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September 19, 2003

HAND DELIVERED

Ms. Blanca S. Bayo, Director
Division of Commission Clerk
and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Application of Cargill Fertilizer, Inc. to engage in self-service wheeling of waste heat cogenerated power to, from and between points within Tampa Electric Company's Service Territory; FPSC Docket No. 020898-EQ

Dear Ms. Bayo:

Enclosed for filing in the above docket are the original and fifteen (15) copies of the Prepared Direct Testimony and Exhibit (WRA-1) of William R. Ashburn.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Enclosure

cc: All Parties of Record (w/enc.)

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ORIGINAL

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

TAMPA ELECTRIC COMPANY

DOCKET NO. 020898-EQ

IN RE: PETITION BY CARGILL FERTILIZER, INC.

FOR PERMANENT APPROVAL OF SELF-SERVICE WHEELING

TO, FROM, AND BETWEEN POINTS WITHIN

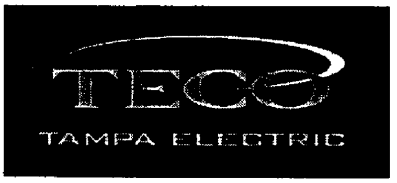
TAMPA ELECTRIC COMPANY'S SERVICE AREA

TESTIMONY AND EXHIBIT

OF

WILLIAM R. ASHBURN

FILED: SEPTEMBER 19, 2003



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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

WILLIAM R. ASHBURN

Q. Please state your name, address, occupation and employer.

A. My name is William R. Ashburn. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am Director, Pricing and Financial Analysis for Tampa Electric Company ("Tampa Electric" or "the company").

Q. Please provide a brief outline of your educational background and business experience.

A. I received a Bachelor of Science degree in Business Administration with a concentration in economics from Creighton University. Upon graduation, I joined Ebasco Business Consulting Company where my consulting assignments included the areas of cost allocation, computer software development, electric system inventory and mapping, cost of service filings and property record development.

I joined Tampa Electric in 1983 as a Senior Cost Consultant in the Rates and Customer Accounting Department. At Tampa Electric I have held a series of positions with responsibility for embedded and marginal cost of service studies, rate filings, marketing planning, rate design, implementation of new conservation and marketing programs, customer survey and various state and federal regulatory filings. In March 2001, I was promoted to my current position of Director, Pricing and Financial Analysis in Tampa Electric's Regulatory Affairs Department. I am a member of the Economic Regulation and Competition Committee of the Edison Electric Institute and Vice Chairman of the Rate Committee of the Southeastern Electric Exchange.

Q. Have you previously provided testimony before the Florida Public Service Commission ("FPSC" or "Commission")?

A. Yes, I provided a series of testimonies in Docket Nos. 010577-EI and 020233-EI regarding the GridFlorida RTO proposals on behalf of Tampa Electric individually and joint testimonies on behalf of some or all of the GridFlorida applicants.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to demonstrate that self-service wheeling, as proposed by Cargill Fertilizer, Inc. ("Cargill") in this proceeding, would disadvantage ratepayers and, therefore, should not be approved without stringent safeguards to ensure that any net costs associated with the provision of this service are borne entirely by Cargill. As background for Tampa Electric's position in this proceeding, I will present a short historical review of self-service wheeling in Florida and for Cargill, and describe the results of the Cargill self-service wheeling pilot program that the Commission authorized in Order No. PSC-00-1596-TRF-EQ in Docket No. 001048-EQ, which recognized the potential for adverse ratepayer impact in the future if self-service wheeling is permitted to continue in the manner proposed by Cargill. I will present some lessons learned from that pilot program and results of the Commission-required tests used to assess whether self-service wheeling should be authorized on a permanent basis. I then describe why, the Commission should end the program. I also provide a methodology for calculating, and a preliminary estimate of, the payment that should be made by Cargill to make ratepayers whole for the period since October 2002 that Cargill was permitted by the Commission to continue self-service wheeling pending the outcome of this proceeding.

I will also rebut the direct testimonies of Roger F. Fernandez, Jack Huston and Gerard J. Kordecki filed by Cargill on September 3rd in this docket that seek to make self-service wheeling permanent for Cargill.

Q. Have you prepared any exhibits to support your testimony?

A. Yes. I have prepared Exhibit No. ___ (WRA-1), which contains 13 documents.

Q. Please summarize your testimony

A. By any reasonable measure it is clear that Cargill self-service wheeling is not cost-effective from a ratepayer perspective. The purpose of the self-service wheeling experiment authorized by the Commission in Decision No. PSC-00-1596-TRF-EQ was to achieve a better understanding of the operational requirements associated with self-service wheeling and to ascertain the costs and benefits associated with the provision of that service. Data from the experiment established that the two-year experiment resulted in a net cost to ratepayers. The RIM and TRC analysis that I will present as part of my testimony confirm that continuation of self-service wheeling in the manner proposed by Cargill will continue to be non-cost

effective in all but the most wildly unrealistic scenarios. In attempting to justify its request for permanent continuation of self-service wheeling, Cargill has attempted to present the pre-existing environmental benefits associated with its existing cogeneration as incremental benefits that will accrue as the result of self-service wheeling. However, the unalterable facts are that the availability or absence of self-service wheeling will neither expand nor diminish the amount of Cargill cogeneration capacity or energy that is already available to the grid. Therefore, there can be no reasonable expectation of incremental environmental benefits due to the continuation of self-service wheeling. Furthermore, the misalignment between Cargill's incentives and ratepayer interests inherent in Cargill's request greatly diminishes the probability that economic benefits would accrue to the general body of ratepayers as the result of a continuation of self-service wheeling. As discussed later in my testimony, given the nature of its production process and its internal economics, Cargill has the greatest incentive to self-service wheel at those times when it is least likely that economic benefits would be created for the general body of ratepayers and most likely that negative economic impacts would result. Therefore, for the reasons mentioned above and discussed in more

detail below, I urge the Commission to deny Cargill's request for continued self-service wheeling.

