INDEPENDENT MONITORING OF PROPOSALS FOR THE ENTERGY SUMMER 2008 RFP

REPORT ON
THREE-TO-FIVE-YEAR PROPOSALS
(INCLUDING DISPLACEMENT ANALYSIS)

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Table of Contents

I. Overview 1

A. Introduction 1
B. Results 2
C. Potomac Economics' Role as Independent Monitor 3

II. RFP Development 3

A. Products Offered 4
B. Evaluation of Proposals 4

III. RFP Issuance, RFP participant Registration, and Proposal Solicitation 6

A. Draft Issuance 6
B. RFP participant Questions 6
C. Final Issuance 7
D. RFP participant Registration and Proposal Submission 7

IV. Proposal Receipt 8

A. Redaction of Proposals 8
B. Conforming Proposals 9
C. Summary of Proposals 9

V. Evaluation of Proposals 10

A. Transmission Deliverability Evaluation. 10
B. Economic Evaluation 12
1. Fundamental Economic Analysis (Cost Model) 13
2. Net Benefit Analysis 17
C. Selections 21
D. Evaluation Conclusions 22

VI. Displacement Analysis 22

A. Background 22
B. Eligible Proposals 23
C. Displacement Units 23
D. Avoided Cost Estimates 24
E. Displacement Results 26
F. Conclusions 29

Tables and Figures

Table 1: Three-to-Five-Year Products Sought in the Summer 2008 RFP 4
Table 2: Summary of Proposals Offered 9
Table 3: Fundamental Economic Analysis Results 13
Table 4: Comparison of Calendar-Year and Contract-Year Levelization 16
Table 5: Net Benefit Analysis 20
Table 6: Non-Strategic Units Available for Displacement 24
Table 7: Avoided Capacity Displacement Cost 25
Table 8: Comparison of Historical Spending to Avoided Cost 26
Table 9: Displacement Analysis 28

Figure 1: Projected Economy Energy Prices and Platts Historical and Forward Prices 19

I. OVERVIEW

A. Introduction

This is the Independent Monitoring Report for three-to-five-year proposals in connection with the Summer 2008 Request for Proposals (RFP) for Limited-Term and Long-Term Supply-Side Resources conducted by Entergy Services, Inc. (ESI or Entergy) on behalf of the Entergy Operating Companies. Independent monitoring of the RFP is part of the competitive bidding requirements of the Louisiana Public Service Commission (LPSC)[1] and is intended to establish fair criteria to process and evaluate proposals among competing offers to provide power supply products.

The RFP sought both limited-term and long-term products. Within the limited-term products, both one-year and three-to-five year products were sought. On October 15, 2008, Entergy exercised its right under the RFP to terminate the requests for long-term proposals.[2] The stated reason was the onset of the instability in financial and commodity markets that had given rise to uncertainty in a number of key business areas.

This Report provides details on the RFP process for three-to-five-year products, including ESI's displacement process. A separate Report has been issued concerning the one-year, limited-term procurement. Because the process and evaluation used for the one-year and three-to-five-year proposals were similar, a reader of these reports will recognize a similar structure and some overlapping material.

The Summer 2008 RFP is the latest in a series of RFPs that ESI has issued since 2002 under the LPSC bidding requirements. The power supply products that ESI seeks to procure in this RFP

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1 General Order, Docket No. R-26172, Subdocket A, *In re: Development of Market-Based Mechanisms to Evaluate Proposals to Construct or Acquire Generating Capacity to Meeting Native Load, Supplements the September 20, 1983 General Order*, dated February 16, 2004 (as amended by General Order, Docket No. R-26172 Subdocket B, dated November 3, 2006, and further amended by the April 26, 2007 and October 29, 2008 General Orders). The Order applies in circumstances when (1) a Louisiana Operating Company participates in the RFP and (2) affiliate or "self-build" offers are invited. The Order requirements apply in this case because affiliate bids were invited.

2 This right is contained in Section 2.2 of the Final RFP document.

are based on the Entergy's resource planning objectives. ESI has identified a need for baseload, intermediate, and peaking capacity products and the RFP sought at least partially to fill these needs.

B. Results

There were eight three-to-five-year proposals offered in the RFP. [redacted] The final proposal, a 100 MW peaking product, was selected.

In our role as the Independent Monitor (explained below), we monitored the various facets of the RFP process and evaluation and, as indicated in this Report, we found the overall approach to have been conducted in a reasonable, fair, and transparent manner. Furthermore, we found the economic evaluation of the proposals to have been conducted accurately and to have provided a reasonable basis for making final selections.

Displacement Analysis. In addition to the main RFP process, ESI agreed to a "displacement analysis" whereby unselected proposals from the three-to-five-year RFP and the Long-Term RFP would be compared to older Entergy units to determine whether cost savings would warrant a transition of these older units to inactive reserve status[3] (i.e., "displacement"). Unselected one-year proposals were not considered because ESI did not perceive benefits in moving older units into inactive reserve status for a single year. Because the long-term RFP was canceled, the displacement analysis was applied only to proposals under the three-to-five-year RFP.

