

**SPP Entergy ICT
Retrospective Generation
Interconnection Analysis
Phase 2
Final Report**

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Retrospective Generation Interconnection Analysis

Final Report

1 Introduction

1.1 Background

As Entergy's Independent Coordinator of Transmission, SPP administers Entergy's Open Access Transmission Tariff in an independent and non-discriminatory manner. Among other things, this includes performing certain types of planning studies for generation interconnection requests.

As part of this study process, SPP must determine whether any transmission upgrades will be required in order to grant the requested service and identify any such upgrades. The Tariff further requires that such upgrades be classified as "Base Plan" or "Supplemental" for the purpose of determining the method of cost recovery for the upgrades and establishing eligibility for financial transmission rights. Base Plan upgrades are those necessary to maintain the reliability of the system, while all other upgrades are Supplemental. This classification process is outlined in Attachment T of the Tariff, effective November 17, 2006.

For facilities associated with generator interconnections that were funded *before* the effective date of Attachment T and that have not been fully credited by Entergy, the Tariff requires that a retrospective generation interconnection analysis ("RGIA") be undertaken to classify these facilities. As with upgrades associated with current interconnection requests, classification of facilities for RGIA purposes is determined in accordance with Attachment T cost allocation methodology (i.e. Base Plan or Supplemental classification).

Details of the process of reviewing and classifying these previously-incurred interconnection costs are outlined in Section 5 of Attachment T.

1.2 Purpose

The purpose of this report is to document the process, methodologies, and assumptions used to review and classify previously-incurred interconnection costs, and the resulting classifications for facilities excluded from the Phase 1A report. SPP conducted its first classification study on previously incurred interconnection costs in late 2006 and issued a report on December 1, 2006 ("Phase 1 Report"). As source information, Entergy provided both a list of upgrades and a summary of transmission service credits that had been issued for those upgrades. Due to multiple factors, including the exclusion of certain facilities that were originally deemed non-credit eligible by Entergy, SPP repeated the study process used in the publication of the Phase 1 Report and re-evaluated all facilities built to accommodate a generator interconnection request during the relevant time period, including those upgrades that had been evaluated and classified in the Phase 1 Report. The Phase 1A Report is the result of that second study. The Phase 1A Report published December 2007 and the classifications contained therein supersede and replace the Phase 1 Report.

This Phase 2 Report addresses those generator interconnection requests that were excluded from the Phase 1A report pursuant to FERC directives. More specifically, in establishing the RGIA process, the Commission instructed that any facilities associated with a generator interconnection request that was pending before the Commission, or under review in the courts, be excluded in the initial RGIA and the Phase 1A Report. The RGIA for these excluded facilities was required to be performed following the conclusion of the then-pending Commission/court proceedings. This Phase 2 Report complies with the Commission's directives by evaluating those generator interconnection requests that were excluded from the Phase 1A Report

1.3 Process Overview

The major steps of the review process are:

1. Determine which upgrades are eligible for review.
2. Categorize upgrades as Direct Interconnection, Required, or Optional.
3. Sub-categorize and classify Direct Interconnection upgrades
4. Analyze and classify Required upgrades.
5. Analyze and classify Optional upgrades and previously unclassified upgrades
6. Report the classification of all upgrades as Base Plan or Supplemental

The details of each step are further described in the body of this report.

1.4 Stakeholder Participation

Attachment T requires the ICT to consult with individual generation owners to get the benefit of their views of the upgrades that they funded and to ensure that they understand the classification process. To that end, SPP took the following steps:

- Impacted customers were contacted individually by telephone and email in July 2010 to arrange a conference call.
- An overview of the study process and detailed information on each customer's upgrades was forwarded by email prior to the call.
- Conference calls were conducted between July and September 2010.
- During the conference calls, the study process was explained and customers' questions were answered. Information on costs, in-service dates and any other pertinent information were solicited from the customers.
- Several customers did provide information that was helpful to the study, and that information was taken into consideration in the classification process.

2 Summary of Results

The review resulted in the classification of ninety-two (92) upgrades associated with eleven (11) generation facilities. The classifications for specific upgrades are provided in the Appendices to this report.

