

# **DRAFT**

# Appendix E-2

# Deliverability Evaluation Process Description for Fall 2006 Request for Proposals (RFP) for <u>Limited Term</u> Supply-Side Resources

Entergy Services, Inc. August 31October 24, 2006

#### SUMMARY

This Appendix E-2 describes the process, criteria, and methods that ESI intends to use to evaluate the proposals for the Transmission Deliverability Evaluation in this Fall 2006 Limited-Term RFP.

#### **OVERVIEW**

The Deliverability Evaluation of the Fall 2006 Limited Term RFP evaluation process seeks to analyze the potential for utilizing the generation and bulk transmission facilities of the Entergy System to deliver a balanced and diversified portfolio of resources resulting in the highest overall value to customers without materially degrading supply reliability. The methodology for the Deliverability Evaluation is intended to identify whether any transmission constraints exist for proposals submitted in response to the Fall 2006 Limited Term RFP. It is important to note, however, that the decision whether to proceed with the Definitive Agreement for the Three Year Reserve Capacity MUCCO product and the Hour Ahead Peaking MUCCO product will be based upon the results of a System Impact Study to be performed by the Entergy Transmission Business Unit ("TBU") or Independent Coordinator of Transmission ("ICT"), as applicable.

For all products with the exception of the Three Year Reserve Capacity MUCCO product, the Delivery Term will be evaluated in two parts separately: The first year of the contract; and, the remaining term of the contract (consisting, when applicable, of the second year and beyond).

The For all products with the exception of the Three-Year Reserve Capacity MUCCO product and the Hour-Ahead Peaking MUCCO product, the Delivery Term will be evaluated based on the merits of the entire three in two parts separately: The first year of the contract; and, the remaining term of the contract. As discussed in more detail in the latter part of this section, a partial Deliverability Evaluation will be performed for proposals for this product. As part (consisting, when applicable, of that analysis, the Transmission Analysis Group ("TAG") will conduct its Individual Deliverability Analysis described in section 1 below. the second year and beyond).

After the proposals initially are evaluated individually, select proposals will be evaluated in combination with other proposals that are grouped to form one or more proposal portfolios. The evaluation by proposal portfolio is described in more detail in section 4 below. The Three-Year Reserve Capacity MUCCO product and the Hour-Ahead Peaking MUCCO product will be evaluated based on the merits of the entire Delivery Term. For the Three-Year Reserve Capacity, a partial Deliverability Evaluation will be performed, as discussed in more detail in the latter part of this section. The Hour-Ahead Peaking MUCCO product will use the same procedures described in section 1, below, but based upon a start date of Jauary 1, 2008.

DRAFT-FALL 2006 LIMITED-TERM RFP - August 31 October 24, 2006

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

After the proposals initially are evaluated on an individual basis, select proposals will be evaluated in combination with other proposals that are grouped to form one or more proposal portfolios. The evaluation by proposal portfolio is described in more detail in section 4 below.

The Deliverability Evaluation generally utilizes publicly available transmission load flow model information posted on TBU's OASIS website (http://oasis.e-terrasolutions.com/OASIS/EES), namely the Available Flowgate Capacity ("AFC") and the seasonal load flow models. The various models and input files that will be used by the <u>Transmission Analysis Group ("TAG")</u> in its analysis will be posted on the RFP website by a date certain, but prior to proposal submission. These AFC models and seasonal cases also will be used to determine the effects of changes to the transmission system associated with certain identified upgrades, which changes will be analyzed in sensitivity studies to be performed by TAG.

The overall Deliverability Evaluation methodology seeks to identify transmission constraints that may limit deliveries and the ability to secure firm transmission service for proposals to prevent transmission flows from exceeding transmission limits. With the exception of proposals for the Three-Year Reserve Capacity MUCCO product, if a proposal has no constraints identified for the first year of the Delivery Term under this methodology, no further studies or mitigation strategies will be tested in the initial Deliverability Evaluation for years two and three.<sup>1</sup>

In the event that the TAG's analyses indicate that there are constraints for a proposal, the Deliverability Evaluation will consider, for most products, different mitigation strategies as options for relieving the constraints in a least-cost and most viable way. These mitigation strategies, which are described in the following sections and illustrated in the <u>appendicesfigures</u> provided in this appendix, consider the prioritization of existing transmission capability usage and associated cost effects through the following:

- 1. Delisting and/or displacement of existing network resources,<sup>2</sup> and
- 2. Active transmission service management.