[redacted] The evaluation team provided estimates of the avoided forward cost of each of these units and compared these potential savings to the system net benefit of [redacted] We monitored the displacement analysis and

[3] Inactive reserve status allows Entergy to avoid the costs of keeping a unit available for dispatch.

found that it was fair and transparent and provided a reasonable basis for the ESI displacement decision.

C. Potomac Economics' Role as Independent Monitor

In this RFP, Potomac Economics served as both the Process IM and the Evaluation IM.[4] In the role as the Process IM, we worked with ESI personnel to ensure the RFP process was designed and implemented in a fair and unbiased manner and that communication restrictions among the RFP teams were observed. Throughout the process, we worked closely with the RFP Administrator, monitoring communication between RFP participants and the evaluation teams. We also monitored the overall process to ensure that the procedures established in the RFP were uniformly applied to all parties.

In our role as Evaluation IM, we focused on the economic evaluation of the competing proposals. Monitoring of the economic evaluation sought to ensure that the economic evaluation and selection of proposals were conducted in an accurate and fair manner. To this end, we monitored the structure, assumptions, calculations, and results of the economic models used to evaluate each proposal. We also monitored aspects of the transmission evaluation. Finally, based on the results of the economic analysis, we monitored the progression toward the final selections.

A complete explanation of the responsibilities the IM is contained in the Independent Monitoring Scope document posted to the RFP website.[5]

II. RFP DEVELOPMENT

A draft RFP was posted to the RFP website on June 2, 2008 for market participants. Prior to posting, and at the invitation of ESI, we were significantly involved in the drafting of the RFP. ESI provided us with several preliminary drafts during May 2008. In the process of reviewing

[4] Dr. David Patton formally serves as the Independent Monitor. The monitoring work is carried out by a team, including Dr. Patton, Dr. Robert Sinclair, Mr. Michael Chiasson, and Mr. Stephen Surina. Throughout this report the words "Independent Monitor", "IM", and "we" refer to this monitoring team.

[5] https://emo-web no.entergy.com/ENTRFP/index.htm

the drafts, we met with ESI staff members involved with drafting. We met both in person (in Houston) as well as by way of teleconferences. The primary purpose of our involvement in the RFP process was for ESI to solicit our comments, concerns, and recommendations.

A. Products Offered

ESI held an initial meeting with the IM team in Houston on May 6, 2008. ESI staff outlined the objectives of the RFP and the RFP schedule. During this meeting, ESI presented its load forecast and resource plan. We found the products being sought in the RFP were reasonably aligned with the system needs.

Table 1 presents the products sought in the RFP for the three-to-five-year term. These same products are sought for the one-year term RFP, as explained in a separate report.

Table 1: Three-to-Five-Year Products Sought in the Summer 2008 RFP

Product	Description
A - Baseload Purchased Power	Purchase agreement from a solid fuel or CCGT generating unit that is expected to run in all hours.
B - Dispatchable Purchased Power	Purchase agreement that gives ESI the ability to schedule and dispatch energy from a specific CCGT generating unit on a day-ahead and/or intra-day basis
C - Low Heat Rate Call Option	Call-option agreement for capacity and energy from a specifically-designated generating unit that gives ESI rights to pre-schedule energy from the unit for a minimum of eight to sixteen hours on a day-ahead and intra-day basis.
D - Peaking Purchased Power	Purchase agreement for capacity and energy that gives ESI the ability to schedule and dispatch energy from a specific CT generating unit on a day-ahead and/or intra-day basis .
E - Peaking Call Option	Call-option agreement for capacity and energy from a specifically-designated generating unit that gives ESI the ability to pre-schedule energy from the unit for a minimum of four hours on a day-ahead or intra-day basis.
F - Short-Notice Peaking Call Option	Call-option agreement for capacity and energy from a specifically-designated generating unit that gives ESI the ability to pre-schedule energy from the unit for a minimum of two (2) hours on an hour-ahead basis.

Note: The product names are descriptive ones for the purpose of this report; they are not the official ones used in the RFP document

B. Evaluation of Proposals

The RFP describes the process ESI uses to evaluate the competing proposals. ESI relies on three separate teams: the Economic Evaluation Team (EET), the Fuel Evaluation Team (FET) and the

Transmission Analysis Group (TAG), as well as input from the ESI credit department. The RFP also relies on information provided by the Independent Coordinator of Transmission (ICT). The ICT is an independent entity that performs certain functions for the Entergy transmission system including, among other things, the calculation of available transmission capacity, granting (or denying) of transmission requests, and an independent transmission planning process that determines the allocation of transmission upgrade costs among the various transmission customers.

The organization into various teams is done to maintain RFP participant anonymity with Entergy personnel who perform the proposal evaluation and selection so that RFP participants' commercially-sensitive information is shared only as necessary. The FET and TAG require more detailed information on unit location to do their analyses. However, this specific information is not shared in detail with the EET. To the extent possible, EET receives masked data regarding the identify of RFP participants and the location of plants. We monitored the distribution of certain key data to ensure these processes were observed. We conclude that the processes were strictly observed.