3 Determination of Eligible Facilities

Attachment T and FERC precedent limit the scope of the review to those customers, agreements, and upgrades that meet the following conditions:

1. The Interconnection Agreement must have been executed between January 1, 1997 and the effective date of Attachment T (November 17, 2006)
2. The Interconnection Agreement must not be the subject of a protest, request for rehearing, or other pending action before FERC.
3. The Interconnection Agreement does not contain *Mobile-Sierra* language.
4. The costs of the upgrades constructed in accordance with the Interconnection Agreement have not been fully credited back to the customer as of November 30, 2010.¹

Eleven generating facilities met all of the conditions for review:

- PID# 1 – Tenaska Frontier Partnership, LTD
- PID# 9 – SRW Cogeneration
- PID# 13 – Occidental Chemical Corporation
- PID# 17 – Washington Parish Energy Center, LLC
- PID# 29 – Ouachita Power, LLC
- PID# 32 – Dow Chemical
- PID# 65 – Union Power Partners, L.P.
- PID# 96 – Reliant Energy Choctaw County, LLC
- PID# 108 – Duke Energy Southaven, LLC
- PID# 125 - South Mississippi Electric Power Association
- PID# 136 - Plum Point Energy Associates LLC

The complete list of generation facilities with agreements executed between 1/1/97 and 11/17/06 is contained in Appendix A to this report. Appendix A also identifies the Facilities studied in the RGIA Phase 2.

¹ With respect to three generating facilities included in this report, (Tenaska Frontier Partnership, LTD, Washington Parish Energy Center, LLC, and Union Power Partners, L.P.), the determination of whether the transmission facilities built by these generators have been fully credited is unclear due to the unique procedural histories of each case. These generators have been included based on informal discussions with Commission staff and the ICT's decision to err on the side of inclusion rather than exclusion for the purposes of this report. By providing the retrospective analysis for these generators herein, the ICT is not specifically endorsing any position with respect to eligibility, crediting, or other cost allocation issues that are properly between the generator and Entergy; rather, the ICT is providing the analysis for informational purposes only.

4 Categorization as Direct Interconnection, Required, or Optional

Entergy provided a spreadsheet listing of all upgrades made in connection with one of the 37 interconnection agreements executed between 1/1/97 and 11/17/06. Entergy also provided copies of the current Interconnection Agreements, Interconnection Studies, Scoping Documents, and in some cases, models and supporting documentation, when available. Full documentation was not available in every instance, but sufficient information was provided for SPP to make a determination of the appropriate category.

Each facility upgraded or built by a generator included in this report was assigned to one of the three categories – Direct Interconnection, Required, or Optional – based on a review of the available documentation and information in accordance with the definitions of each category included in Attachment T.²

4.1 Principles Used in Categorization

In the course of the initial categorization process, it became apparent that some upgrades could not be easily categorized based on the information available to SPP. Therefore, it became necessary for SPP to use engineering judgment in order to finalize the categorization for certain facilities. In doing so, due consideration was given to the overall goal of the review process and the intent of Attachment T. The general principles applied were:

1. A facility or upgrade that is necessary to accomplish or complete another upgrade will be considered part of the second upgrade and will be categorized accordingly.
2. If an upgrade is considered to fit more than one category description, the upgrade will be placed in the category that has the strongest relationship to the upgrade based on the ICT's independent judgment.
3. Additional Nodal capacity is interpreted to mean an increase in the current-carrying capacity through a specific station or facility. Generally, this requires a change to the continuous rating of the bus work and jumpers and possibly breakers and switches, depending on the type of bus.
4. Facilities that the generator elected to fund to alleviate congestion and thereby increase its output are categorized as Optional upgrade facilities.

4.2 Sub-categorize Direct Interconnection Upgrades

Direct Interconnection upgrades are defined as those necessary to interconnect the generator to the transmission system. Direct Interconnection upgrades are further assigned to one of five sub-categories: (a) Green-field, (b) Green-field with distribution facilities, (c1) Expansion with no increased nodal capacity, (c2) Expansion with increased nodal capacity, (d) Reconfiguration of an existing facility.