Each mitigation strategy will be tested for each proposal with transmission constraints, except for those proposals submitted for the Three-Year Reserve Capacity MUCCO product. The mitigation strategies will be used to determine how to minimize the overall cost of the delivery of the specific proposals. The delisting and active transmission service management mitigation strategies will be used to evaluate the available transmission capacity if constraints are identified in connection with the deliverability analysis. The most attractive mitigation strategy will be

<sup>&</sup>lt;sup>1</sup> As described further below, for the Baseload; Dispatchable MUCPA (Toll); Low Heat Rate MUCCO; Peaking MUCPA (Toll); and Peaking MUCCO; Hour Ahead Peaking MUCCO, products, if ESI executes Definitive Agreements, ESI will request network transmission for the resource, and if the Transmission Service Study Results are not acceptable to ESI, a subsequent Deliverability Evaluation may be performed if appropriate. For Three-Year Reserve Capacity MUCCO and Hour-Ahead Peaking MUCCO products, ESI will rely on acceptable Transmission Service Study Results.

 $<sup>^2</sup>$  The terms "delisting" and "displacement" refer to study methodologies for evaluating new network resources. In general, a "delisting" study evaluates a new network resource as a *long-term* substitution for an existing network resource, while a "displacement" study evaluates a new network resource as a *short-term* substitution for an existing network resource. From Business Practice for Network Resource-Delisting/Displacement Studies posted on OASIS.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

used by the EET to adjust the economics of the proposal identified in the Economic Evaluation, resulting in a net benefit value for each proposal.

Proposals for the Three-Year Reserve Capacity MUCCO product will be evaluated only by testing for constraints while displacing a limited set of gas/oil reserve network resources. These proposals must provide unconstrained transmission capacity for the entire contract term in order to substitute for the set of gas/oil reserve network resources that will be considered in this RFP as candidates to move from an operational to a non-operational role. The mitigation strategies will not be used to evaluate the potential for obtaining transmission service for these proposals because of the incremental operating costs associated with the product. The Three-Year Reserve Capacity MUCCO product does not dispatch often when evaluated in ProSym; therefore, the active transmission service management and delisting/displacement mitigation strategies are not practical for that product.

All proposals, except for those proposals submitted for the Three-Year Reserve Capacity MUCCO product, will be ranked based on the potential to provide counter flow or <u>Reliability</u> <u>Must Run ("RMR")</u> relief. The evaluation of counter flow/RMR relief is intended to identify whether the electrical location of a proposed resource could reduce the flow on a major interface or serve as a substitute for units subject to RMR directives issued by the Entergy TBU.

After both the Individual Deliverability Analysis and the associated EET analyses are completed, the EET will evaluate combinations of proposals to identify portfolios of proposals that result in the largest projected production cost benefits while meeting the other resource planning objectives of the Entergy System. The selected portfolios will be provided to the Transmission Analysis Group to determine if the output of any portion of each portfolio is restricted by transmission constraints during the Delivery Term due to one or more proposals imposing transmission flows that exceed transmission limits.

The transmission cost analysis of the proposal portfolios will evaluate the monthly and seasonal capacity deliverability of each portfolio using the same monthly and seasonal load flow cases used for the individual proposal analysis. The TAG can make further recommendations for additions/deletions of proposals from the portfolios based on constraints identified in the portfolio analysis. After considering the economic impact of any limitation in total monthly and seasonal portfolio capacity deliverability, the EET will review the production cost savings of each portfolio to determine the overall expected net benefit.

Upon execution of a Definitive Agreement,<sup>3</sup> ESI will request transmission service for the resource from TBU. For the Three Year Reserve Capacity MUCCO product, only a three year request for network transmission service will be submitted. The continuation of the applicable purchase power or tolling agreement for that resource beyond the first year of the Delivery Term will be contingent on acceptable Transmission Service Study Results from TBU being received for the resource, unless ESI determines, in its sole and absolute discretion, that it may obtain

<sup>&</sup>lt;sup>3</sup> Some long-term network transmission requests may be submitted to TBU in anticipation of the execution of a Definitive Agreement.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

sufficient transmission service through delisting or displacement options or active transmission management to continue with the purchase power or tolling agreement, as provided for in the applicable product packages. However, Definitive Agreements for the Three-Year Reserve Capacity MUCCO product and the Hour Ahead Peaking MUCCO will be contingent on Transmission Service Study Results from TBU being received by and being acceptable to ESI in its sole and absolute discretion, no later than 30 days prior to the commencement of the Delivery Term.