History of Self-Service Wheeling

Q. What is self-service wheeling?

A. Wheeling is the term used in the electric utility industry to describe a commercial transaction where power is input to one location on the electric grid of an electric utility by a power provider and a similar amount of power, less line losses, is extracted from another location on the electric grid of the electric utility on behalf of that same power provider. Self-service wheeling refers to an electric utility providing this service "to enable a retail customer to transmit electrical power generated by the customer at one location to the customer's facilities at another location." (see Chapter 366.051 Fla. Statutes and Rule 25-17.008.)

Q. Would it be accurate to analogize self-service wheeling to putting a customer's energy in some sort of delivery vehicle and then transporting that energy to another location of that customer.

A. No. It is important to understand what happens electrically if one is to understand the service being provided. The actual electrons provided by the customer are not necessarily, and are probably not, the same electrons consumed by that customer's remote load. Power entering a network is more like water in a stream feeding a lake where there are multiple streams entering and multiple streams leaving the lake. The water enters at one location, becomes commingled with water entering the lake from other locations and contributes to maintaining or increasing the general water level of the lake. The lake then disgorges this commingled water from multiple sources as water spills out to exiting streams. Self-service wheeling is more analogous to that.

Q. Would it be more accurate to describe self-service wheeling as an accounting arrangement?

A. Yes. It would be more accurate to view self-service wheeling as an accounting arrangement, much like conjunctive billing. The power generated for self-service wheeling is provided to the utility, much as it would be without self-service wheeling. However, instead of the customer (i.e., generation supplier) being paid by the utility for the power directly (or being paid by another

utility for exporting the power off the utility's system for sale), the customer is able to use the power that it generates and provides at one location to offset retail energy sales by the utility to that same customer at a separate location or locations.

Q. Why would a customer who has a generator want to self-service wheel instead of selling the power directly to a utility?

A. In the past, the parties who have explored self-service wheeling have been cogenerators, or Qualifying Facilities (QFs). QFs have a right to "put" their power to investor-owned utilities, such as Tampa Electric, and the utilities are obligated to buy the power at avoided cost rates. Often, particularly if there is no commitment as to the power being provided, the avoided cost rates have been significantly less than the bundled retail rates under which power is sold to these customers at their remote load locations. This differential exists because the utility is only purchasing the power commodity from the QFs for resale, whereas when it resells power at retail it is selling the power at rates that include <u>all</u> costs of providing service to retail customers. Those rates include production capacity costs, transmission and distribution

costs, customer and administrative services costs, etc. Under this pricing regime, a customer who has the option of self-service wheeling can achieve a net economic benefit by using its own generation to displace power purchases from the utility at bundled retail rates instead of selling its generation to the power market at unbundled wholesale or avoided cost prices.

Q. Would you provide an illustrative example?

A. Yes. Suppose that instead of selling its generation to the utility at the utility's avoided cost of $30 per megawatt hour, the cogenerator self-service wheels its generation to its own loads to displace purchases of utility power that is priced at more than $60 per megawatt hour. Even after paying an additional $1.50 or $3.00 per megawatt hour in wheeling charges, self-service wheeling its own generation to serve its own load represents a more economic transaction for the cogenerator. Another advantage of self-service wheeling that appeals to customers who have elected to take interruptible rather than firm service from the utility, is the ability to assign their own generation to serve their own remote loads when faced with potential service interruption or high Optional Provision energy charges if the utility is

short of generating capacity. As discussed later in my testimony, while these advantages may be of great economic benefit to cogenerators, ratepayers benefit only if self-service wheeling results in a permanent and consistent net increase in the amount of cogeneration capacity available, which was not the case in this experimental pilot.

Q. Is Cargill's request for self-service wheeling a matter of first impression for the Commission?

A. No. In fact, self-service wheeling has been addressed by this Commission in several proceedings during the past 20 years.

Q. What is your understanding of prior Commission proceedings addressing self-service wheeling?

A. My understanding is that the issue of self-service wheeling first arose in Docket No. 820406-EU. In that docket, the Commission amended Rules 25-17.80 through 25-17.89, which prescribe the manner in which investor-owned utilities buy energy from QFs. The Commission addressed both retail wheeling and self-service wheeling of QF power. With respect to retail wheeling, the Commission found that QFs could not engage in retail sales. With

respect to self-service wheeling, the Commission said "(t)here is no particular reason why a customer may not choose to serve himself at several locations. So long as a customer serves himself without the involvement of regulated utilities, the Commission has no interest in the matter." At that time, the Commission declined to impose mandatory wheeling requirements for self-service wheeling but decided to resolve disputes should they arise on a case-by-case basis. See Order No. 12634, Docket No. 820406-EU.