While the specifics of the evaluation models are complex, the RFP does an adequate job of explaining the overall process. The RFP describes a "Fundamental Economic Analysis" and a "Net System Benefit Analysis". The Fundament Economic Analysis is used for each proposal and measures the levelized $/MWh cost over the relevant term. The Net System Benefit Analysis is used to measure the per-kW-year benefit of each proposal based on costs and system benefits from production cost savings. Because production cost savings are only estimated for energy products (Products A, B, and C, from Table 1), the net benefit analysis facilitates comparison among energy proposals. Peaking products, (Products D, E, and F), are assessed solely on costs. This is because peaking products are not expected to result in production cost benefits due to their infrequent dispatch.

In general, we found the proposal evaluation methodology described in the RFP to be reasonable. We did not encounter any substantive issues that required ESI to alter the basic draft.[6] The draft

[6] One substantive issue arose with respect to draft language that appeared to restrict the use of production cost savings metrics in the evaluation. We viewed the production cost savings as a critical component for certain

provided sufficient clarity to explain the overall process while at the same time it allowed flexibility for effective monitoring to identify and correct potential issues arising during the evaluation.

III. RFP ISSUANCE, RFP PARTICIPANT REGISTRATION, AND PROPOSAL SOLICITATION

A. Draft Issuance

The market was notified of the RFP issuance in three ways. First, ESI maintains an email list of parties interested in RFPs and notified participants included on this list. Second, a notification was placed in the April 4, 2008 edition of the LPSC's Official Bulletin which can be viewed through the LPSC website. Third, ESI posted the draft on its RFP website which contains information on past, present, and future RFPs. The draft RFP was released via ESI's RFP website on June 2, 2008.

B. RFP participant Questions

The draft RFP provided contact information for the RFP Administrator and invited market participants to submit questions in writing to this person. IM contact information was also provided. Practically all inquiries by market participants were directed to the RFP Administrator. These were both in the form of phone calls and email letters. We worked closely and effectively with the RFP Administrator in monitoring the communications from RFP participants. It is not practical to monitor all participant communications. Many inquiries received by the RFP Administrator related to matters that would burden any monitoring system were they all to be brought to the IM's attention. Many issues involved simple questions about interfacing with the RFP submission software or questions that could be addressed by reference to the RFP document. Accordingly, effective monitoring of the communications to the RFP Administrator required judgment on the part of the RFP Administrator regarding what issues to present to the IM. This judgment involved primarily issues raised over the telephone because, in general, email communication was copied to the IM. Telephone inquires also resulted in an

aspects of the evaluation. ESI clarified that the language was not intended to eliminate or restrict the use of production cost savings, but only to emphasize that cost-based assessments would be the primary ones for long-term proposals, given the uncertainty regarding the configuration of the ESI system in light of the potential departure of one or more operating companies from the Entergy System Agreement. This point became moot because the issue only arose in the evaluation of long-term proposals.

email to the IM based on the judgment of the RFP Administrator. We found that the RFP Administrator exercised good judgment in making issues known to us. We also found the RFP Administrator employed effective organizational skills which facilitated the overall RFP process.

On June 19, 2008, ESI and the LPSC Staff hosted a Technical Conference at the Houston Intercontinental Airport. The main purpose of the conference was to discuss and clarify any issues relating to the draft RFP. Some participants took advantage of the opportunity to submit questions in advance to ESI and some were submitted during the conference. The LPSC staff also discussed a number of questions that they had previously presented in writing to ESI. Dr. Patton made a brief presentation on behalf of the IM team. Entergy also provided a session introducing its new web-based system for registering and submitting RFP proposals. ESI also held a separate teleconference at a later date for interested parties who could not attend the Technical Conference.

All questions and answers, both from the technical conference and otherwise, were recorded and promptly posted to the RFP website. There were 100 questions and answers posted.

C. Final Issuance

With the input received from potential RFP participants, the LPSC staff, and the IM, ESI issued the final RFP on July 28, 2008. This was three weeks prior to the start of the proposal submission period.

D. RFP participant Registration and Proposal Submission

ESI introduced a new web-based system for registration and proposal submission. This new system replaced the old process which involved paper forms and Excel spreadsheets. We conclude that the new system was a significant improvement over the old process, and made the entire RFP process easier for ESI staff, the RFP participants, and the IM.

Being a new system, ESI made a significant effort to educate potential RFP participants. As indicated above, ESI provided a training session on the new system during the technical conference. ESI also hosted a testing period where the new system was made available for RFP participants to enter test data and to familiarize themselves with the system. The test provided valuable information to both the RFP participants and ESI. For added assistance, the RFP

Administrator was available during business hours to answer any questions via telephone and email regarding the new system testing.

The RFP participant registration and proposal submission process consisted of three separate steps.

1) RFP participant registration (August 4, – August 7, 2008). Using the web-based system, the RFP participants provided company contact information and identified the units and proposals they were choosing to offer. During this step, identification numbers for each RFP participant, unit, and proposal were created. These were used throughout the process to allow anonymous identification.

2) Submittal Fee (due August 14, 2008). Based on the number of registered proposals, RFP participants were required to pay their submittal fee prior to actually entering the detailed data requested in the Proposal Submission step (Step 3).

3) Proposal Submission (August 18, - August 21, 2008). RFP participants entered the detailed data for each of their proposals.