As described in the Proposal Evaluation Process, Appendix E-1, the TAG will identify the transmission region applicable to each proposal based upon that resource's location within the Entergy System. These regional location assignments will be provided to the EET for use in production cost modeling and/or spreadsheet analyses. See Section 3.21 below for a description of the Counter Flow Benefit analysis. The TAG also will assess the potential for each individual proposal to relieve Reliability Must Run ("RMR") requirements associated with existing generating units. See Section 3.42 below for a description of the RMR Relief analysis. To the extent the TAG identifies a change to the RMR guidelines issued by the TBU resulting from the addition of a proposed resource, the EET will include the TAG's RMR assessment in the Proposal Economic Evaluation.

#### 1 Individual Deliverability Analysis

For this analysis, the TAG will study the first twelve months of the Delivery Term for each proposal or portfolio using TBU's AFC analyzer and the last twelve of the eighteen monthly load flow cases (the "AFC Analysis"). These monthly load flow cases are posted on the TBU OASIS website and, as such, are available to all market participants that are registered with the TBU OASIS website.

If the results of the AFC analysis indicate that the <u>contract capacityContract Capacity</u> for the proposal is available during the first year of the Delivery Term, no further Deliverability Evaluation will be performed for the second and third years of the contract.<sup>4</sup> If the results of the AFC analysis indicate that constraints exist, the TAG will document all constrained flowgates that must be mitigated, for evaluation purposes, through one of the mitigation strategies discussed below. Any proposal that extends beyond three years will be evaluated using the seasonal load flow models for years four and five (see figure E2-4).

The study will be conducted in the following sequence:

1) For those proposals that have Delivery Terms of three years or less, the first twelve months of the Delivery Term for the proposals will be studied individually using TBU's AFC analyzer and the last 12 of 18 monthly load flow cases available to all

<sup>&</sup>lt;sup>4</sup> See footnote 2 above.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

market participants through the OASIS website. If the proposal is unconstrained in the AFC analyzer, then no further analysis will be performed by the TAG at that time. However, if the proposal is constrained, then a further sensitivity analysis will be performed to develop potential mitigation strategies.

- 2) For those proposals that have Delivery Terms of four or five years, the first three years of the proposal will be studied in the manner set forth in section 1) above. For years four and five of the proposal, the proposal will be analyzed using seasonal load flow models posted on TBU's OASIS website.
- 3) A generation shift factor table will be created for the constrained flowgate(s) found in each month or in the seasonal load flow models as illustrated in figure E2-1. For the first three years of the Delivery Term of a proposal, it will be assumed that the same months constrained in the first 12 months will repeat in the second and third years of the Delivery Term. If a budgeted upgrade has been posted on OASIS, then it will be considered in the transmission evaluation. The same methodology will be employed for years four and five, using the seasonal load flow models as described in figure E2-4.
- 4) All AFC flowgates for the first three years and all transmission elements greater than 115 kV will be monitored during the pre-contingency and contingency analysis to determine the least cost constraint mitigation strategy for each proposal. Any line or transformer overloaded greater than 100 percent during these conditions will be considered as a thermal constraint.
- 5) The lowest cost method will be incorporated into the economic evaluation process.
- 6) The economic evaluation team will compare the proposals based on the production cost benefit net of the deliverability cost expense.

# 2 Mitigation Strategies

As discussed above, each mitigation strategy will be tested for each proposal, when applicable. The mitigation strategies will be used to determine how to minimize the overall cost of the delivery of the proposals. The delisting/displacement and active transmission service management mitigation strategies will be used to evaluate the cost of securing transmission service if constraints are identified in connection with the deliverability analysis.

2.1 Delisting/Displacement

An analysis will be conducted to determine whether constraints identified using the AFC load flow models and seasonal models potentially could be mitigated by delisting/displacing network

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

transmission service associated with some portion of the Entergy Operating Companies' existing network resource generation. Coal and nuclear baseload resources will not be delisted. As illustrated in figure E2-2, a matrix of response factors will be developed for each delisting/displacement candidate and each proposal relative to specific transmission constraints identified for that proposal during the AFC-based analysis and the seasonal models. Only the candidates that have a greater than or equal to shift factor for resolving all constraints identified during the transmission analyses will be considered for delisting/displacement. Delisted/displaced resources will be limited to two plants.

