

# **ECONOMIC STUDY**

**ICTES-2011-001**

## **INFORMATION ONLY**

### **Follow Up Information**

Prepared for:

**Entergy Service, Inc. (SPO)  
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GDS Associates, Inc. (GDS), as agent of  
East Texas Electric Cooperative, Inc. (“ETEC”),  
Tex-La Electric Cooperative of Texas, Inc. (TEXL), and  
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## TABLE OF CONTENTS

<b>1. QUARRY – RIVTRIN PROJECTS .....</b>	<b>5</b>
1.1    2015 Top 5 Congested Flowgates by Cost .....	5
1.1.1    Base Case .....	5
1.1.2    Change Case.....	5
1.2    2015 Top 5 Congested Flowgates by Hours .....	5
1.2.1    Base Case .....	5
1.2.2    Change Case.....	5
1.3    2020 Top 5 Congested Flowgates by Cost .....	6
1.3.1    Base Case .....	6
1.3.2    Change Case.....	6
1.4    2020 Top 5 Congested Flowgates by Hours .....	6
1.4.1    Base Case .....	6
1.4.2    Change Case.....	6
1.5    GridView Differences .....	7
1.5.1    2015.....	7
1.5.2    2020.....	9
1.6    APC Breakdown.....	11
1.6.1    2015.....	11
1.6.2    2022.....	11
1.7    Entergy to AEPW Interface Values .....	11
1.7.1    Entergy to AEPW interface values (Sum of flow for entire year).....	11
1.7.2    Average power flow from Entergy to AEPW .....	11
<b>2. ALTERNATIVE PROJECT 1 .....</b>	<b>12</b>
2.1    2015 Top 5 Congested Flowgates by Cost .....	12
2.1.1    Base Case .....	12
2.1.2    Change Case.....	12
2.2    2015 Top 5 Congested Flowgates by Hours .....	12
2.2.1    Base Case .....	12
2.2.2    Change Case.....	12
2.3    2020 Top 5 Congested Flowgates by Cost .....	13
2.3.1    Base Case .....	13
2.3.2    Change Case.....	13
2.4    2020 Top 5 Congested Flowgates by Hours .....	13

2.4.1	Base Case .....	13
2.4.2	Change Case.....	13
2.5	GridView Differences .....	14
2.5.1	2015.....	14
2.5.2	2020.....	15
2.6	APC Breakdown.....	16
2.6.1	2015.....	16
2.6.2	2020.....	16
2.7	Entergy to AEPW Interface Values .....	16
2.7.1	Entergy to AEPW interface values (Sum of flow for entire year).....	16
2.7.2	Average power flow from Entergy to AEPW .....	16
<b>3.</b>	<b>ALTERNATIVE PROJECT 2 .....</b>	<b>17</b>
3.1	2015 Top 5 Congested Flowgates by Cost .....	17
3.1.1	Base Case .....	17
3.1.2	Change Case.....	17
3.2	2015 Top 5 Congested Flowgates by Hours .....	17
3.2.1	Base Case .....	17
3.2.2	Change Case.....	17
3.3	2020 Top 5 Congested Flowgates by Cost .....	18
3.3.1	Base Case .....	18
3.3.2	Change Case.....	18
3.4	2020 Top 5 Congested Flowgates by Hours .....	18
3.4.1	Base Case .....	18
3.4.2	Change Case.....	18
3.5	GridView Differences .....	19
3.5.1	2015.....	19
3.5.2	2020.....	20
3.6	APC Breakdown.....	21
3.6.1	2015.....	21
3.6.2	2020.....	21
3.7	Entergy to AEPW Interface Values .....	21
3.7.1	Entergy to AEPW interface values (Sum of flow for entire year).....	21
3.7.2	Average power flow from Entergy to AEPW .....	21
<b>4.</b>	<b>ALTERNATIVE PROJECT 3 .....</b>	<b>22</b>
4.1	2015 Top 5 Congested Flowgates by Cost .....	22
4.1.1	Base Case .....	22

4.1.2	Change Case.....	22
4.2	2015 Top 5 Congested Flowgates by Hours.....	22
4.2.1	Base Case.....	22
4.2.2	Change Case.....	22
4.3	2020 Top 5 Congested Flowgates by Cost .....	23
4.3.1	Base Case .....	23
4.3.2	Change Case.....	23
4.4	2020 Top 5 Congested Flowgates by Hours .....	23
4.4.1	Base Case.....	23
4.4.2	Change Case.....	23
4.5	GridView Differences .....	24
4.5.1	2015.....	24
4.6	APC Breakdown.....	26
4.6.1	2015.....	26
4.6.2	2020.....	26
4.7	Entergy to AEPW Interface Values .....	26
4.7.1	Entergy to AEPW interface values (Sum of flow for entire year).....	26
4.7.2	Average power flow from Entergy to AEPW .....	26
<b>5.</b>	<b>DTEC PROJECT (RAW FILE FORMAT)</b> .....	<b>27</b>

## 1. Quarry – Rivtrin Projects

### 1.1 2015 Top 5 Congested Flowgates by Cost

#### 1.1.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
LEATOL_CYPHAR_ENT	Leach – Toledo 138kV FTLO Cypress – Hartburg 500kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

#### 1.1.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
HS-CAR_BLAMTP_ENT	Hot Springs South – Carpenter 115kV FTLO Blakely – Mt Pine 115kV