Although ESI conducted dry-run test simulations, minor technical issues arose during actual operation of the automated RFP submission interface. However, because of controls and back up systems, these technical issues were identified and rectified. None of the technical issues resulted in adverse impacts to the RFP process. Moreover, the interface improved the handling and processing of registration and bidding.

IV. PROPOSAL RECEIPT

A. Redaction of Proposals

Proposals were due on August 21, 2008. In preparation, Mr. Surina traveled to Houston to represent the IM team and to monitor the processing of the proposals. The main process issues involved transferring the proposal data to reports for the different evaluation teams. This is an area where the new electronic system provided significant benefit. The system produced a customized report for each team that contained only the data fields needed by the given team. Each report still required individual handling, however. The RFP Administrator and Mr. Surina worked to redact the reports to ensure there was no information in the report that was not needed by the particular team and to ensure there was no information that identified the RFP participant

or the resource. There were a number of proposals that contained lengthy "special consideration" sections that required considerable redacting.

After the redaction process, the evaluation teams received a redacted version of the proposal data as well as any redacted additional data that the RFP participant may have submitted separately in conjunction with their proposal. Unredacted versions of all data were provided to the RFP Administrator, the IM, and the ESI legal team. No evaluation team member had access to the unredacted versions of reports. A system administrator verified that only evaluation team members could access redacted files through the restricted file share location.

B. Conforming Proposals

There were a number of proposals with non-standard aspects. ESI and the IM made significant efforts to allow RFP participants to remedy potentially non-conforming proposals. This resulted in sending numerous requests for clarifying information. In the end, all limited-term proposals were deemed to be conforming. There were several proposals that were, or may have been, deemed non-conforming if it were not for the cancellation of the long-term portion of the RFP.

C. Summary of Proposals

There were a total of sixteen limited-term offers from nine RFP participants that were considered in the proposal evaluation. Table 2 provides a summary of the offers.

Table 2: Summary of Proposals Offered

Product	Proposals (Count)	Resources (Count)	Summer Capacity (MW)	One-Year Proposals (Count)	Three-Year Proposals (Count)	Five-Year Proposals (Count)
A - Baseload Purchased Power	1	1	185	1		
B - Dispatchable Purchased Power	11	6	5451	5	3	3
C - Low-Heat-Rate Call Option	2	1	360	1	1	
D - Peaking Purchased Power	*No Limited-Term Offers*					
E - Peaking Call Option						
F - Short-Notice Peaking Call Option	2	1	200	1	1	
G - Acquisition	*Long-Term RFP Only*					
Total	16	9	6196	8	5	3

As Table 2 shows, there were eight three-to-five-year proposals; five were three-year proposals and three were five-year proposals. Of the eight proposals, six of them were Product B

(Dispatchable Purchased Power), and one each of Product C (Low-Heat-Rate Call Option) and Product F (Short-Notice Peaking Call Option). No proposals were received for Products A, D or E and Product G was a long-term product. The total proposed capacity for the three-to-five-year proposals was 3,690 MW. This total includes 418 MW of supplemental capacity associated with combined-cycle natural gas turbine units.

V. EVALUATION OF PROPOSALS

The evaluation process moved forward on two roughly parallel tracks. One was the Transmission Deliverability Evaluation (TDE); the other was the economic evaluation. The TDE is an input into the economic evaluation because it determines the availability and cost of transmission service for each proposal. While the TDE and the economic evaluation were conducted in parallel, the economic evaluation could not be completed without the final results of the TDE because the TDE provides the transmission information to the economic evaluation. However, much of the analysis in the economic evaluation could be completed without the final TDE results. Accordingly, the evaluation teams proceeded with the analyses simultaneously.

A. Transmission Deliverability Evaluation.

The main element of the TDE is the "information-only" transmission study conducted by the ICT. These information-only requests identify any transmission constraints and the cost of mitigating the constraints. Given the short-term nature of the requested service, no transmission upgrades were contemplated for three-to-five-year proposals. The only transmission costs for three-to-five-year proposals would be the cost of mitigating constraints by delisting existing Entergy network resources. Delisting a network resource is the process of removing the network designation of an existing network resource which can increase transmission availability. As explained below, a proposal that requires a delisting in order to secure transmission capacity is assigned a cost in the evaluation process in accordance with the estimated costs to replace the delisted capacity.

ESI's Transmission Analysis Group (TAG) initially identified the potential candidates for delisting and this information accompanied the information-only request to the ICT. The ICT used the delisting candidates to determine the feasibility of the delisting. We monitored the

TAG's selection of delisting candidates and found that TAG proceeded in a reasonable manner and selected appropriate delisting candidates.

The information-only requests determine whether Available Transmission Capacity (ATC) exists to qualify the proposal as a network resource. If the ATC exists without requiring delisting, then no transmission costs are associated with such proposals. This is because ATC for network resources is paid by the utility on a load-ratio share basis, which does not change when a network resource is added. [redacted]

The results of the TDE are used to both eliminate proposals (if they do not secure ATC) and to estimate the cost of transmission in instances where redispatch or delisting can be used to secure ATC. ESI did not evaluate further the [redacted] that could not secure ATC. ESI has little or no latitude in responding to the ICT information-only reports. Therefore, from a monitoring perspective, if the ICT indicates that a certain proposal cannot secure ATC, we find no basis for questioning ESI's decision to eliminate such proposals.