The TAG will determine the amount of capacity constrained, if any, annually and the delisted capacity, if any, required for each proposal. If the delist/displacement option is a viable mitigation alternative, the available transmission capacity will be adjusted accordingly.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

DRAFT FALL 2006 LIMITED-TERM RFP - August 31 October 24, 2006

# 2.2 Active Transmission Management

The active transmission management mitigation strategy will be evaluated for proposals to determine the mitigation cost implications of obtaining transmission service through the use of short-term or subsequent requests for longer-term transmission service. Constrained time periods will be determined for each proposal based on TBU's AFC analyzer, AFC transmission models and the seasonal models.

The TAG will determine the amount of available transmission capacity used to calculate the net annual expected savings if constraints prohibit the proposal from utilizing the entire proposal capacity amount, as illustrated in figure E2-3.

The TAG will provide the least cost option of these two mitigation strategies to the Economic Evaluation Team (EET).

# 3 Benefit Analysis

The evaluation of counter flow/RMR relief is intended to estimate the potential benefits of a proposed resource, in the event that the electrical location of the proposed resource could reduce the flow on a major interface or serve as a substitute for an existing RMR unit.

# 3.1—RMR Relief

TBU has provided SPO with a list of RMR guidelines under a given set of System loading conditions and generation assumptions. The TAG has utilized this information to identify the potential constraints that force the units to be committed and designated as RMR units based on the 2007 seasonal load flow model. The TAG will determine if the proposal has similar effects as the Entergy System unit on the identified transmission constraints and provide this information to the EET. The TAG will determine this equivalency by a shift-factor-based analysis performed using Power System Simulator for Engineering (PSS/E)and Managing and Utilizing System Transmission (MUST<sup>TM</sup>). For those proposals that will be analyzed using PROSYM, the RMR relief associated with that proposal will be considered in the production cost model.

#### 3.2 Counter Flow Benefit

The TAG will define the constraints for each interface in the four regions of the Entergy System using the 2007 seasonal load flow model. The regions are defined as: WOTAB, Central, Amite South, and North. Based on the electrical location of the proposal, TAG will assign each proposal to one of the four regions. The TAG will provide to the EET the identification of the region and the shift-factor of the proposed resource on the interface. Shift-factors will be determined using PSS/E and MUST. For those proposals that will be analyzed using PROSYM,

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

the counter flow benefit associated with that proposal will be considered in the production cost model.

# 3.2 RMR Relief

TBU has provided SPO with a list of RMR guidelines under a given set of System loading conditions and generation assumptions. The TAG has utilized this information to identify the potential constraints that force the units to be committed and designated as RMR units based on the 2007 seasonal load flow model. The TAG will determine if the proposal has similar effects as the Entergy System unit on the identified transmission constraints and provide this information to the EET. The TAG will determine this equivalency by a shift-factor-based analysis performed using Power System Simulator for Engineering (PSS/E) and Managing and Utilizing System Transmission (MUST<sup>TM</sup>).

SPO will attempt to confirm whether a proposed resource that TAG identified as a potential candidate for an RMR substitution may, in fact, serve in that role through a transmission service study request submitted to TBU. If TBU determines that the resource cannot serve as an RMR substitute, SPO may terminate the remaining term of the purchase power or tolling agreement, as applicable, in SPO's sole and absolute discretion, as discussed in section 6 below and as provided for in section 8.2(b) of the applicable Baseload and MUCCO Model Contracts and in section 15.3(b) of the MUCPA Model Contract.

# 4 Portfolio Proposal Evaluation Process

After both the transmission benefit analysis and transmission cost analys is for individual proposals are completed, the EET will evaluate combinations of proposals to identify portfolios of proposals that result in the largest projected production cost benefits. The selected portfolios will be provided to the TAG to determine if the output of any portion of each portfolio is restricted during the Delivery Term due to one or more proposals imposing transmission flows that exceed transmission limits. The transmission cost analysis of the proposal portfolios will evaluate the monthly and seasonal capacity deliverability of each portfolio using the same monthly and seasonal load flow cases used for the individual proposal analysis. The TAG can make further recommendations for additions/deletions of proposals from the portfolios based on constraints identified in the portfolio analysis. After considering the economic effect of any limitation in total monthly and seasonal portfolio capacity deliverability, the EET will review the production cost savings of each portfolio to determine the overall expected net benefit.