Q. Did there come a time when the Commission decided to establish rules for the provision of self-service wheeling?

A. Yes. About one year later, in October 1984, the Commission opened Docket No. 840399-EU to study the wheeling issue, including self-service wheeling, in depth. Rule 25-17.882, as adopted in Order No. 12634, stated that self-service wheeling would not be required "unless the customer or the utility demonstrates that the provision of this service and the charges, terms, and other conditions associated with the provision of this service are not likely to result in higher cost electric service to the utility's general body of retail and wholesale customers

or adversely affect the adequacy or reliability of electric service to all customers." This language was adopted in Order No. 15053 in September 1985.

Q. Subsequent to the adoption of Rule 25-17.882, did Tampa Electric receive requests for self-service wheeling?

A. Yes. Both International Minerals and Chemicals Corp.("IMC") and W. R. Grace & Co. ("Grace") were phosphate mining and processing companies taking service in Tampa Electric's service territory. Grace approached Tampa Electric for such service in September 1985 (the same month the new rules were approved). In addition, it is my understanding that several other entities sought self-service wheeling from other investor-owned electric utilities in the state following the advent of this rule. The most pertinent request for self-service wheeling was made by Grace and it was considered by the Commission in Docket No. 861180-EU. The reason that particular case is pertinent is because Grace was subsequently acquired by Cargill. In fact, the two sites in that case between which Grace sought self-service wheeling are the same two sites included in Cargill's self-service wheeling pilot program.

Q. How was that case similar to this case?

A. The Grace case was similar to this case in several respects. The two points between which self-service wheeling was sought were Grace's Ridgewood chemical processing facility, where its then new QF was located, and Grace's Hookers Prairie mine. Both sites were included in the Cargill self-service wheeling pilot program. Grace desired to wheel excess generation from the Ridgewood site to the Hookers Prairie site, paying Tampa Electric interruptible transmission service rates when it did so. Similarly, Cargill used interruptible transmission service to self-service wheel to the Hookers Prairie load in the pilot program. After negotiations with Grace at that time, Tampa Electric concluded that providing this service would not be in the best interest of its ratepayers and declined Grace's request. Grace then petitioned the Commission for a declaratory statement that Rule 25-17.0882 required Tampa Electric to provide the requested service. When, at the end of the self-service wheeling pilot program and after negotiations, Tampa Electric informed Cargill that it did not believe continuing to provide self-service wheeling, on a temporary or permanent basis, would be in the best interest of its ratepayers, Cargill petitioned the

Commission for permanent approval of a self-service wheeling.

Q. How was the Grace case different than this case?

A. While the Grace case addressed self-service wheeling between the Ridgewood chemical facility and the Hookers Prairie mine, in this case Cargill has requested self-service wheeling between the Ridgewood chemical facility and the New Millpoint chemical facility, which was not part of the Grace system at the time and is now owned by Cargill. In addition, a major focus of the Grace case was a Grace threat to build its own transmission line linking the Ridgewood and Hookers Prairie sites if self-service wheeling was not granted. Grace argued that avoiding construction of this transmission line, which would lead to the bypass of utility generation, was a ratepayer benefit that outweighed the cost to ratepayers of allowing self-service wheeling. In this case, at least to date, Cargill has made no similar argument. This is partly because when the Commission denied Grace's request for self-service wheeling, the threatened Grace-owned transmission line between Ridgewood and Hookers Prairie was eventually built and is still in place today. In addition, Cargill has not proposed to build a transmission

line linking the New Millpoint and Ridgewood sites as an alternative to self-service wheeling because the distances and impediments between those facilities make it prohibitively expensive, if not practically impossible, for Cargill to construct such a private transmission line. Nonetheless, whenever and wherever possible, Cargill has constructed its own transmission ties between its own sites within the Tampa Electric's service territory. Cargill transmission lines have even crossed between Tampa Electric and neighboring utility service territories.

Q. How did the Commission finally rule in the Grace case?

A. The Commission denied Grace's request, rejecting the argument that avoidance of Grace's alternative option to build a transmission line would be a ratepayer benefit that would offset the cost to ratepayers of providing self-service wheeling. In discussing its rejection of Grace's argument, the Commission explained, "(w)e reject this argument because SSW that confers no benefit, but simply mitigates a revenue loss that it has itself induced is not cost-effective to the general body of ratepayers." Order No. 17389, Docket No. 861180-EU. It instead found that "the standard contained in the Rule to be the functional equivalent of requiring a net benefit, or at

least no loss, to a utility's general body of ratepayers as a result of providing [self-service wheeling] to a particular QF."

Q. How did the Commission measure "ratepayer loss" in the Grace case?

A. The Commission was clearly focusing on the lost utility revenues that would have resulted from Grace's use of its own self-service wheeled generation to displace power that otherwise would have been purchased from the utility. This is precisely the same ratepayer loss or cost that would be occasioned by Cargill's request in this proceeding.

Q. Was the IMC request for self-service wheeling significantly different than the Grace request?

A. No. However, IMC never filed a formal request and its request never generated a docket at the Commission to address the situation.

Q. Were any of the several requests for self-service wheeling that were made to utilities or were put before the Commission ever approved?

A. No. To my knowledge, no utility has ever previously agreed to any request for self-service wheeling. Some of the requests that came to the Commission were rejected for reasons similar to those articulated by the Commission in the Grace case. Other requests were rejected because the Commission concluded that the customer could not meet the requirement for self-service wheeling that the same entity had to own both points between which the self-service wheeling would be provided.