### 1.2 2015 Top 5 Congested Flowgates by Hours

#### 1.2.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
LEATOL_CYPHAR_ENT	Leach – Toledo 138kV FTLO Cypress – Hartburg 500kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV

#### 1.2.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
LASTHM_WEBWL_ENT	Louisiana Station 138kV FTLO Webre – Wells 500kV

### 1.3 2020 Top 5 Congested Flowgates by Cost

#### 1.3.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

#### 1.3.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
MORGL_PLSMAY_ENT	Morrilton East – Gleason 161kV FTLO Pleasant Hills – Mayflower 500kV

### 1.4 2020 Top 5 Congested Flowgates by Hours

#### 1.4.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

#### 1.4.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
MNDMIN_MTOELD_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV

## 1.5 GridView Differences

### 1.5.1 2015

Review Change/Scenario: Diff\_A=NEW+PROJECTS\_2015.mdb

Changed Table List: 3      Changed Record: 'Branch' ADD - 4, RMV - 0, MDF - 6

Branch	In...	Action	BranchName*	R	X	B	RateA	RateB	RateC	Ratio	An...	Status
Bus	1	ADD	334027_334028_1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1
InterfaceBranches	2	ADD	334027_334049_1	0.00042	0.0047	0.07393	1326	1326	1326	0	0	-1
	3	ADD	334027_509241_1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1
	4	ADD	334049_334055_1	0.00044	0.0255	0	525	525	525	1	0	-1
	1	MDF-NEW	334054_334055_1	0.00842	0.02294	0.00529	139	139	139	0	0	-1
	1	MDF-OLD	334054_334055_1	0.00842	0.02294	0.00529	121	121	121	0	0	-1
	2	MDF-NEW	334056_334059_NO	0.00769	0.01998	0.00484	145	145	145	0	0	-1
	2	MDF-OLD	334056_334059_NO	0.00769	0.01998	0.00484	145	145	145	0	0	0
	3	MDF-NEW	334058_334059_1	0.00246	0.01091	0.00297	145	145	145	0	0	0
	3	MDF-OLD	334058_334059_1	0.00246	0.01091	0.00297	145	145	145	0	0	-1
	4	MDF-NEW	334073_334074_1	0.000535	0.0033...	0.001...	357	357	357	0	0	-1
	4	MDF-OLD	334073_334074_1	0.00101	0.0048	0.00119	206	206	206	0	0	-1
	5	MDF-NEW	334074_334075_1	0.001258	0.0078...	0.00407	357	357	357	0	0	-1
	5	MDF-OLD	334074_334075_1	0.00241	0.01136	0.0028	191	191	191	0	0	-1
	6	MDF-NEW	334334_334335_1	0.00152	0.00892	0.00258	265	265	265	0	0	-1
	6	MDF-OLD	334334_334335_1	0.00361	0.00924	0.00234	143	143	143	0	0	-1

Change Category:

Added Record (ADD)

Removed Record (RMV)

Modified Record (MDF)

### 1.5.1.1 BRANCH

Index	Action	BranchName*	FromBus	ToBus	CKT	R	X	B	RateA	RateB	RateC	Ratio	Angle	Status	Length
1	ADD	334027_334028_1	334027	334028	1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1	0
2	ADD	334027_334049_1	334027	334049	1	0.00042	0.0047	0.07393	1326	1326	1326	0	0	-1	0
3	ADD	334027_509241_1	334027	509241	1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1	0
4	ADD	334049_334055_1	334049	334055	1	0.00044	0.0255	0	525	525	525	1	0	-1	0
1	MDF-NEW	334054_334055_1	334054	334055	1	0.00842	0.02294	0.00529	139	139	139	0	0	-1	5.33
1	MDF-OLD	334054_334055_1	334054	334055	1	0.00842	0.02294	0.00529	121	121	121	0	0	-1	5.33
2	MDF-NEW	334056_334059_NO	334056	334059	NO	0.00769	0.01998	0.00484	145	145	145	0	0	-1	4.78
2	MDF-OLD	334056_334059_NO	334056	334059	NO	0.00769	0.01998	0.00484	145	145	145	0	0	0	4.78
3	MDF-NEW	334058_334059_1	334058	334059	1	0.00246	0.01091	0.00297	145	145	145	0	0	0	2.76
3	MDF-OLD	334058_334059_1	334058	334059	1	0.00246	0.01091	0.00297	145	145	145	0	0	-1	2.76
4	MDF-NEW	334073_334074_1	334073	334074	1	0.000535	0.003321	0.001729	357	357	357	0	0	-1	1.16
4	MDF-OLD	334073_334074_1	334073	334074	1	0.00101	0.0048	0.00119	206	206	206	0	0	-1	1.16
5	MDF-NEW	334074_334075_1	334074	334075	1	0.001258	0.007815	0.00407	357	357	357	0	0	-1	2.73
5	MDF-OLD	334074_334075_1	334074	334075	1	0.00241	0.01136	0.0028	191	191	191	0	0	-1	2.73
6	MDF-NEW	334334_334335_1	334334	334335	1	0.00152	0.00892	0.00258	265	265	265	0	0	-1	2.26
6	MDF-OLD	334334_334335_1	334334	334335	1	0.00361	0.00924	0.00234	143	143	143	0	0	-1	2.26