² Attachment T, Section 5.1 provides that direct interconnection facilities are facilities necessary to interconnect the generator to the grid and as further specified in Section 5.2.1; required upgrade facilities are facilities required to maintain system reliability while accommodating the interconnection of the generator; and optional upgrade facilities are facilities that the generator elected to fund to alleviate congestion and thereby increase its output.

In accordance with Attachment T, Direct Interconnection Upgrades assigned to sub-categories (a) and (c1) are deemed to be Supplemental with no further review. The other sub-categories may be analyzed further as described in Section 5.3 of Attachment T and this report.

4.3 Analyze Required Upgrades

Required upgrades are defined as those necessary to maintain system reliability while accommodating the interconnection of the generator. For underrated breakers, a short-circuit study was performed using the current short circuit model. If the existing fault current with the generator off-line exceeded the pre-upgrade interrupting rating on a facility, the upgrade was deemed to be needed to maintain reliability and was classified as Base Plan. Otherwise it was classified Supplemental. Likewise, stability upgrades were subjected to a stability study. If the system was unstable without the upgrade and with the generator off-line, the upgrade was classified as Base Plan. Otherwise it was classified Supplemental, in accordance with Section 5.2.2 of Attachment T.

4.4 Analyze and Classify Optional Upgrades and Others Not Previously Classified

4.4.1 Study Procedure

Optional upgrades and upgrades not previously classified were analyzed according to Section 5.3 of Attachment T in order to determine if the facilities should be classified as Supplemental or Base Plan. Prior to performing the study, the queue order of the upgrades was determined. The order was based first on the effective date of the Interconnection Agreement, and then by the in-service date of each facility for the IA.

The study process used to analyze these upgrades involved a series of load flow studies. Appendix B displays a flow chart of the study process. A contingency analysis was performed on the Base Case model. A contingency analysis was then run on the Retro Case, and the results were compared to the Base Case. If new overloads were created due to the removal of the all of the upgraded or additional facilities; the study then proceeded to the next phase.

In queue order, facilities were inserted individually into the Retro Case. Once a facility was inserted or upgraded, a contingency analysis was run on that case. The results were compared to the contingency analysis for the case that did not contain the facility. If overloads were relieved by a material amount, the facility was classified as Base Plan. If no overloads were relieved by that specific facility, or new overloads were created, the facility was classified as Supplemental. After the classification had been made, the facility was left in the model, and the next upgrade in the queue was selected.

As an example, in Case 1 Line A-B has a rating of 50 MVA. A contingency analysis was run on Case 1. Case 1 was modified by changing the rating of Line A-B to 200 MVA; this was saved as Case 2. A contingency analysis was run on Case 2 and the results were compared to the results of the contingency analysis on Case 1 to determine the impact of upgrading Line A-B.

4.4.2 Base Case Model

The model used for the analysis was the 2010 Summer Peak Base Case developed by Entergy and verified by the ICT. This model reflects current system conditions.

4.4.3 Generation Dispatch Assumptions

The generation dispatch assumptions used in the RGIA analysis are the same assumptions used in the evaluation of new requests for generation interconnection service as outlined in Attachment D and K to the Entergy OATT.

4.4.4 Principles Used in the Analysis

1. "Material Reduction" of overload is defined as 1%. If the reduction in the line loading is 1% or greater, it will be deemed to be a "material reduction" for the purposes of this analysis.
2. All load flow analysis was limited to n-1 contingencies.
3. When evaluating generators that are associated with long-term firm transmission reservations, the reservations will be retained in both the base case and the "retro" or comparison case.
4. Direct Interconnection and Required facilities which could not be classified through the load-flow procedure of Section 5.3 will be classified using the general principles described in Section 5.3 of Attachment T. If applicable planning and reliability criteria could be met in the absence of the upgrade, it is classified as Supplemental. If not, it is classified as Base Plan.

4.5 Application of Transmission Credits

To determine whether an upgrade has been fully credited, as required by Attachment T, transmission credits that have been issued to the generating facility were applied first to Optional upgrades, then to Required, then to Direct Interconnection in accordance with Section 5.2 of Attachment T. Within a specific category, transmission credits were applied to facilities in the order of their in-service date. After application of all transmission credits, any facility that had not been fully credited was then assigned a final classification. As specified in Section 5.1 of Attachment T, the analysis covers upgrades made from 1/1/1997 through the effective date of Attachment T. Transmission Credits used for this study were correct as of 9/30/2010.