Q. When did the Commission next address self-service wheeling?

A. In Docket No. 891049-EU, the Commission adopted a new rule relating to self-service wheeling. Rule 25-17.0883 was adopted superseding the previous Rule, 25-17.0882. This docket was undertaken to reflect relevant changes to Chapter 366 associated with legislative sunset review in 1989, particularly regarding cogeneration. The statutory change addressed self-service wheeling which generated the rule change (see Order No. 23623 in Docket No. 891049-EU). Immediately subsequent to this rule adoption, in Docket No. 891324-EU, the Commission reconsidered the appropriate methodology to address conservation measures and, as part of that proceeding, approved methodologies for calculating

the cost effectiveness for self-service wheeling that would be required when requests for such service were made by utilities or customers. The manual for calculating the tests was approved in Order No. 24745 and identified in Rule 25-17.008.

Q. Is this the current rule and manual in effect today?

A. Yes.

Q. What does Order No. 24745 require?

A. The order states several important things, some of which must be read in the context of the Commission's intent when approving the order. First, in summarizing the hearings on the new rule, the Commission noted that "several commenters and Commissioners discussed the point that the benefits of self-service wheeling occur only when such wheeling induces expanded cogeneration. Just by adding self-service wheeling in itself does not defer plant capacity - only if there's an expansion by the QF. In other words, the ability to self-service wheel must induce someone to expand generation." Further, with regard to lost retail revenues that would result from any self-service wheeling granted (an important issue in the

docket), the Commission stated that "(i)f the bill reductions caused by the program are greater than the reduction in costs to the utility, rate levels must go up to make up the deficiency." This reflected the Commission's concerns that self-service wheeling could lead to higher base rates for ratepayers. This effect is measured in the Ratepayer Impact Measure ("RIM") test adopted by the Commission in that docket. This approach is entirely consistent with the Commission's conclusions in the Grace case that lost utility revenues ultimately constitute ratepayer impacts. The order also rejected the use of environmental externalities as inputs to the RIM test because "the costs of such externalities are not paid for through electric rates." While the Commission did allow environmental externalities to be measured in the Total Resource Test ("TRC") adopted by the Commission in that docket as the other substantial test, it allowed them only if the externalities could be "reasonably identified." Specifically, in the order regarding self-service wheeling, the Commission identified the need to have the RIM, TRC and other items reported in a neutral manner for consideration by the Commission in its determination of the cost effectiveness of a self-service wheeling request. These other items included the type of fuel used, the fuel efficiency, the likelihood of a

cogenerator building its own transmission line and the materiality of any lost revenues indicated by the RIM test.

Q. Since that docket and the adoption of the manual, have there been any changes to the rule, manual or in the Commission's interpretation of the rule or manual regarding self-service wheeling?

A. No.

Q. What relevant lessons can be drawn from the prior Commission proceedings dealing with self-service wheeling?

A. The relief requested by Cargill in this proceeding is no different than the relief requested by others and denied in previous Commission proceedings. Both on an historical basis, given the results of the self-service wheeling pilot program; and on a projected basis, given the results of the RIM analysis discussed later in my testimony; granting the relief requested by Cargill in this proceeding is likely to result in a net cost to Tampa Electric's general body of ratepayers. In this case, granting Cargill's request for permanent self-service wheeling will not result in a net increase in cogeneration

capacity which might create ratepayer benefits to offset the costs associated with self-service wheeling. In the absence of adequately offsetting benefits to ratepayers, there is no reasonable basis for the Commission to deviate from the principles established in the proceedings discussed above.

Description of Cargill Self-Service Wheeling Pilot Program

Q. How did the Cargill self-service wheeling pilot program commence?

A. On August 3, 2000, Cargill petitioned the Commission in Docket No. 001048-EQ to engage in a pilot program for self-service wheeling to, from and between points within Tampa Electric's service area. Cargill represented that the flow of power to be self-service wheeled would not be continuous nor would such power contain any capacity component. Cargill represented that it simply wanted to be able to redirect occasional quantities of excess energy between and among its three identified locations in lieu of selling that energy to Tampa Electric or to third parties off-system. Cargill further represented that it wanted to avoid potential interruption or Optional Provision power purchases even though, in return for securing the cost savings associated with taking

interruptible versus firm service, Cargill had agreed to accept such service interruptions. Tampa Electric agreed to provide self-service wheeling to Cargill on an experimental basis to gain operating experience and to more fully understand the costs and benefits to ratepayers associated with the provision of self-service wheeling to its customers. By Order No. PSC-00-1596-TRF-EQ, issued September 6, 2000, the Commission approved the pilot program for self-service wheeling. The program provided for self-service wheeling among the three points requested by Cargill. The duration of the pilot program was limited to two years and Tampa Electric was required to provide the Commission with quarterly reports on the costs and benefits associated with the service. The Commission reserved the right to reconsider its approval of the pilot program at any time during the two-year pilot period. Service under the pilot program began on October 1, 2000.