[redacted]

[redacted]

B. Economic Evaluation

The economic evaluation was conducted by the Economic Evaluation Team in two parts. The first part is a cost model that estimates the stream of costs associated with each proposal. The second part of the evaluation takes some of the cost data from the first part and incorporates the estimated production cost savings associated with adding each proposal to the Entergy system's resource mix. The production cost savings are only used for proposals offering energy benefits; these are the dispatchable purchased power proposals (Product B) and the low-heat rate call option (Product C).[8] For the short-notice peaking call option (Product F), ESI did not estimate production cost savings because of the small number of hours that proposals in this category are expected to run. Because energy proposals include estimates of production cost savings and peaking proposals do not, they are not directly comparable. Hence, energy proposals are compared only to other energy proposals and peaking proposals are compared to other peaking proposals.

7 [redacted]

8 Baseload purchase power proposals (Product A) also offer energy benefits, but none were offered under three-to-five-year terms.

[redacted] One of the remaining proposals was an energy proposal and one was a peaking proposal. Hence, they are each evaluated on their own merits and not compared to one another. By the time the transmission evaluation was completed, the economic evaluation had already been conducted on all proposals. In the interest of transparency, we present the results of all proposals.

1. Fundamental Economic Analysis (Cost Model)

ESI uses what it terms the Fundamental Economic Analysis, which is a cost model that estimates the fixed and variable cost of each proposal over an assumed number of operating hours. Fixed costs reflect the option premium, which is the monthly contract charge that Entergy would pay the seller to make the contract energy available for purchase. Variable costs reflect fuel, variable O&M, and start-up costs. Each proposal is assumed to operate in hours that are based on the type of product offered. Baseload proposals operate in more hours and peaking products in fewer hours.

The results of the Fundamental Economic Analysis are shown in Table 3.

Table 3: Fundamental Economic Analysis Results

Redacted

Table 3 is divided into two sections. [redacted] In the table, most of the key values are expressed as "levelized" values. These are present value concepts. We first explain each of the key variables and then discuss the levelized values. dacted

Term. The time period of the proposals in the table is either the three-year period June 2010 through May 2013 or the five-year period from 2010 to 2015.

Fixed and Variable Costs. Per MWh fixed costs are calculated by dividing the option premium for each time period by the projected MWh of operation during each time period. Variable costs are the estimated MWh cost of operating the unit. This includes fuel costs and variable O&M. We find these estimates to be based on reasonable assumptions and methods.

Supplemental Capacity. The analysis also includes benefits from any supplemental capacity associated with combined-cycle units. This benefit (which is shown as a negative cost) is based on the ESI estimate of market-based prices for capacity. The estimated capacity price is then applied to the amount of supplemental capacity for each proposal and then divided by each proposal's MWh of operation. This capacity price is estimated from actual purchase data. In particular, recent market purchases of power are compared to estimated running cost of resources supporting such purchases. The difference between the market price and the estimated running cost is the basis for the capacity payment. In this manner, the price of the capacity component of a particular resource will depend on its heat rate. We find this to be a reasonable method of estimating market capacity prices for evaluation purposes.

Imputed Debt. Imputed debt costs reflect the incremental finance cost to ESI from entering a purchase power agreement. The credit agencies grade corporate debt, like Entergy's, based on a range of financial indicators, the company's debt, and other obligations. [redacted] Hence, if Entergy secures a PPA as part of this RFP, the total debt possessed by the company for purposes of a credit rating will increase. Because a credit rating will decline when debt increases, initiating a PPA will decrease Entergy's credit rating and, consequently, increase its cost of capital. In order to reflect this in the RFP evaluation, ESI undertakes an analysis to impute these additional costs. ESI calls this analysis the Imputed Debt analysis. The Imputed Debt analysis estimates the capital costs (as measured by the return on equity) associated with Entergy issuing equity in order to maintain the same capital structure and, thus, the same credit rating.

The analysis is provided by the formula:

(*Levelized Capacity Charge*)x(*portion treated as debt*)x(1-*debt-to-equity ratio*)x(*cost of capital*).

We find the estimates of imputed debt to be based on reasonable assumptions and methods.

Transmission Expenses. For all proposals except the single F product proposal, transmission expenses are $0. This is because each proposal will be a designated network resource and transmission capacity will be paid for based on Entergy's load ratio share of transmission system costs. For the F product proposal, the non-zero transmission expenses arise because of the delisting required to obtain transmission service. Under the evaluation process, a delisting creates transmission cost because the capacity of the delisted unit must be replaced through a market purchase of capacity. This estimated cost is based on the same method used to estimate the value of supplemental capacity. Entergy estimates this value to be approximately [redacted] for a unit with a heat rate comparable to the delisted unit in this case.[9] The cost of securing this capacity in each period is allocated over the estimated MWh of production in each period to arrive at the value in the table. We find this approach and the associated estimates to be reasonable.