#### 4.1 Study Approach

The study will be conducted in the following sequence:

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

- 1) The first twelve months of the Delivery Term for the portfolio proposals will be studied individually using TBU's AFC analyzer and the last 12 of 18 monthly load flow cases available to all market participants. If the proposal is unconstrained, then no further analysis will be performed by ESI at that time. If the TBU's AFC analyzer shows constraints, the last 12 of 18 monthly load flow cases will be studied using the MUST<sup>TM</sup> software. For those portfolios with more than one proposal that have Delivery Terms of four or five years, years four and five of those portfolio proposals will be analyzed using seasonal load flow models posted on TBU's OASIS website.
- 2) A generation shift factor table will be created for the constrained flowgate(s) found in each month. For proposals with a three-year Delivery Term, it will be assumed that the same months constrained in the first 12 months will repeat in the second and third year of the Delivery Term. If a budgeted upgrade has been posted on OASIS, then it will be considered in the transmission evaluation.
- 3) The mitigation strategies will be evaluated including all AFC flowgates to determine the least cost constraint mitigation strategy for each proposal.
- 4) The lowest cost method will be incorporated into the economic evaluation process.
- 5) The EET will compare the proposals based on the production cost benefit net of the deliverability cost expense.

# 5 Software Models Used

TBU's AFC analyzer and the MUST program will be used for all DC-based load flow and contingency analyses. The MUST program uses a DC-based network model to assess transmission overloads due to the injections of the proposals.

TBU's AFC analyzer is available for use by all registered market participants at TBU's OASIS website <u>http://oasis.e-terrasolutions.com/OASIS/EES</u>. MUST<sup>TM</sup> is commercially available from Shaw Power Technologies, Inc. (http://www.shawgrp.com/PTI/software/must/index.cfm). The monthly load flow cases, which are used to populate the AFC analyzer, are downloadable from TBU's OASIS website.

5.1 Sensitivity studies

ESI intends to perform sensitivity studies under certain circumstances. <u>to determine, based on</u> ESI's sole and absolute discretion and business judgment, whether proposals selected for the primary award list and secondary award shortlist would be different considering the results of the sensitivity analysis. For example, ESI intends to perform sensitivities that assume that certain upgrades to the Transmission System will be in service during the <u>deliver termDelivery Term</u> of

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

the proposal. Unless The TAG will perform sensitivities that assume that the Amite South/Downstream of Gypsy upgrades will be in service in 2008, unless the TBU determines that the Amite South/Downstream of Gypsy upgrades will not be placed into service until later than 2008, the TAG will perform sensitivities that assume that those Amite South/Downstream of Gypsy upgrades will be in service in 2008. The TAG also will planplans to perform sensitivity studies that will include upgrades that are identified in the TBU's Construction  $Plan^{5}-^{6}$ , if available. Other sensitivity studies also may be conducted in connection with this RFP; any such sensitivity studies are required to include identified upgrades, the AFC models and seasonal cases will be used to determine the effects on the Entergy transmission system of the changes contemplated in those sensitivity studies.

# 6 Submission of SIS requests to TBU/the ICT

UponFor the Low Heat Rate MUCCO, Peaking MUCCO, Baseload, Peaking MUCPA and/or Dispatchable MUCPA products, upon execution of a Definitive Agreement<sup>7</sup>, ESI will request transmission service for the resource from TBU. The requests will be submitted in a sequence that ESI determines would have the highest chance of receiving approval with the least amount of mitigation measures.

For the Three Year Reserve Capacity MUCCO product, only a three year request for network transmission service will be submitted to TBU. Definitive Agreements for the Three Year Reserve Capacity MUCCO product will be contingent on Transmission Service Study Results from TBU being received by and being acceptable to ESI in its sole and absolute discretion, no later than 30 days prior to the commencement of the Delivery Term. In the event that TBU's Transmission Service Study Results (a) indicate unacceptable results including but not limited to: (i) a denial of transmission service, (ii) new transmission constraints that require upgrades, or (iii) transmission constraints that require delisting and/ or additional counter flow purchases in excess of the result in the initial Deliverability Evaluation, or (b) are not received by ESI within 30 days prior to the commencement of the Delivery Term, then the Definitive Agreement for the Three Year Reserve Capacity MUCCO product will not become effective.

For the Low Heat Rate MUCCO, Peaking MUCCO, Baseload, Hour-Ahead Peaking MUCCO, Peaking MUCPA and/or Dispatchable MUCPA products, the requests for network transmission service will be submitted in the following manner: For one-year Delivery Terms, ESI will

DRAFT-FALL 2006 LIMITED-TERM RFP - August 31 October 24, 2006

<sup>&</sup>lt;sup>5</sup> The Construction Plan is defined in the Transmission Planning Protocols contained in Attachment S to the OATT currently pending before the FERC in Docket No. ER05-1065-0.