Q. Why did Tampa Electric agree to the two-year pilot program?

A. When Cargill approached Tampa Electric with the request for self-service wheeling, Tampa Electric was well aware of the issues associated with self-service wheeling and the probability that self-service wheeling would be deemed

not cost effective. Cargill, given the Grace experience, was also aware of that history, although it was still keenly interested in trying to make it work given the perceived financial benefits to Cargill. Tampa Electric believed that both the company and the Commission would benefit from a better understanding of the operational and billing issues created by such service. In addition, during the two-year pilot period, Tampa Electric was anticipating an increased need to purchase power from third parties and a greater potential for service interruptions for customers, such as Cargill, who had elected to take interruptible service. Cargill was very aware of the increased potential for interruptions and probability of more frequent Optional Provision purchases. Under these conditions, self-service wheeling would almost certainly reduce costs and increase reliability for Cargill. Tampa Electric recognized that these benefits would accrue exclusively to Cargill and not to ratepayers generally. However, Tampa Electric also recognized that if Cargill self-service wheeled during times when Tampa Electric's costs of providing power to Cargill were highest, the self-service wheeling transactions might reduce Tampa Electric's fuel costs enough to create benefits for the general body of ratepayers by allowing Tampa Electric to back down costly generation. If ever a

period existed when self-service wheeling might prove cost-effective, Tampa Electric thought that this might be the period. Consequently, Tampa Electric agreed to conduct the two-year pilot program.

Q. Please describe some of the specifics of the pilot program.

A. Under the pilot program, Tampa Electric provided transmission service to Cargill under its Federal Energy Regulatory Commission ("FERC") authorized Open Access Transmission Tariff ("OATT") to wheel power between two Cargill cogeneration sites (Tampa and Bartow) and from those two points to a third Cargill site that had no generation (Hookers Prairie.) See Exhibit ___ (WRA-1), Document No. 1, which is a map showing these three sites in relationship to each other and the electric territorial boundaries. Cargill qualified for self-service wheeling among these locations since all three sites are owned and operated by Cargill. While Cargill made all decisions regarding when and where to wheel the self-generated power, it used another Cargill affiliated company, Cargill-Alliant, to make transmission reservations and schedules with Tampa Electric to affect the wheeling.

Q. Where did Cargill get the power to self-service wheel?

A. Cargill has generation at two of the sites in the pilot program, along with load behind the utility meters at all three sites. Cargill sells some of the capacity at one of those sites on a long-term QF contract with a minimum capacity factor requirement to Progress Energy Florida, Inc. ("PEFI"). That power is wheeled to PEFI under a separate, FERC jurisdictional wheeling contract with Tampa Electric. At times, Cargill also has excess energy to sell, which it has sold to PEFI as as-available energy. Also, under very limited circumstances and for short periods of time, Cargill can generate even more power than it needs to meet its immediate internal requirements. Cargill can divert this as-available energy and the energy it would have provided to PEFI under the capacity contract to occasionally, when it benefits Cargill, self-service wheel to Cargill sites within Tampa Electric's service territory.

Q. Has Cargill's self-service wheeling increased the amount of cogeneration capacity or energy available to Tampa Electric or third parties such as PEFI?

A. No. Tampa Electric does not believe any significant additional energy has been generated by Cargill as a result of the opportunity to self-service wheel. Clearly, no additional cogeneration capacity has been built by Cargill in anticipation of, or as the result of, the availability of self-service wheeling. In fact, my Exhibit ___ (WRA-1), Document No. 2, shows the output of Cargill's generators since the beginning of the two-year pilot period reflecting a reduction in total generation over that time period. Tampa Electric has not attempted to make a correlation between the availability of self-service wheeling to Cargill during the pilot period and the output of Cargill's cogeneration. However, based on this data, if one were to attempt such a correlation, one would be forced to conclude that the availability of self-service wheeling did not increase Cargill's cogeneration energy production, rather it had the opposite effect.

Q. Has Cargill's self-service wheeling created any incremental environmental benefits?

A. No. As Cargill witness Fernandez explains in his direct testimony and deposition, the amount of electric energy produced by Cargill at any given time is a function of the amount of sulfuric acid required, which, in turn, is a

function of the number of tons of phosphate that must be produced pursuant to Cargill's production quotas. Cargill's existing cogeneration capability is finite. Its generation is either used internally to meet its own loads or it is exported and sold to third parties. In practice, energy that would otherwise have been transmitted through the Tampa Electric system and delivered to PEFI or some other Florida utility (e.g., Lakeland, Florida Power & Light, etc.) has been retained on the Tampa Electric system to the extent that self-service wheeling has occurred. PEFI, or any other Florida utility that would have purchased Cargill's excess generation, had to replace the generation that Cargill self-service wheeled to serve its own load with additional generation of energy and fuel consumption or off-system purchases. Cargill generation displaces the same amount of fossil fuel-fired generation whether the Cargill generation is used internally or, instead, is exported for sale to third parties. The effects of the avoided fuel costs, as well as all of the other financial impacts of the self-service pilot program, were reported on the quarterly reports prepared by Tampa Electric and provided to the Commission.

Q. Please describe the quarterly reports prepared by Tampa Electric in response to Order No. PSC-00-1596-TRF-EQ.

A. Tampa Electric was directed in the above-mentioned order to "provide the Commission with quarterly reports that identify the costs and revenues associated with this experimental program," with the understanding that the Commission would "revisit the approval of the experiment at any time if there appeared to be an adverse financial or reliability impact to TECO's ratepayers." In response, Tampa Electric developed a report and reporting methodology to determine the costs and benefits of the wheeling transactions with regard to retail ratepayers, the impact on Cargill's electric bill and a graphical display reflecting the impact of the pilot program on system reliability. A revised copy of the first quarterly report is provided as my Exhibit No. __ (WRA-1), Document No. 3. Cargill provided input to the development of the report and methodology used, and during the course of the pilot program, Tampa Electric and Cargill cooperated in reviewing and revising the report. Changes and enhancements were made to the report during the pilot period that often reflected Cargill's suggestions. Cargill reviewed all draft reports before they were provided to the Commission and had an opportunity to voice its objections both to Tampa Electric and to the Commission. After one year, Tampa Electric provided a program status summary of the pilot program results to the

Commission, and Cargill supplemented that summary. This cooperative approach was very helpful in determining the results of the program and identifying both the costs and the benefits of the program.