### 1.5.1.2 BUS

Index	Action	BusID*	Name	BaseKV	Type	GL	BL	PSSEAreaID	PSSEZoneID	VM	VA	Owner	LoadAreaName
1	ADD	334027	7QUARRY	345	1	0	0	351		100	1	0	1 Entergy Texas
2	ADD	334049	7RIVTRIN	345	1	0	0	320		100	1	0	1 Entergy Texas

### 1.5.1.3 INTERFACE BRANCHES

Index	Action	BranchName	InterfaceName	UseDefault	Coefficient
1	ADD	334027_50WOTAB		-1	1
2	ADD	334027_50ENT to CLE		-1	1
3	ADD	334027_50SPP to CLE		0	1
4	ADD	334027_50EES_to_AE		-1	1
1	RMV	334028_50WOTAB		-1	1
2	RMV	334028_50ENT to CLE		-1	1
3	RMV	334028_50SPP to CLE		0	1
4	RMV	334028_50EES_to_AE		-1	1

## 1.5.2 2020

Review Change/Scenario: Diff A=NEW+PROJECTS\_2020.mdb

Changed Table List: 3      Changed Record: 'Branch' ADD - 4, RMV - 1, MDF - 5

Branch	Index	Action	BranchName*	R	X	B	RateA	RateB	RateC	Ratio	Angle	Status
Bus InterfaceBranches	1	ADD	334027_334...	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1
	2	ADD	334027_334...	0.00042	0.0047	0.07393	1326	1326	1326	0	0	-1
	3	ADD	334027_509...	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1
	4	ADD	334049_334...	0.00044	0.0255	0	525	525	525	1	0	-1
	1	RMV	334028_509...	0.00287	0.03304	0.52264	1194	1194	1194	0	0	-1
	1	MDF-NEW	334054_334...	0.00842	0.02294	0.00529	<b>139</b>	<b>139</b>	<b>139</b>	0	0	-1
	1	MDF-OLD	334054_334...	0.00842	0.02294	0.00529	<b>121</b>	<b>121</b>	<b>121</b>	0	0	-1
	2	MDF-NEW	334056_334...	0.00769	0.01998	0.00484	145	145	145	0	0	<b>-1</b>
	2	MDF-OLD	334056_334...	0.00769	0.01998	0.00484	145	145	145	0	0	<b>0</b>
	3	MDF-NEW	334058_334...	0.00246	0.01091	0.00297	145	145	145	0	0	<b>0</b>
	3	MDF-OLD	334058_334...	0.00246	0.01091	0.00297	145	145	145	0	0	<b>-1</b>
	4	MDF-NEW	334073_334...	<b>0.000535</b>	<b>0.003321</b>	<b>0.00...</b>	<b>357</b>	<b>357</b>	<b>357</b>	0	0	-1
	4	MDF-OLD	334073_334...	<b>0.00101</b>	<b>0.0048</b>	<b>0.00...</b>	<b>206</b>	<b>206</b>	<b>206</b>	0	0	-1
	5	MDF-NEW	334074_334...	<b>0.001258</b>	<b>0.007815</b>	<b>0.00...</b>	<b>357</b>	<b>357</b>	<b>357</b>	0	0	-1
	5	MDF-OLD	334074_334...	<b>0.00241</b>	<b>0.01136</b>	<b>0.0028</b>	<b>191</b>	<b>191</b>	<b>191</b>	0	0	-1

Change Category:

- Added Record (ADD)
- Removed Record (RMV)
- Modified Record (MDF)

### 1.5.2.1 BRANCHES

Index	Action	BranchName*	FromBus	ToBus	CKT	R	X	B	RateA	RateB	RateC	Ratio	Angle	Status	Length
1	ADD	334027_334028_1	334027	334028	1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1	0
2	ADD	334027_334049_1	334027	334049	1	0.00042	0.0047	0.07393	1326	1326	1326	0	0	-1	0
3	ADD	334027_509241_1	334027	509241	1	0.001435	0.01652	0.26132	1194	1194	1194	0	0	-1	0
4	ADD	334049_334055_1	334049	334055	1	0.00044	0.0255	0	525	525	525	1	0	-1	0
1	RMV	334028_509241_1	334028	509241	1	0.00287	0.03304	0.52264	1194	1194	1194	0	0	-1	64.17
1	MDF-NEW	334054_334055_1	334054	334055	1	0.00842	0.02294	0.00529	139	139	139	0	0	-1	5.33
1	MDF-OLD	334054_334055_1	334054	334055	1	0.00842	0.02294	0.00529	121	121	121	0	0	-1	5.33
2	MDF-NEW	334056_334059_NO	334056	334059_NO	NO	0.00769	0.01998	0.00484	145	145	145	0	0	-1	4.78
2	MDF-OLD	334056_334059_NO	334056	334059_NO	NO	0.00769	0.01998	0.00484	145	145	145	0	0	0	4.78
3	MDF-NEW	334058_334059_1	334058	334059	1	0.00246	0.01091	0.00297	145	145	145	0	0	0	2.76
3	MDF-OLD	334058_334059_1	334058	334059	1	0.00246	0.01091	0.00297	145	145	145	0	0	-1	2.76
4	MDF-NEW	334073_334074_1	334073	334074	1	0.000535	0.003321	0.001729	357	357	357	0	0	-1	1.16
4	MDF-OLD	334073_334074_1	334073	334074	1	0.00101	0.0048	0.00119	206	206	206	0	0	-1	1.16
5	MDF-NEW	334074_334075_1	334074	334075	1	0.001258	0.007815	0.00407	357	357	357	0	0	-1	2.73
5	MDF-OLD	334074_334075_1	334074	334075	1	0.00241	0.01136	0.0028	191	191	191	0	0	-1	2.73