<sup>&</sup>lt;sup>6</sup> The Construction Plan is defined in the Transmission Planning Protocols contained in Attachment S to the OATT currently pending before the FERC in Docket No. ER05-1065-0.

<sup>&</sup>lt;sup>7</sup> Some long-term network transmission requests may be submitted to TBU in anticipation of the execution of a Definitive Agreement.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

submit monthly network transmission requests for each month of the Delivery Term that transmission service can be requested through the AFC submittal process. For three-year or greater Delivery Terms, ESI will submit (a) monthly network transmission requests for each month of the Delivery Term that transmission service can be requested through the AFC submittal process and (b) a long-term request for the remainder of the Delivery Term. ESI will submit the remainder of the service requests as annual requests.

For the Low Heat Rate MUCCO, Peaking MUCCO, Baseload, Peaking MUCPA and/or Dispatchable MUCPA products, once a Definitive Agreement has been executed, ESI will assume all transmission risk and manage transmission shortfalls ( $e.g_{\overline{r},\underline{r}}$  periods when transmission capacity is not available) for the Contract Capacity delivery during the first year of the Delivery Term. For the remainder of the Delivery Term, ESI will require Transmission Service Study Results<sup>8</sup> from TBU that grant the requested transmission service in a manner acceptable to ESI, unless, in its discretion, ESI decides to rely upon the results of a subsequent Deliverability Evaluation (see Section 4 in the RFP document).

For the Hour Ahead Peaking MUCCO product, Definitive Agreements will be contingent on Transmission Service Study Results from TBU being received by and being acceptable to ESI in its sole and absolute discretion, no later than 30 days prior to the commencement of the Delivery Term. For the remainder of the Delivery Term, ESI will require Transmission Service Study Results from TBU that grant the requested transmission service in a manner acceptable to ESI. For the Low Heat Rate MUCCO, Peaking MUCCO, Baseload, Peaking MUCPA, and/or Dispatchable MUCPA products, in the event that TBU's Transmission Service Study Results (a) indicate unacceptable results, including but not limited to: (i) a denial of transmission service; (ii) new transmission constraints that require upgrades; (iii) a denial of the request to allow a proposed resource to serve as an RMR substitute; or (iv) transmission constraints that require delisting and/ or redispatching in excess of the result in the initial Deliverability Evaluation, or (b) are not received by ESI within 255 days from the execution of the applicable Definitive Agreement; and the new Deliverability Evaluation is not acceptable to ESI in its sole and absolute discretion, then ESI shall notify Seller within 270 days after the execution of the applicable Definitive Agreement that it has elected to terminate the transaction for the remainder of the Delivery Term beyond the first year. Any such decision by ESI to terminate the remainder of the Delivery Term will be explained to and reviewed with staffs of interested state public utility commissions and local regulators overseeing the Fall 2006 Limited-Term RFP.

For the Low Heat Rate MUCCO, Peaking MUCCO, Baseload, Peaking MUCPA, Hour Ahead Peaking MUCCO and/or Dispatchable MUCPA products, in the event that TBU's Transmission Service Study Results (a) indicate unacceptable results as described above, or (b) are not received by ESI within 255 days from the execution of the applicable Definitive Agreement; and the new Deliverability Evaluation is not acceptable to ESI in its sole and absolute discretion, then ESI shall notify Seller within 270 days after the execution of the applicable Definitive

<sup>&</sup>lt;sup>8</sup> Transmission Service Study Results means a response from the Entergy Transmission Business Unit to a request for transmission service. Such response may be provided at or near the time a request is initially submitted and/or once a System Impact Study, if required, is performed.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

Agreement that it has elected to terminate the transaction for the remainder of the Delivery Term beyond the first year. Any such decision by ESI to terminate the remainder of the Delivery Term will be explained to and reviewed with staffs of interested state public utility commissions and local regulators overseeing the Fall 2006 Limited Term RFP.