Q. How has Tampa Electric operated the self-service wheeling pilot program for Cargill?

A. The Cargill self-service wheeling pilot program required significant coordination by Tampa Electric personnel. Since it was only a pilot program, much of the required coordination was not permanently established to fully imbed the process into Tampa Electric's billing and other systems. These interim operations continue today pending the outcome of this case.

Reservation - Prior to commencement of the pilot program, Cargill signed a transmission service agreement associated with the self-service wheeling. This service was provided under Tampa Electric's FERC OATT, under non-firm point-to-point transmission service. As noted earlier in my testimony, Cargill has used Cargill-Alliant (an affiliated company) as its transmission reservation entity.

Scheduling - The North American Electric Reliability Council requires that all interchange transactions be tagged and approved by all entities on the scheduling path

prior to scheduling. Cargill submits an E-Tag for its self-service wheeling schedules as well as any other schedules that it has other than its long-term contract with PEFI. Tampa Electric requires Cargill to send daily faxes to the company's Energy Control Center which details its schedule for its long-term transmission contract to send power to PEFI. Weekend schedules are provided each Friday. Holiday schedules are provided on the last regular business day prior to the holiday period. Tampa Electric creates the long-term E-Tag for Cargill. This scheduling procedure is the same for other wheeling customers, although Cargill has periodically neglected to fax its long-term schedules as required, causing operational problems.

Receipt and Delivery - On an hourly basis, Tampa Electric must evaluate Cargill's actual performance in providing the power scheduled to be transmitted against Cargill's total schedules. When Cargill's actual generation is short or long compared to its total schedule, the overage or shortage is allocated on a pro rata basis to each of the schedules in the hour per Tampa Electric's OATT. For the long-term schedule with PEFI, the overage/shortage is applied to the inadvertent balance per the grandfathered transmission service agreement. For other schedules under the OATT, Tampa Electric either provides the replacement

power to eliminate the deficit and charges Cargill for that power under the Tampa Electric Generation to Schedule Imbalance Service (GSI), provided under the FERC OATT (See my Exhibit No. __ (WRA-1), Document No. 4), or purchases the excess delivered power under its COG-1 As-Available Energy Service, provided under the FPSC retail tariff. When the energy is delivered for the self-service wheeling schedule, the load at the delivery point must also be evaluated to see whether the load and the amount of self-service energy delivered are in balance. If the load is less than the amount of self-service energy delivered, then once again there is excess power that is designated as COG-1 As-available Energy Service energy that Tampa Electric is deemed to have purchased from Cargill. Imbalances such as these occurred almost every hour when Cargill wheeled.

Back Office Accounting - A key component of the pilot program is an extensive recap of Cargill's wheeling activity that is prepared and provided to Cargill on a regular basis. This task is performed by business personnel at the Tampa Electric Energy Control Center who provided details of the following: application of GSI charges, application of transmission reservation fees, adjustments to normal billing for self-service energy at participating sites, and credits for Optional Provision

avoided during hours of coincidental self-service wheeling deliveries. GSI and transmission costs are provided daily. Adjustments to normal billing are provided at the end of each monthly billing cycle. Optional Provision credits are calculated and applied at the end of each quarter. These tasks have proven to be cumbersome and time consuming as they have required extensive efforts to implement and the involvement of several Tampa Electric employees on a daily basis. The costs of these tasks were not recovered from Cargill during the pilot program.

Q. What occurred at the end of the two-year pilot period?

A. As the two-year pilot period drew to a close, Tampa Electric and Cargill began discussing whether to end the program or seek continuation of self-service wheeling, either as a pilot program or on a permanent basis. There were numerous issues to resolve. It was clear, as I will discuss later, that self-service wheeling had resulted in net costs to ratepayers. Although Cargill had the opportunity to self-service wheel during hours that would have created ratepayer benefits, Cargill was unable to consistently target its wheeling to provide such ratepayer benefits. Most of Cargill's self-service wheeling during the pilot program occurred during the off-peak period when

the opportunities to achieve fuel cost savings were negligible. Tampa Electric worked closely with Cargill to help it identify the more beneficial periods and the more costly periods. Cargill was erratic with regard to the timing, magnitude and duration of its scheduled self-service wheeling.

Q. Explain how this erratic and inconsistent provision of energy affected the level of ratepayer benefits during the pilot program and how such patterns, if continued under a permanent self-service wheeling program, might affect future ratepayer benefits and costs.

A. Cargill's QF facilities are not utility generators that are operated to provide stable power supplies. The amount of power available at any given time is entirely a function of Cargill's internal processes to make phosphate and related inputs. The steam needed to generate electricity is only produced when Cargill is manufacturing sulfuric acid. As a general matter, sulfuric acid is produced by Cargill only at those times, and only in those quantities, needed to produce the amount of phosphate called for by Cargill's marketing plans. The availability of generation is also affected by both planned and unplanned outages of Cargill's generation and sulfuric

acid plants. Accordingly, the generation can fluctuate greatly, not only hour-to-hour but also minute-to-minute and even second-to-second. As a result of this variability of output and the need to schedule transmission for self-service wheeling in advance under the OATT, Cargill was reliant on the GSI service Tampa Electric provided to firm-up the power it wheeled. Cargill was less able to control the load at the point of receipt for the wheeled power, again because that load is tied to its phosphate production processes. Cargill's inability to control the stability of the power and load at either end of the transaction increased its costs and decreased the benefits to ratepayers whose resources had to make up the differentials. Apart from this lack of control, there exists an opportunity for gaming and service territory infringement problems for future self-service wheeling.