### 1.5.2.2 BUSES

Index	Action	BusID*	Name	BaseKV	Type	GL	BL	PSSEAreaID	PSSEZoneID	VM	VA	Owner	LoadAreaName
1	ADD	334027	7QUARRY	345	1	0	0	351	100	1	0	1	Entergy Texas
2	ADD	334049	7RIVTRIN	345	1	0	0	320	100	1	0	1	Entergy Texas

### 1.5.2.3 INTERFACE BRANCHES

Index	Action	BranchName*	InterfaceName*	UseDefaultDirection	Coefficient
1	ADD	334027_509241_1	WOTAB	-1	1
2	ADD	334027_509241_1	ENT to CLECO_SPP_LEPA_LAFA_AECI_SEMPA	-1	1
3	ADD	334027_509241_1	SPP to CLECO_ENT_AECI_LEPA_LEFA_LaGen	0	1
4	ADD	334027_509241_1	EES_to_AEPW	-1	1
1	RMV	334028_509241_1	WOTAB	-1	1
2	RMV	334028_509241_1	ENT to CLECO_SPP_LEPA_LAFA_AECI_SEMPA	-1	1
3	RMV	334028_509241_1	SPP to CLECO_ENT_AECI_LEPA_LEFA_LaGen	0	1
4	RMV	334028_509241_1	EES_to_AEPW	-1	1

## 1.6 APC Breakdown

### 1.6.1 2015

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2015	77	-42	35

### 1.6.2 2022

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2022	64	-33	31

## 1.7 Entergy to AEPW Interface Values

### 1.7.1 Entergy to AEPW interface values (Sum of flow for entire year)

	Reference	Change	
	Total MWhrs	Total MWhrs	DIFFERENCE (MWhrs)
2015	-4,154,718	-4,624,125	469,407
2020	-5,262,349	-6,301,393	1,039,044

### 1.7.2 Average power flow from Entergy to AEPW

	Reference	Change	
	AVERAGE POWER FLOW (MW)	AVERAGE POWER FLOW (MW)	DIFFERENCE (MW)
2015	-485	-536	-51
2020	-605	-720	-116

## 2. Alternative Project 1

### 2.1 2015 Top 5 Congested Flowgates by Cost

#### 2.1.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 2.1.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
BLAMTP_HS-CAR_ENT	Blakely – Mt Pine 115 kV FTLO Hot Springs South – Carpenter 115kV

### 2.2 2015 Top 5 Congested Flowgates by Hours

#### 2.2.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

#### 2.2.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

## 2.3 2020 Top 5 Congested Flowgates by Cost

### 2.3.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

### 2.3.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
MORGL_PLSMAY_ENT	Morrilton East – Gleason 161kV FTLO Pleasant Hills – Mayflower 500kV

## 2.4 2020 Top 5 Congested Flowgates by Hours

### 2.4.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

### 2.4.2 Change Case

Contingency	
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

## 2.5 GridView Differences

### 2.5.1 2015

Review Change/Scenario: 2015\_OPTN1.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 1, RMV - 0, MDF - 0

Branch

Index	Action	BranchName*	From...	ToBus	CKT	R	X	B	RateA	RateB	RateC
1	ADD	334026_334028_3	334026	334028	3	0.00044	0.0255	0.975	525	525	525

Change Category:

- Added Record (ADD)
- Removed Record (RMV)
- Modified Record (MDF)

## 2.5.2 2020

Review Change/Scenario: 2020\_OPTN1.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 1, RMV - 0, MDF - 8

Branch	Index	Action	BranchName*	From...	ToBus	C.	R	X	B	RateA	RateB	Rate
	1	ADD	334026_334028_3	334026	334028	3	0.00044	0.0255	0.975	525	525	525
	1	MDF-NEW	334023_334024_1	334023	334024	1	2.37223...	0.0180...	5.48409...	243	243	243
	1	MDF-OLD	334023_334024_1	334023	334024	1	0.0042	0.0195	0.005	206	206	206
	2	MDF-NEW	334024_334025_1	334024	334025	1	3.43856...	0.0213...	0.0111223	243	243	243
	2	MDF-OLD	334024_334025_1	334024	334025	1	0.0066	0.0304	0.0078	206	206	206
	3	MDF-NEW	334025_334026_1	334025	334026	1	6.59134...	0.0409...	0.0213203	273	273	273
	3	MDF-OLD	334025_334026_1	334025	334026	1	0.0127	0.0583	0.0149	206	206	206
	4	MDF-NEW	334026_334039_1	334026	334039	1	0.01329	0.09845	0.0299	312	312	312
	4	MDF-OLD	334026_334039_1	334026	334039	1	0.02304	0.10611	0.02729	206	206	206
	5	MDF-NEW	334026_334060_1	334026	334060	1	0.009789	0.0725	0.02202	312	312	312
	5	MDF-OLD	334026_334060_1	334026	334060	1	0.0171	0.07827	0.02001	206	206	206
	6	MDF-NEW	334043_334044_1	334043	334044	1	0.014759	0.0631...	0.017433	206	206	206
	6	MDF-OLD	334043_334044_1	334043	334044	1	0.02776	0.07806	0.01875	112	112	112
	7	MDF-NEW	334058_334060_1	334058	334060	1	0.00273	0.0202	0.006138	312	312	312
	7	MDF-OLD	334058_334060_1	334058	334060	1	0.00476	0.02182	0.00557	206	206	206
	8	MDF-NEW	334100_334117_1	334100	334117	1	0.008577	0.0532...	0.027746	312	312	312
	8	MDF-OLD	334100_334117_1	334100	334117	1	0.00948	0.054	0.02193	206	206	206