Levelizing. The per MWh values in Table 3 are presented in levelized amounts. A levelized value is the fixed value (cost or benefit) that if it were incurred in each period of the proposal, the stream of values would produce a present value equivalent to the present value of the actual projected values. ESI conducted the levelization on a calendar-year basis, beginning in 2010. Because all proposal start on June 1, 2010, the first period of the levelizing contains only the seven months June through December. The last period of the levelizing (2013 for three-year proposals and 2015 for five-year proposals) contains only five months. Hence, for three-year proposals, there are four periods to levelize and for the five-year proposals, there are six periods to levelize. A rationale for calendar-year levelizing is to account for the fact that some proposals may have different values in the first seven-month period compared to the final five-month period. The first period (May-December 2010) contains more summer months and would be subject to less discounting under calendar-year levelizing than the farther period (January-May 2013 for three-year proposals and January-May 2015 for five-year proposals). While this impact

9 The delisting involves [redacted]

is likely to be minimal, it is understandable to try to account for it. A reasonable alternative is to calculate "contract-year" levelizing, with the first period being the 12-month period starting June 1, 2010. It was straightforward to calculate the contract-year levelizing and we provide the values in comparison with the calendar-year values in Table 4.

Table 4: Comparison of Calendar-Year and Contract-Year Levelization

Redacted

As the Table shows, the alternative calculation did not significantly change the results, i.e., the "Contract-Year" total is roughly equal to the original "Calendar-Year" total. The estimates are close in magnitude because each period's value is based on the per-kWh measures, which does not depend on the length of the period because total costs in each period are proportional to total kWh in each period. The slight differences in the values arise because the discounting in the calendar-year calculations has the effect of putting a greater weight on the seven-month 2010 costs compared to the shorter five-month "terminal year" period (i.e., 2013 for three-year proposals and 2015 for five-year proposals).

The F Product has significantly higher costs compared to the other products because it is assumed to operate in a significantly smaller number of hours. Hence, fixed costs are spread over a smaller base, making the per-MWh value relatively large.

2. Net Benefit Analysis

While the fundamental economic analysis model presented in Table 3 provides insight into the relative merits of the proposals, the ultimate measure used to evaluate the proposals was the net benefit analysis.

The net benefit analysis established per-kW-year cost metrics and incorporates production-cost savings into the evaluation. The per-kW-year net benefit is defined as the difference between the per-kW annual fixed cost and the per-kW annual production-cost benefit. As discussed above, production cost savings are only estimated for energy products (Products B, and C). For the lone Product F, the net benefit analysis only results in a per-kW measure of fixed costs; no production-cost savings are estimated.

Production-Cost Savings Estimate. Production-cost savings are estimated using the Prosym production-cost model. Prosym simulates the commitment and dispatch of utility generation resources and estimates the production cost of meeting hourly load given generator characteristics, fuel costs, and transmission constraints. Prosym is a common and well-accepted method for measuring the production-cost impact of generator dispatch and other system constraints. The evaluation team estimates the production-cost saving for an individual proposal by first estimating the total annual production cost of meeting load in a "base case" that reflects Entergy's existing resources and assumptions regarding purchase opportunities in the economy energy market. Next, the proposed resource is included in the Entergy dispatch for each year for which it is offered and the total annual production cost is estimated and then compared to the base case production costs to estimate the annual production-cost savings, if any.

We reviewed the assumptions used in the Prosym model and found no systematic bias. One area that we judged to be important was the economy energy market. It is important because of its potential effects on the economic evaluation results. The production cost model determines a certain level of economy purchases by the Entergy system. If the economy energy price is assumed too low, then the modeled-system will rely more heavily on economy energy purchases and rely less on the proposed resources, resulting in lower production cost savings for the proposed resources. If the economy energy price is too high, the opposite is true, making production cost savings estimates too high.

ESI models the economy energy prices using a market simulation software called MIDAS. MIDAS simulates the least-cost dispatch of the entire Eastern Interconnect. The economy energy supply curve is essentially assumed to be the unloaded resources in each simulation. The bottom of the supply curve is the least-cost undispatched unit and the other units are stacked on it in ascending order of marginal cost. Because the MIDAS model dispatches units regardless of ownership, the capacity left undispatched is on units with costs that are higher than the highest-cost unit dispatched. This is consistent with the results of a competitive economy energy market. Given that a portion of the units in the MIDAS dispatch reflect what would be purchases of economy energy from regional independent power producers and neighboring utilities, that portion reflects a segment of the economy energy market that is cleared at the price of the lowest-cost undispatched unit. Moreover, to bring in another unit of economy energy, the price must equal the marginal cost of the lowest-cost undispatched unit. Hence, we find this modeling construct to reasonably reflect the supply likely to be available in the economy energy market.

While the modeling is reasonable, we also sought to check the projected prices from this method with actual market prices prevailing in the region. In particular, we compared historical "Into Entergy" daily prices and "Into Energy" future prices from Platts data service to ESI's estimated economy energy prices in Prosym. We used data prevailing in August 2008, when ESI made the projections. The comparison is shown in Figure 1.