Q. Please describe the potential for gaming problem.

A. GSI service is susceptible to gaming by a self-service wheeling customer, particularly a QF. As I described earlier, GSI service is a component of the OATT. GSI service requires Tampa Electric to supply, at 110% of its incremental cost, any energy needed to fill a scheduled

transmission transaction within any particular hour. A QF that wanted to game the system when conducting a self-service wheeling transaction could purchase GSI power from Tampa Electric to compensate for its failure to provide the scheduled amount of energy and then net against the full bundled retail rates at the load. That self-service wheeler could 1) schedule vast quantities of energy, and either not deliver the energy or direct the energy to some other transaction it has off-system that might be more lucrative, or 2) pay for replacement energy from Tampa Electric at lower wholesale commodity prices and avoid paying for the energy at higher retail prices. Tampa Electric is not alleging that Cargill engaged in this practice during the pilot program. However, the opportunity existed during the pilot program and would continue to exist should self-service wheeling be continued.

Q. Please describe the potential service territory infringement problem.

A. When Tampa Electric is providing GSI energy to Cargill to complete its schedule, and Cargill self-service wheels that energy to its load point for consumption, there is no service territory infringement problem as long as that

load is in Tampa Electric's service territory. However, Cargill has constructed substantial transmission networks behind the delivery meter that traverse territorial boundaries. In Cargill's case, Tampa Electric is aware of at least one such line that connects to load in PEFI's territory. It is possible that self-service wheeled power has served and in the future could serve load over such a line into PEFI's territory. If that load was entirely served by Cargill power, then it is self-service and not a problem. If that power was, in part, supplied through GSI service, then Tampa Electric, in effect, would be selling power to Cargill for use in PEFI's service territory, which could be a violation of the service territory agreement. Cargill has admitted in discovery (see Cargill's response to Interrogatory No. 18, First Set, my Exhibit No. __ (WRA-1), Document No. 5) that, at least in one instance, Tampa Electric power has been inadvertently shipped to serve Cargill retail load in PEFI's service territory.

Q. Were there other factors that were considered at the end of the pilot period?

A. Yes. There were at least three other factors that the company considered. First, Tampa Electric became aware

that it had not sought waivers from FERC for some aspects of the transmission service it had been providing to Cargill. Secondly, it became clear that Cargill was not willing to accept the obligation to make ratepayers whole for any net costs created as a result of Tampa Electric's provision of self-service wheeling for Cargill. Finally, during the deliberations, the FERC issued its Standard Market Design ("SMD") Notice of Proposed Rulemaking ("NOPR") that appeared to be on a fast-track requiring jurisdictional utilities, such as Tampa Electric, to transfer control of their transmission systems to a Regional Transmission Organization ("RTO"). Tampa Electric's ability to continue to offer self-service wheeling in the wake of any such transfer was, at best, unclear.

Q. SMD has been delayed and is not currently on the same fast track. To what extent does the proposed rule continue to create uncertainty with regard to self-service wheeling?

A. While it may not be as imminent, the uncertainty posed by the SMD with regard to self-service wheeling is still a problem since Cargill has requested a long-term service agreement. I expect that sometime during the period Cargill is seeking service, Tampa Electric will be

required to transfer control of its transmission to an RTO and some sort of market design will have been adopted. Under these circumstances, Tampa Electric is not likely to be in a position to provide self-service wheeling or to ensure that the net costs of such an arrangement are not subsidized by its general body of ratepayers. Given this uncertainty, Tampa Electric is not in a position to enter into a long-term wheeling arrangement with Cargill, that has some sort of grandfathering arrangement to protect Cargill's position, potentially at the expense of Tampa Electric and its retail ratepayers.

Q. What did Tampa Electric recommend to Cargill?

A. Tampa Electric recommended to Cargill that the pilot program be terminated at the end of the experiment in September 2002. Cargill disagreed vigorously with this view and petitioned the Commission on August 16, 2002 for permanent approval of a self-service wheeling program. Cargill also asked in that petition that the program be continued on an interim basis beyond September 2002, pending a ruling by the Commission on its request for permanent relief. Continuation of self-service wheeling was of particular importance to Cargill because of maintenance activities it had planned for October of 2002

and the resulting need for self-service wheeling to firm up its interruptible tariff service during this planned outage. The Commission issued Order No. PSC-02-1451-PCO-EQ in this docket, continuing the provision of self-service wheeling pending the outcome of the petition for permanent approval.

Results of Cargill Self-Service Wheeling Pilot Program

Q. Please describe the methodology contained in the ratepayer impact analysis provided to Staff as part of the quarterly reporting during the pilot program.

A. The quarterly reports provided to the Commission during the experiment assessed the impact of self-service wheeling on Cargill, the general body of ratepayers and system reliability. It should be noted that several assumptions underlying the methodology used in the original ratepayer impact analysis were found to be erroneous as information was gathered over the course of the pilot program period. These assumptions were either corrected or abandoned in the revised analyses filed on August 8, 2003 in this docket. The ratepayer impact methodology identified program costs as lost revenues associated with reduced retail energy sales and program implementation, administration, monitors, billing and

reporting expenses. Program benefits consisted of avoided marginal fuel cost, variable production O&M expense and increased revenues from wheeling charges and GSI service. The program impact on other ratepayers was reported as being the difference between the costs and the benefits.