Change Category:

- Added Record (ADD)
- Removed Record (RMV)
- Modified Record (MDF)

## 2.6 APC Breakdown

### 2.6.1 2015

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2015	-4	1	-3

### 2.6.2 2020

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2020	26	-4	22

## 2.7 Entergy to AEPW Interface Values

### 2.7.1 Entergy to AEPW interface values (Sum of flow for entire year)

	Reference	Change	
	Total MWhrs	Total MWhrs	DIFFERENCE (MWhrs)
2015	-3,947,972	-3,934,013	-13,959
2020	-5,079,328	-5,328,776	249,448

### 2.7.2 Average power flow from Entergy to AEPW

	Reference	Change	
	AVERAGE POWER FLOW (MW)	AVERAGE POWER FLOW (MW)	DIFFERENCE (MW)
2015	-463	-462	1
2020	-584	-611	27

### 3. Alternative Project 2

#### 3.1 2015 Top 5 Congested Flowgates by Cost

##### 3.1.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

##### 3.1.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
BLAMTP_HS-CAR_ENT	Blakely-Mt Pine 115 kV FTLO Hot Springs –Carpenter 115 kV

#### 3.2 2015 Top 5 Congested Flowgates by Hours

##### 3.2.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

##### 3.2.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

### 3.3 2020 Top 5 Congested Flowgates by Cost

#### 3.3.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 3.3.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
MORGL_PLSMAY_ENT	Morrilton East – Gleason 161kV FTLO Pleasant Hills – Mayflower 500kV

### 3.4 2020 Top 5 Congested Flowgates by Hours

#### 3.4.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 3.4.2 Change Case

<b>Contingency</b>	
MTZTAP_GRIWAL	Mt Zion Tap – Wintex 138 kV FTLO Grimes to Bentwater 138 kV
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

### 3.5 GridView Differences

#### 3.5.1 2015

Review Change/Scenario: 2015\_OPTN2.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 0, RMV - 0, MDF - 1

Index	Action	BranchName*	From...	ToBus	CKT	R	X	B	RateA	RateB	RateC
1	MDF-NEW	334026_334060_1	334026	334060	1	0.00897	0.054...	0.02...	339	339	339
1	MDF-OLD	334026_334060_1	334026	334060	1	0.0171	0.078...	0.02...	206	206	206

Change Category:

- Added Record (ADD)
- Removed Record (RMV)
- Modified Record (MDF)

### 3.5.2 2020

Review Change/Scenario: 2020\_OPTN2.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 0, RMV - 0, MDF - 1

Branch	Index	Action	BranchName*	FromBus	ToBus	CKT	R	X	B	RateA	RateB	Ra
	1	MDF-NEW	334026_334060_1	334026	334060	1	0.00...	0.05...	0.02...	339	339	33
	1	MDF-OLD	334026_334060_1	334026	334060	1	0.0171	0.07...	0.02...	206	206	20

Change Category:

Added Record (ADD)  
 Removed Record (RMV)  
 Modified Record (MDF)

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### 3.6 APC Breakdown

#### 3.6.1 2015

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2015	-6	6	0

#### 3.6.2 2020

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2020	-5	6	1

### 3.7 Entergy to AEPW Interface Values

#### 3.7.1 Entergy to AEPW interface values (Sum of flow for entire year)

	Reference	Change	
	Total MWhrs	Total MWhrs	Difference (MWhrs)
2015	-3,177,261	-3,086,073	-91,188
2020	-4,298,774	-4,214,545	-84,229

#### 3.7.2 Average power flow from Entergy to AEPW

	Reference	Change	
	AVERAGE POWER FLOW (MW)	AVERAGE POWER FLOW (MW)	Difference (MW)
2015	-379	-368	-1
2020	-498	-488	10

## 4. Alternative Project 3

### 4.1 2015 Top 5 Congested Flowgates by Cost

#### 4.1.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 4.1.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
GRIWAL_GRIMT_.ENT	Grimes – Bentwater 138 kV FTLO Grimes – Mt Zion 138 kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

### 4.2 2015 Top 5 Congested Flowgates by Hours

#### 4.2.1 Base Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
PPGROS_NELCL_ENT	PPG – Rose Bluff 230kV FTLO Nelson – Carlyss 230kV

#### 4.2.2 Change Case

<b>Contingency</b>	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
GRIWAL_GRIMT_.ENT	Grimes – Bentwater 138 kV FTLO Grimes – Mt Zion 138 kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

