (CLECO)	-16

SMEPA

Limiting Element	Contingency Element	ATC
Florence - South Jackson 115kV - Supplemental Upgrade	Bogalusa - Adams Creek 500/230kV transformer	-41
Florence - South Jackson 115kV - Supplemental Upgrade	Bogalusa - Franklin 500kV	-41

SOCO

Limiting Element	Contingency Element	ATC
NONE	NONE	27

SPA

Limiting Element	Contingency Element	ATC
NONE	NONE	27

TVA

Limiting Element	Contingency Element	ATC
NONE	NONE	27