Figure 1: Projected Economy Energy Prices and Platts Historical and Forward Prices

Redacted

There are two aspects of the figure that are important for evaluating the ESI economy energy price projection. First, the projected prices by ESI indicate a pattern that reasonably corresponds to the historical trend of the Platts prices – i.e., the dashed line appears to be a reasonable extension of the historical price patterns shown by the solid black line. [redacted] Accordingly, we are satisfied that the economy energy market price projections are reasonably accurate.

Net Benefit Analysis Results. As introduced above, the net benefit analysis estimates a per-kW net benefit based on fixed cost less production-cost savings. Net benefits will be positive when per-kW production-cost savings exceed the per-kW production costs. For peaking products, the net benefit is always negative because no production-cost savings are estimated for such products. Table 5 summarizes the results of the net benefit analysis.

Table 5: Net Benefit Analysis

Redacted

Like with the cost analysis above, the evaluation team levelized the proposals on calendar-year basis. In the Table, except for the last column (which we added), the levelized values are expressed on a per-kW basis because they represent the levelized value on a per-kW basis for each period. The first and last periods of the analysis are less than one year. For all proposals, 2010 is seven months. For three-year proposals, 2013 is five months and for five-year proposals 2015 is five months. The calculation in the far right column is based on one year periods beginning June 2010 so it is expressed as a per kW-year.

As explained above, it may be reasonable to levelize values on a calendar-year basis. This can account for the fact that the two periods are different in nature. The near-term period (June-December 2010) contains more summer months and would be subject to less discounting than the farther period (January-May 2013 and January-May 2015). For the per-kWh cost analysis (Table 3), the calendar-year results were not significantly different from our contract-year levelizing calculations. This is because for that analysis, total costs in each period are proportional to total kWh in each period. Hence, the per-kWh measures do not depend significantly on the length of the period. Hence, there is only a minor difference between the calendar-period levelizing and the single-period NPV.

For the per-kW evaluation, ESI's use of calendar-year-period calculations resulted in values that are substantially different from our contract-year-period calculations. This is because the length of the period has a considerable impact on the value for that period. In the calendar-year

calculations, total net benefit is normalized (divided by) the unit capacity in each year and no prorating is used for partial years. Hence, partial calendar-year values (i.e., the first and last years) are divided by the full capacity even though only partial costs are incurred in those years. This makes the first and last years significantly smaller in the stream of future values than the middle years, reducing the overall levelized value as compared to the contract-year calculations. Either measure results in the same relative rankings among the various proposals. Furthermore, as shown in the next subsection, the alternative approaches do not affect the logic of the final selections.

C. Selections

[redacted]

While the evaluation team used both the fundamental economic model and the net benefit model in assessing each proposal, the net benefit model was the model that underpins the final rankings and evaluation of the proposals. This is logical because using the Prosym model introduces two key elements into the evaluation. First, it makes dispatch endogenous. Second, it accounts for locational attributes of the resource.

The structure of the evaluation and selection process is generally to establish an economic ranking based on the net benefit model and then to consider the highest-ranking proposals as the potential selections. Because peaking products are not to be evaluated using production-cost savings, the energy products and the peaking products are evaluated separately. In this case, because one proposal is a peaking product (Product F) and one is an energy product (Product C), a ranking is not possible. Each proposal is considered on its own merits.

ESI chose to reject the Product C energy proposal based on the net benefit calculation. [redacted] Accordingly, we find it reasonable that ESI rejected this proposal based on economics.

The remaining F product proposal also had a negative net benefit. However, being a peaking product it was not assigned production-cost benefits. Therefore, it can only have a negative net benefit. The evaluation team estimated the net benefit, which is really the per-kW cost, to be [redacted]. Our contract-year levelizing result is [redacted].

With peaking products, net benefits are always negative. Hence, selections must be based on the perceived operating benefits to the system because no production-cost benefit is available. Necessarily, the value of this benefit is within the operating and business judgment of ESI. ESI selected the single peaking product based on the flexibility of this product in meeting peak system needs. ESI selected a similar product in the Fall 2006 Limited-Term RFP process. Hence, it has experience with the system benefits that such products provide. While we can affirm that the evaluation process was fair and reasonable it is not within the scope of our monitoring to assess the relative operating benefits that might accrue from a peaking proposal.

D. Evaluation Conclusions

[redacted] Given the constraints, the evaluation was conducted in a thorough and accurate manner. ESI evaluation team members were thorough and highly responsive to our monitoring. Accordingly, we find that the overall evaluation was accurate, fair, and transparent. The models were logical and based on reasonable assumptions and, as a result, provided a sound basis for making final selections.

VI. DISPLACEMENT ANALYSIS

A. Background

The displacement analysis seeks to go beyond the incremental capacity needs identified in the RFP by determining whether cost savings are possible by displacing existing Entergy units with unselected proposals. The process seeks to transition Entergy's older units from "reserve" status to "inactive reserve" status, with the associated capacity and energy replaced by unselected

resources offered in either the Limited-Term RFP or the Long-Term RFP. The displacement analysis arose from Entergy's commitment to the LPSC Staff to use the RFP process to identify resources that could efficiently replace existing units.