For the Three-Year Reserve Capacity MUCCO product, only a three-year request for network transmission service will be submitted to TBU. Definitive Agreements for the Three-Year Reserve Capacity MUCCO product will be contingent on Transmission Service Study Results from TBU being received by and being acceptable to ESI in its sole and absolute discretion, no later than 30 days prior to the commencement of the Delivery Term. In the event that TBU's Transmission Service Study Results (a) indicate unacceptable results, including but not limited to (i) a denial of transmission service based on the inability of the proposed resource to substitute for a specific network resource or (ii) new transmission constraints that require upgrades, or (b) are not received by ESI within 30 days prior to the commencement of the Delivery Term, then the Definitive Agreement for the Three-Year Reserve Capacity MUCCO product will not become effective.

For the Hour-Ahead Peaking MUCCO product, only a request for network transmission service for the Delivery Term will be submitted to TBU. Definitive Agreements for the Hour-Ahead Peaking MUCCO product will be contingent on Transmission Service Study Results from TBU being received by and being acceptable to ESI in its sole and absolute discretion, no later than 30 days prior to the commencement of the Delivery Term. In the event that TBU's Transmission Service Study Results (a) indicate unacceptable results, including but not limited to: (i) a denial of transmission service; (ii) new transmission constraints that require upgrades; or (iii) transmission constraints that require delisting and/ or redispatching in excess of the result in the initial Deliverability Evaluation, or (b) are not received by ESI within 30 days prior to the commencement of the Delivery Term, then the Definitive Agreement for the Hour-Ahead Peaking MUCCO product will not become effective.

#### 7 Deliverability Evaluation Results

When transmission service is denied for a proposal that has resulted in a Definitive Agreement, and the participating Operating Company(ies) seek to cancel the contract beyond the first year, the Companies will agree to request that the load flow models associated with any System Impact Study in which transmission service was denied by TBU be posted on OASIS, because the Companies believe that those models would not disclose commercially sensitive operating characteristics of the Entergy System's generating units.

The statements contained in this Appendix are made subject to the Reservation of Rights set forth in the RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

# Figure E2-1 Example of AFC Flowgate Constraints

# **ILLUSTRATIVE**

| a 600 MW                         | Transfer Limit <sup>1</sup> | Constrained Flowgate   | Response<br>Factor <sup>2</sup> %      | Flowgate Limit |
|----------------------------------|-----------------------------|--|--|----------------|
| ndidate<br>oposal,<br>ſhese      | 554                         | Interface RAYCLI_RAYLO (210)   | 3.6                                    | 240            |
| nstraints<br>ust Be<br>viated by | 555                         | Interface CONBAG_CLYVI (51)  | 4.2                                    | 436            |
| 6 MW And<br>5 MW<br>tespectively | 1,170                       | "rface CONBAG_WGWAT (54)   | 436                                    |                |
|                                  | 1,885                       | Interface w. PRO N   | lity These                             | 300            |
|                                  | 1,913                       | For Deliverabi<br>Two Constrain<br>Interface CY138_(<br>Resource (s) v<br>or Greater R | its Must Be<br>y Other<br>vith Similar | 750            |
|                                  | 2,303                       | Interface CY500_(  | esponse<br>(s)                         | 750            |
|                                  | 3,246                       | Interface AMLHLB_HBCYP (6)   | -0.3                                   | 685            |