### 4.3 2020 Top 5 Congested Flowgates by Cost

#### 4.3.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 4.3.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
MDNMDN_TUSVEN_ENT	Minden – Minden 115kV FTLO Trussel's – Vienna 115kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV
GRIWAL_GRIMT._ENT	Grimes – Bentwater 138 kV FTLO Grimes – Mt Zion 138 kV

### 4.4 2020 Top 5 Congested Flowgates by Hours

#### 4.4.1 Base Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
GRIMTZ_WDN_ENT	Grimes – Mt Zion 138kV FTLO Grimes – Bentwater 138kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

#### 4.4.2 Change Case

Contingency	
ADDTIG_CHTAI_ENT	Addis – Tiger 230kV FTLO Chenango – Air Liquide 230kV
COWCO_COWSA_ENT	Cow – Colonial Orange 138kV FTLO Cow – Sabine 138kV
RGNAT_PLAVID_ENT	Red Gum – Natchez 115kV FTLO Plantation – Vidalia 115kV
GRIWAL_GRIMT._ENT	Grimes – Bentwater 138 kV FTLO Grimes – Mt Zion 138 kV
TBLCH_MTOHTB_ENT	Toledo – Leach 138kV FTLO Mt Olive – Hartburg 500kV

## 4.5 GridView Differences

### 4.5.1 2015

Review Change/Scenario: 2015\_OPTN3.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 0, RMV - 0, MDF - 3

Branch	Index	Action	BranchName*	FromBus	ToBus	CKT	R	X	B	RateA	RateB	RateC
	1	MDF-NEW	334026_334060_1	334026	334060	1	0.00...	0.05...	0.02...	339	339	339
	1	MDF-OLD	334026_334060_1	334026	334060	1	0.0171	0.07...	0.02...	206	206	206
	2	MDF-NEW	334057_334058_1	334057	334058	1	0.00...	0.00...	0.00...	299	299	299
	2	MDF-OLD	334057_334058_1	334057	334058	1	0.002	0.0084	0.00...	206	206	206
	3	MDF-NEW	334058_334060_1	334058	334060	1	0.0025	0.01...	0.00...	339	339	339
	3	MDF-OLD	334058_334060_1	334058	334060	1	0.00...	0.02...	0.00...	206	206	206

Change Category:

Added Record (ADD)  
 Removed Record (RMV)  
 Modified Record (MDF)

III

#### 4.5.2 2020

Review Change/Scenario: 2020\_OPTN3.mdb

Changed Table List: 1      Changed Record: 'Branch' ADD - 0, RMV - 0, MDF - 3

Branch	Index	Action	BranchName*	FromBus	ToBus	CKT	R	X	B	RateA	RateB
	1	MDF-NEW	334026_334060_1	334026	334060	1	0.00897	0.05...	0.02...	339	339
	1	MDF-OLD	334026_334060_1	334026	334060	1	0.0171	0.07...	0.02...	206	206
	2	MDF-NEW	334057_334058_1	334057	334058	1	0.00104	0.00...	0.00...	299	299
	2	MDF-OLD	334057_334058_1	334057	334058	1	0.002	0.0084	0.00...	206	206
	3	MDF-NEW	334058_334060_1	334058	334060	1	0.0025	0.01...	0.00...	339	339
	3	MDF-OLD	334058_334060_1	334058	334060	1	0.00476	0.02...	0.00...	206	206

Change Category:

Added Record (ADD)  
 Removed Record (RMV)  
 Modified Record (MDF)

## 4.6 APC Breakdown

### 4.6.1 2015

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2015	16	-10	6

### 4.6.2 2020

Year	Production Cost Savings (M\$)	Import Cost Savings (M\$)	Adjusted Production Cost Savings (M\$)
2020	16	-11	5

## 4.7 Entergy to AEPW Interface Values

### 4.7.1 Entergy to AEPW interface values (Sum of flow for entire year)

	Reference	Change	
	Total MWhrs	Total MWhrs	DIFFERENCE (MWhrs)
2015	-3,177,261	-3,361,436	184,175
2020	-4,298,774	-4,443,070	144,296

### 4.7.2 Average power flow from Entergy to AEPW

	Reference	Change	
	AVERAGE POWER FLOW (MW)	AVERAGE POWER FLOW (MW)	DIFFERENCE (MW)
2015	-379	-399	20
2020	-498	-514	16

## 5. DTEC Project (Raw File Format)

1, 100.00, 32, 0, 1, 60.00 / PSS®E-32.1 WED, APR 11 2012 12:10  
2010 SERIES ENTERGY POWER FLOW MODELS  
2020 WINTER PEAK PEAK - FINAL