B. Eligible Proposals

In principle, all unselected proposals in the Summer 2008 RFP with a duration of 3 years or longer were eligible for evaluation in the displacement analysis. (One-year proposals were not considered in light of the impracticality of moving existing units to inactive reserve for a single year.) Hence, only unselected three-to-five year proposals were considered. [redacted] Consequently, a single proposal was advanced to the displacement process.

C. Displacement Units

ESI identified a set of eligible displacement units based on operating characteristics. In particular, for planning purposes, ESI identifies older natural gas and fossil units that are the least likely to be dispatched and most likely to be replaced in the ten-year planning horizon. These "non-strategic" resources were identified separate from the displacement analysis, but because of the nature of this set of units, they form a natural grouping for the displacement analysis. The total capacity of these units is over [redacted]. Some of the units are already inactive or are currently in transition to inactive status and therefore would not be candidates for displacement. In addition, one unit was needed for transmission reliability. Excluding these

units, total displacement candidates include over [redacted] MW of capacity. Table 6 shows these units.

Table 6: Non-Strategic Units Available for Displacement

Redacted

The set of units identified for the displacement analysis has expanded significantly since the displacement analysis in the Fall 2006 Limited-Term RFP. In that displacement analysis, only units designated as "reserve" units were identified. That group amounted to less than [redacted]. It is favorable to the displacement process that ESI has expanded the group of displacement candidates.

D. Avoided Cost Estimates

The key to the displacement analysis is the avoided cost associated with displacement candidate units. Not all of the units were displacement candidates because under the displacement process, the displacement proposal (i.e., the unselected proposal from the main RFP evaluation) must be at least as large as the displacement unit (or group of units) so that the total system capacity remains essentially unchanged when the displacement unit becomes inactive. In this case, the single displacement proposal is [redacted]. Hence, ESI identified only units with capacity equal to or less than [redacted].

Table 7 shows each displacement candidate and the estimated avoided cost for the years 2010-2012, the time period corresponding to the term of the single proposal under consideration in the displacement process.

Table 7: Avoided Capacity Displacement Cost

Redacted

In order to monitor the reasonableness of the underlying avoided cost estimates, we first reviewed the projected costs for each unit that served as the basis for the ESI estimates. Avoided costs for each unit were based on four cost areas: "Baseline" budget allocation; O&M Projects; Capital Projects; and Environmental Capital Projects.

Baseline Budget costs are those directly assigned to the unit associated with payroll and other employee costs (such as benefits, contractors, training, etc.) and office supplies and telecommunications cost. The Baseline Budget can be viewed as fixed O&M and O&M Capital Projects, Capital Projects, and Environmental Capital Projects are categories of capital expenditures. We conclude that these categories of costs are a reasonable way to account for costs that are avoidable when moving a unit to inactive reserve status. However, we concluded that some context was required in order to determine whether the estimates were reasonable. In particular, we sought to compare the estimated avoided costs to the pattern of recent expenditures. Accordingly, we requested historical cost data that corresponded to these categories of avoided costs. ESI provided historical expenditure for these units for the years

2006-2008. Table 8 shows the comparison of actual recent spending on these plants compared to the avoided costs estimates.

Table 8: Comparison of Historical Spending to Avoided Cost

Redacted

For the purposes of our monitoring, we are concerned that a proposal being evaluated for displacement may have its benefits underestimated as a result of underestimating the avoided costs of a unit it can displace. This would be indicated by historical cost being substantially higher than estimated avoided costs.[10] As the Table shows, the historical costs are lower than the estimated avoided costs in all cases except Lake Catherine 3, in which case costs are comparable in magnitude. Hence, we find ESI's avoided capacity displacement costs are reasonable for the purposes of conducting the displacement analysis.

E. Displacement Results

The displacement analysis has fairly simple structure. The avoided cost of individual displacement candidate units are added to the existing net benefits of each displacement proposal to arrive at a revised net benefit for the displacement proposals. In this case, there is only a

[10] In general, there also may be a concern of over-estimated avoided cost, too. Such a situation may cause ESI to accept a proposal that is actually more expensive to the system than retaining the reserve unit. However, as explained below, because ESI did not accept any further units under the Displacement Analysis, we did not consider this potential further.

single displacement proposal, a [redacted] purchase power proposal. Hence, the process is to identify a displacement candidate or a combination of displacement candidates that have the highest avoided costs among them but at most [redacted] of capacity. By identifying the displacement candidates with the highest avoided costs (and at most [redacted]), the single displacement proposal is matched with the most favorable displacement candidates. ESI can then use this most favorable matching as the basis for its selection decision.

[redacted]

Table 9: Displacement Analysis

Redacted

Selections. We monitored the inputs and calculations in Table 9 and found that they were reasonably accurate and transparent. We further conclude that they provide a reasonable basis to judge the displacement proposal's merit. Using the results above, ESI did not accept the displacement proposal. [redacted] However, we have not evaluated how this risk may inform a final selection decision in the displacement process because we consider that question to be outside the scope of our independent monitoring.

F. Conclusions

Overall, the evaluation of proposals in the displacement analysis was conducted in a straightforward manner – the fixed cost of each proposal was compared to its potential savings, which included avoided costs. ESI made determinations to reject [redacted] based on the relative savings and fixed costs, [redacted] We have monitored this process and find it to be reasonable and implemented accurately.