5 Cost Allocation

As described in Entergy's OATT Attachment T, Section 5.5, the Transmission Provider (Entergy) will file with the FERC any necessary amendments to the applicable IOA to implement the ICT's classification determination. This process could entail, e.g., seeking cessation of outstanding credits or reimbursement to the customer for any un-credited balance, as applicable. Entergy, not SPP, is responsible for making this filing. Customers seeking further information on the status of such filings should contact Entergy. Customers who funded upgrades that were determined to be Supplemental will receive the accompanying prospective financial transmission rights as set forth in Section 4 of Attachment T to the Entergy OATT.

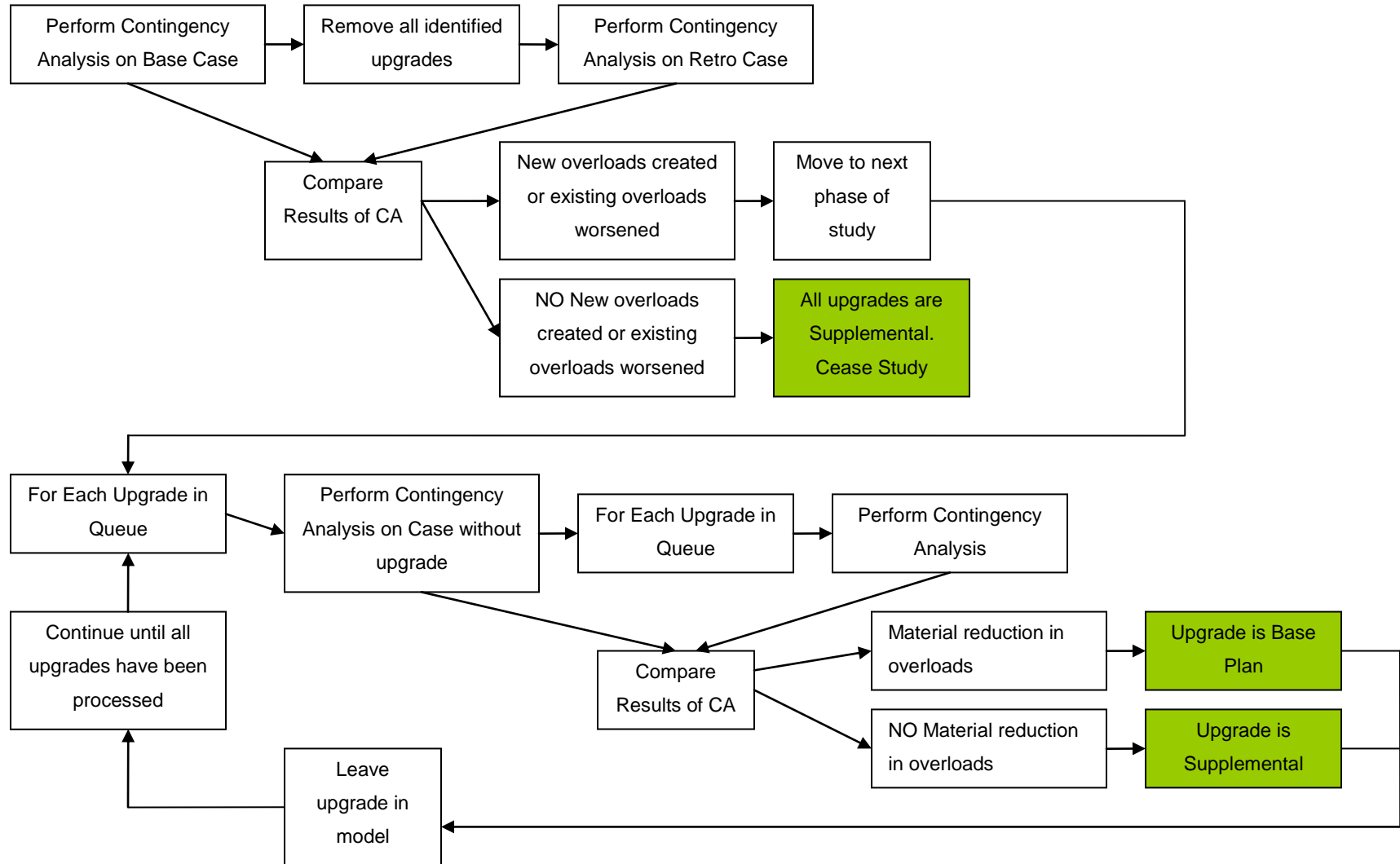
Appendix A: List of Generation Customers