700408,'BRONSONT ', 69.0000,1, 520, 537, 1,1.02489, -36.1049  
700409,'BRONSON ', 69.0000,1, 520, 537, 1,1.02439, -36.1437  
700410,'HEMPHILL ', 138.0000,1, 520, 537, 1,1.00955, -29.8593  
700411,'SIXMILE ', 138.0000,1, 520, 537, 1,1.01082, -28.5661  
700412,'PENDLTON ', 138.0000,1, 520, 537, 1,1.00930, -31.8412  
700413,'BLCKANKL ', 138.0000,1, 520, 537, 1,1.00998, -33.6597  
700414,'HOLLY ', 138.0000,1, 520, 537, 1,1.01067, -34.4307  
700415,'HOLLY ', 69.0000,1, 520, 537, 1,1.03524, -34.9685  
700416,'SANAUGUS ', 69.0000,1, 520, 537, 1,1.03213, -35.2920  
700417,'HURSTOWN ', 69.0000,1, 520, 537, 1,1.03000, -36.0997  
700418,'HURST T ', 69.0000,1, 520, 537, 1,1.04084, -35.2384  
700419,'HUXLEY ', 69.0000,1, 520, 537, 1,1.02985, -36.1574  
700420,'HILLTOP ', 138.0000,1, 520, 537, 1,1.01303, -34.5042  
700422,'PROSPECT ', 138.0000,1, 520, 537, 1,1.01643, -35.2413  
700423,'TIMPSON ', 69.0000,4, 520, 537, 1,1.00000, 0.0000  
700424,'CENTRALRH ', 138.0000,1, 520, 537, 1,1.01241, -36.1190  
700425,'SHADYGRV ', 138.0000,1, 520, 537, 1,1.01180, -35.9828  
700426,'MARTNSVL ', 138.0000,1, 520, 537, 1,1.01125, -35.6677  
700432,'CHIRENO ', 138.0000,1, 520, 537, 1,1.01063, -35.1910  
701200,'CENTERSOTXLA', 138.0000,1, 520, 537, 1,1.01482, -34.5099  
701201,'CENTERSOTXLA', 69.0000,1, 520, 537, 1,1.04105, -35.1509  
701202,'FITZETXLA ', 138.0000,1, 520, 537, 1,1.01404, -35.9172  
701204,'TIMPSONTXLA ', 138.0000,1, 520, 537, 1,1.01470, -35.7616  
701205,'TIMPSONTXLA ', 69.0000,4, 520, 537, 1,1.00000, 0.0000  
0 / END OF BUS DATA, BEGIN LOAD DATA  
509058,'2 ',0, 520, 999, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 1,1  
509058,'3 ',1, 520, 999, 12.286, 0.000, 0.000, 0.000, 0.000, 0.000, 1,1  
509088,'2 ',1, 520, 999, 9.075, 0.000, 0.000, 0.000, 0.000, 0.000, 1,1  
509088,'3 ',0, 520, 999, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 1,1  
700409,'1 ',1, 520, 537, 3.695, 0.697, 0.000, 0.000, 0.000, 0.000, 1,1  
700410,'1 ',1, 520, 537, 8.931, 1.686, 0.000, 0.000, 0.000, 0.000, 1,1  
700411,'1 ',1, 520, 537, 5.191, 0.981, 0.000, 0.000, 0.000, 0.000, 1,1  
700412,'1 ',1, 520, 537, 5.571, 1.052, 0.000, 0.000, 0.000, 0.000, 1,1  
700413,'1 ',1, 520, 537, 5.060, 0.956, 0.000, 0.000, 0.000, 0.000, 1,1  
700415,'1 ',1, 520, 537, 4.098, 0.774, 0.000, 0.000, 0.000, 0.000, 1,1

700416,'1 ',1, 520, 537,	7.838,	1.480,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700417,'1 ',1, 520, 537,	4.806,	0.908,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700419,'1 ',1, 520, 537,	2.969,	0.561,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700420,'1 ',1, 520, 537,	3.417,	0.645,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700422,'1 ',1, 520, 537,	10.747,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700423,'1 ',0, 520, 537,	11.252,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700424,'1 ',1, 520, 537,	13.807,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700425,'1 ',1, 520, 537,	7.081,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
700426,'1 ',1, 520, 537,	4.721,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
701201,'1 ',1, 520, 537,	5.089,	0.961,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
701202,'1 ',1, 520, 537,	9.677,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
701204,'1 ',1, 520, 537,	11.252,	0.000,	0.000,	0.000,	0.000,	0.000,	0.000,	1,1
0 /END OF LOAD DATA, BEGIN FIXED SHUNT DATA								
0 /END OF FIXED SHUNT DATA, BEGIN GENERATOR DATA								
0 /END OF GENERATOR DATA, BEGIN BRANCH DATA								
334286,700432,'1 ', 7.93000E-3, 4.89400E-2,	0.01459,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
334288,700408,'1 ', 7.29500E-2, 1.35300E-1,	0.00212,	40.63,	42.57,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,0,1, 0.00, 1,1.0000
334334,700411,'1 ', 1.23000E-2, 7.58800E-2,	0.02261,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
509058,701200,'1 ', 2.77000E-3, 1.70700E-2,	0.00509,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000
509088,700422,'1 ', 4.70000E-3, 3.03500E-2,	0.00824,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700408,700409,'1 ', 9.35000E-3, 1.73500E-2,	0.00027,	40.63,	42.57,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700408,700416,'1 ', 1.47960E-1, 3.47760E-1,	0.00651,	63.33,	66.36,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700409,700410,'1 ', 9.91300E-2, 1.83870E-1,	0.00287,	40.63,	42.57,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,0,1, 0.00, 1,1.0000
700410,700411,'1 ', 7.51000E-3, 2.86800E-2,	0.01647,	126.66,	132.72,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700410,700412,'1 ', 1.33000E-2, 5.07700E-2,	0.02916,	126.66,	132.72,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700412,700413,'1 ', 1.36200E-2, 5.20000E-2,	0.02987,	126.66,	132.72,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700413,700414,'1 ', 6.45000E-3, 2.46200E-2,	0.01414,	126.66,	132.72,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700414,700420,'1 ', 4.61000E-3, 2.84600E-2,	0.00848,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000
700414,700432,'1 ', 1.12800E-2, 4.30800E-2,	0.02474,	126.66,	132.72,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700415,700416,'1 ', 1.93000E-2, 4.53600E-2,	0.00085,	63.33,	66.36,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000
700415,700418,'1 ', 6.38000E-3, 2.43400E-2,	0.01398,	63.33,	66.36,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,0,1, 0.00, 1,1.0000
700417,700418,'1 ', 1.30540E-1, 1.64470E-1,	0.00230,	32.21,	33.80,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000
700417,700419,'1 ', 7.66000E-3, 2.92300E-2,	0.01679,	63.33,	66.36,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700418,701201,'1 ', 4.47000E-3, 1.70800E-2,	0.00981,	63.33,	66.36,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700420,701200,'1 ', 3.32000E-3, 2.04900E-2,	0.00611,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700422,701204,'1 ', 4.33000E-3, 2.80000E-2,	0.00760,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000
700423,701202,'1 ', 3.46300E-2, 6.76200E-2,	0.00100,	40.63,	42.57,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,0,1, 0.00, 1,1.0000
700423,701205,'1 ', 9.40000E-4, 1.73000E-3,	0.00003,	40.63,	42.57,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,0,2, 0.00, 1,1.0000
700424,700425,'1 ', 4.67400E-3, 2.88300E-2,	0.00859,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,1, 0.00, 1,1.0000
700424,701202,'1 ', 7.13000E-3, 4.40100E-2,	0.01312,	215.07,	225.40,	0.00,	0.00000,	0.00000,	0.00000,	0.00000,1,2, 0.00, 1,1.0000