# Figure E2-2 **Example of Delisting/Displacement Mitigation Strategy**

#### **ILLUSTRATIVE**

| RAYCLI_RAYLO<br>Generator Sensitivities | RAYBRASWELL-CLINTON115-FTLO-RAYBRASWELL-LAKEOVER |                   |        | CONBAG_CLYVI<br>Generator Sensitivities | CONWAY - BAGATEL 230-FTLO-COLY -VIGNES 230 |                 |        |        |        |
|---|--|-------------------|--------|---|--|-----------------|--------|--------|--------|
| Name                                    | Response Factor                                  | Gen MW            | Min MW | Max MW                                  | Name                                       | Response Factor | Gen MW | Min MW | Max MW |
| 1EPG U4                                 | 9.6  | 0                 | 10     | 90                                      | 1G12LAST                                   | 4.9             | 60     | 10     | 60     |
| 2B.WLSI                                 |  |                   | 250    | 523                                     | G1LASTA                                    | 5.1             | 75     | 50     | 75     |
| 1EPG U                                  |  |                   | 10     | 90                                      | 1G11LAST                                   | 5.3             | 40     | 10     | 40     |
|   | llow Glen 3 Ext                                  |                   | 10     | 90                                      | 1G10LAST                                   | 5.3             | 40     | 10     | 40     |
| 1EPG U Sam                              | e or Greater Imp<br>straints as Can              | pact to<br>didato | 10     | 90                                      | G1RVRBN                                    | 6.2             | 1060   | 234    | 1000   |
| GGULF Res                               | source and Cou                                   | lid be            | 450    | 1075                                    | G3WGLEN                                    | 4.6             | 170    | 160    | 500    |
|   | placement Can                                    |                   | 204    | 1000                                    | G2WGLEN                                    | 4.6             | 220    | 50     | 220    |
| 1G11LAS                                 |  |                   | 10     | 40                                      | IG3BAYOU                                   | 4.4             | 0      | 20     | 98     |
| 1G10LAS                                 |  |                   | 10     | 40                                      | G1WGLEN                                    | 4.6             | 160    | 40     | 160    |
| G1LAST.                                 |  |                   | 50     | 75                                      | IG2BAYOU                                   | 4.4             | 0      | 20     | 98     |
| 1G12LAST                                | 6.4  | 60                | 10     | 60                                      | IG1BAYOU                                   | 4.4             | 0      | 20     | 98     |
| 1G5EXXON                                | 6.4  | 35                | 10     | 150                                     | IG4BAYOU                                   | 4.4             | 0      | 20     | 98     |
| 1G1ENCO                                 | 6.4  | 77                | 10     | 77                                      | 1S2INTHB                                   | 4.3             | 0      | 10     | 125    |
| 1G4EXXON                                | 6.4  | 88                | 10     | 88                                      | 1S3INTHB                                   | 4.3             | 0      | 10     | 125    |
| IDOWAEP1                                | 6.4  | 0                 | 10     | 177                                     | 1S1INTHB                                   | 4.3             | 102.5  | 10     | 125    |
| IDOWAEP2                                | 6.4  | 0                 | 10     | 177                                     | 1G3INTHB                                   | 4.3             | 0      | 10     | 187.5  |
| IDOWAEP5                                | 6.4  | 0                 | 10     | 200                                     | 1G1INTHB                                   | 4.3             | 187.5  | 10     | 187.5  |
| IDOWAEP4                                | 6.4  | 0                 | 10     | 177                                     | 1G2INTHB                                   | 4.3             | 0      | 10     | 187.5  |
| 6DOWCOGN                                | 6.4  | 400               | 80     | 661                                     | 1G4INTHB                                   | 4.3             | 0      | 10     | 187.5  |
| IDOWAEP3                                | 6.4  | 0                 | 10     | 177                                     | 1S4INTHB                                   | 4.3             | 0      | 10     | 125    |
| G4WGLEN                                 | 6.4  | 0                 | 160    | 568                                     | G4NELSON                                   | 4.3             | 454    | 200    | 500    |
| G5WGLEN                                 | 6.4  | 0                 | 150    | 550                                     | G6NELSON                                   | 4.3             | 550    | 240    | 550    |
| G3WGLEN                                 | 6.4  | 170               | 160    | 500                                     | 1RSCO R5                                   | 4.3             | 10     | 10     | 180    |

#### Figure **E3-2**E2-3

Example of Active Transmission Management Benefit Assessment

#### **ILLUSTRATIVE**

| Capacity Benefit Test for Active Transmission Management<br>100 MW Resource Proposal |                       |             |                  |  |  |  |  |
|--|-----------------------|-------------|------------------|--|--|--|--|
| Month  | Monthly Savings (\$M) | Monthly AFC | Expected Savings |  |  |  |  |
| June   | 3.2                   | 50          | 1.6              |  |  |  |  |
| July   | 4.1                   | 40          | 1.6              |  |  |  |  |
| August   | 5.2                   | 70          | 3.6              |  |  |  |  |
| September  | 6.0                   | 90          | 5.4              |  |  |  |  |
| October  | 1.5                   | 100         | 1.5              |  |  |  |  |
| November   | 2.1                   | 40          | 0.8              |  |  |  |  |
| December   | 5.1                   | 10          | 0.5              |  |  |  |  |
| January  | 1.1                   | 5           | 0.1              |  |  |  |  |
| February   | 4.2                   | 0           | 0.0              |  |  |  |  |
| March  | 4.3                   | 100         | 4.3              |  |  |  |  |
| April  | 5.5                   | 100         | 5.5              |  |  |  |  |
| May  | 1.2                   | 50          | 0.6              |  |  |  |  |
|  | 43.5                  |             | 25.6             |  |  |  |  |
| RATIO  | <b>59</b> %           |             |                  |  |  |  |  |