#	Facility Name	Review Status
1	Tenaska Frontier Partnership, LTD.	Included in Phase 2 – Appendix C
2	Sabine Cogen LP	Included in Phase 1A
3	LSP Energy LP	Included in Phase 1A
4	Pine Bluff Energy LLC	Included in Phase 1A
6	Carville Energy LLC	Fully Credited ¹
7	BASF Corporation	Included in Phase 1A
8	Exxon Mobil Oil Corporation	Fully Credited ²
9	SRW Cogeneration, LP	Included in Phase 2 – Appendix D
10	NRG Sterlington LLC	Included in Phase 1A
11	RS Cogen LLC	Included in Phase 1A
12	AECC Wrightsville	Fully Credited
13	Occidental Chemical Corporation	Included in Phase 2 – Appendix E
16	Duke Hinds LLC	Fully Credited
17	Washington Parish Energy Center, LLC	Included in Phase 2 – Appendix F
22	Calcasieu Power LLC	Included in Phase 1A
23	Southaven Power LLC	Included in Phase 1A
25	Attala Transmission LLC	Included in Phase 1A
29	Ouachita Power, LLC	Included in Phase 2 – Appendix G
32	The Dow Chemical	Included in Phase 2 – Appendix H
39	Perryville Energy Partners LLC	Included in Phase 1A
44	Chevron Oronite Company LLC	Included in Phase 1A
46	TPS McAdams LLC	Included in Phase 1A
48	TPS Dell LLC	Included in Phase 1A
51	Acadia Power Partners LLC	Included in Phase 1A
55	Warren Power LLC	Included in Phase 1A
65	Union Power Partners, LP	Included in Phase 2 – Appendix I
66	KGen Hot Spring LLC	Fully Credited
75	Shell Chemical LP	Included in Phase 1A
78	Cottonwood Energy Company LP	Fully Credited
83	Bayou Cove LLC	Included in Phase 1A
90	Mississippi Delta Energy Agency	Fully Credited/Reimbursed
96	Reliant Energy Choctaw County, LLC	Included in Phase 2 – Appendix J
99	CITGO Petroleum Corporation	Included in Phase 1A
108	Duke Energy Southaven, LLC	Included in Phase 2 – Appendix K
125	South Mississippi Electric Power Association	Included in Phase 2 – Appendix L
136	Plum Point Energy Associates, LLC	Included in Phase 2 – Appendix M
141	Hot Spring Power Company LLC (Tractebel)	Included in Phase 1A

¹ The ICT deemed these facilities fully-credited pursuant to a settlement agreement filed and approved in FERC Docket No. EL04-20.

² The ICT deemed these facilities fully-credited pursuant to a settlement agreement filed and approved in FERC Docket No. EL03-230.

Appendix B: Flow Chart of Study on Optional Upgrades and Others Not Previously Classified



Appendix C: Tenaska Frontier Partnership, LTD (Project #1)

Customer information redacted

Appendix D: SRW Cogeneration (Project #9)

Customer information redacted

Appendix E: Occidental Chemical Corporation (Project #13)

Customer information redacted

Appendix F: Washington Parish Energy Center, LLC (Project #17)

Customer information redacted

Appendix G: Ouachita Power, LLC (Project #29)

Customer information redacted

Appendix H: Dow Chemical (Project #32)

Customer information redacted

Appendix I: Union Power Partners, LP (Project #65)

Customer information redacted

**Appendix J: Reliant Energy Choctaw County, LLC (Project
#96)**

Customer information redacted

Appendix K: Duke Energy Southaven, LLC (Project #108)

Customer information redacted

**Appendix L: South Mississippi Electric Power Association
(Project #125)**

Customer information redacted

**Appendix M: Plum Point Energy Associates, LLC (Project
#136)**

Customer information redacted