700425,700426,'1 ', 5.35000E-3, 3.30100E-2, 0.00984, 215.07, 225.40, 0.00, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 1,2, 0.00, 1,1.0000  
700426,700432,'1 ', 6.02700E-3, 3.71970E-2, 0.01109, 215.07, 225.40, 0.00, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 1,1, 0.00, 1,1.0000  
700426,701205,'1 ', 3.35830E-1, 3.45490E-1, 0.00461, 27.48, 28.79, 0.00, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0,2, 0.00, 1,1.0000  
701201,701205,'1 ', 1.74080E-1, 3.39950E-1, 0.00479, 40.63, 42.57, 0.00, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 0,1, 0.00, 1,1.0000  
701202,701204,'1 ', 2.28000E-3, 1.40380E-2, 0.00418, 215.07, 225.40, 0.00, 0.00000, 0.00000, 0.00000, 0.00000, 0.00000, 1,1, 0.00, 1,1.0000  
0 /END OF BRANCH DATA, BEGIN TRANSFORMER DATA  
700415,700414, 0,'1 ',2,1,1, 0.00000E+0, 0.00000E+0,2,'HOLLY ',1, 1,1.0000  
1.99000E-3, 5.72600E-2, 100.00  
67.0000, 0.000, 0.000, 30.00, 50.00, 50.00,0, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33,0, 0.00000, 0.00000, 0.000  
130.650, 0.000  
701201,701200, 0,'1 ',2,1,1, 0.00000E+0, 0.00000E+0,2,'CENTERSOTXLA',1, 1,1.0000  
2.69000E-3, 8.29700E-2, 100.00  
67.0000, 0.000, 0.000, 30.00, 50.00, 50.00,0, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33,0, 0.00000, 0.00000, 0.000  
130.650, 0.000  
701204,701205, 0,'1 ',2,1,1, 0.00000E+0, 0.00000E+0,2,'TIMPSON-TXLA',0, 1,1.0000  
1.99000E-3, 5.72600E-2, 100.00  
130.650, 0.000, 0.000, 30.00, 40.00, 50.00,0, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33,0, 0.00000, 0.00000, 0.000  
67.0000, 0.000  
0 /END OF TRANSFORMER DATA, BEGIN AREA DATA  
0 /END OF AREA DATA, BEGIN TWO-TERMINAL DC DATA  
0 /END OF TWO-TERMINAL DC DATA, BEGIN VSC DC LINE DATA  
0 /END OF VSC DC LINE DATA, BEGIN IMPEDANCE CORRECTION DATA  
0 /END OF IMPEDANCE CORRECTION DATA, BEGIN MULTI-TERMINAL DC DATA  
0 /END OF MULTI-TERMINAL DC DATA, BEGIN MULTI-SECTION LINE DATA  
0 /END OF MULTI-SECTION LINE DATA, BEGIN ZONE DATA  
0 /END OF ZONE DATA, BEGIN INTER-AREA TRANSFER DATA  
0 /END OF INTER-AREA TRANSFER DATA, BEGIN OWNER DATA  
0 /END OF OWNER DATA, BEGIN FACTS DEVICE DATA  
0 /END OF FACTS DEVICE DATA, BEGIN SWITCHED SHUNT DATA  
700415,1,0,1,1.05000,0.95000, 0, 100.0,' ', 0.00,1, 12.00  
701201,1,0,1,1.05000,0.95000, 0, 100.0,' ', 0.00,1, 12.00  
0 /END OF SWITCHED SHUNT DATA, BEGIN GNE DATA  
0 /END OF GNE DATA  
Q