Q. Why didn't you prepare a RIM and/or a TRC analysis and provide that to the Commission during the program instead of these quarterly reports?

A. Tampa Electric designed the report format as required by the Commission's Order, working with input from Cargill. The Commission did not direct Tampa Electric to prepare and submit a RIM or TRC analysis. Instead, the company was directed to provide quarterly reports detailing the actual costs and revenues associated with the pilot program rather than the forecast of future program performance that would have resulted from a RIM or TRC analysis. Cargill voiced no concern at the time that it was not a RIM or TRC analysis. TRC and RIM analyses require forward-looking assumptions to evaluate a future program while what was requested in the order was a report on the effect of a pilot program on an actual basis. As part of preparing this testimony, RIM and TRC tests for the requested service have been prepared at my direction

and supervision and I will be describing those results later in my testimony.

Q. What do the results of the quarterly reports show with regard to whether the provision of self-service wheeling to Cargill during the pilot program period has been cost effective?

A. Two of the eight quarterly reports reflected positive ratepayer impacts. The remaining six quarters, however, resulted in negative impacts indicating that the program costs outweighed the program benefits. Over the entire two-year pilot period the costs outweighed benefits. A rollup report that aggregates the results of all eight quarterly reports has been prepared and is provided as my Exhibit No. __ (WRA-1), Document No. 6 to this testimony.

Q. Are the impacts measured in the quarterly reports for the pilot program necessarily indicative of the ratepayer impacts that the Commission might expect in the future if self-service wheeling is made permanent as Cargill requests?

A. Not necessarily. As I described earlier, the company believed at the start of the program that if ever self-

service wheeling was going to prove cost effective, it would be during the pilot period when conditions seemed most favorable due to Tampa Electric's increased dependence during that period on off-system purchases and greater potential for high Optional Provision purchases or interruptions to non-firm customers. During that favorable period, Cargill could not avail itself of self-service wheeling in a way that made it cost effective for Tampa Electric's ratepayers. Tampa Electric's system conditions are now changing in a way that will affect the future cost effectiveness of self-service wheeling for Cargill. Certain variables are less likely to be favorable (e.g., less Optional Provision purchases) while others are more likely to be favorable (e.g., recent higher natural gas prices). It is not certain that these changing variables, linked with uncertainty as to how Cargill will take advantage of self-service wheeling should it be made permanent, would accrue to the benefit of ratepayers in the future.

Lessons Learned from the Pilot Program

Q. You stated earlier that the objectives of the self-service wheeling pilot program with Cargill were to operate and learn about the operational and billing impediments to such a service, while attempting to reduce costs and

increase reliability for Cargill, and potentially reducing costs for ratepayers. Were those objectives met?

A. Some were met, while others were not.

Q. Please describe the objectives that were met.

A. Tampa Electric did learn about the operational and billing problems with self-service wheeling, which proved to be substantial. Cargill was not only purchasing power from Tampa Electric at retail at all three sites (two of these under Tampa Electric's standby tariffs) but also purchasing power from Tampa Electric under the wholesale GSI provision to fulfill self-service wheeling reservation commitments. At the same time, Cargill was selling power to Tampa Electric under the retail as-available energy tariff at two of the sites, wheeling power from two of the sites through Tampa Electric's system to other utilities, and wheeling power across Tampa Electric's system under self-service wheeling. The number of simultaneous puts and takes from these sites was difficult to parse through and required frequent reassessment on the part of Tampa Electric to assure that the right priority assignments and obligations had been assessed. Keeping the billing straight was complicated and the company did not want to

spend substantial amounts for software upgrades for a short-term pilot program, particularly one where new ground was being ploughed. From Cargill's perspective, its continued interest in working with Tampa Electric and trying to change behavior at our suggestion to make the pilot program permanent indicated that it felt it was saving money under the pilot program.

Q. Please describe the objectives that were not met.

A. Overall, self-service wheeling for Cargill did not save Tampa Electric's ratepayers money and it is not certain whether it will save them money in the future. In order to save ratepayers money, Cargill would have had to wheel more often during periods when incremental fuel costs exceeded tariff rates. While Tampa Electric repeatedly instructed Cargill that wheeling in off-peak periods would increase the cost of the program to ratepayers, Cargill was unable to manage its wheeling to the degree necessary to make it cost-effective. It should be understood that Cargill is in the business to make phosphate and run its business as efficiently as it can. Those constraints do not necessarily, and did not during the pilot period, coincide with the cost patterns of Tampa Electric in serving the needs of its ratepayers. As can be seen in my

Exhibit No. __ (WRA-1), Document No. 7, Cargill's self-service wheeling did not follow any seasonal or hourly pattern that would have consistently provided ratepayer benefits. This failure to coincide, and the inability to accurately predict when Cargill could take advantage of any future self-service wheeling opportunities, is at the heart of the problem.

Q. What did Tampa Electric learn about self-service wheeling in general?

A. The first lesson learned is that managing all the inputs and outputs of self-service wheeling, including the overlapping jurisdictional authorities and billing requirements, is very complicated, time consuming and requires substantial data analysis and billing efforts. The second lesson learned is that the benefits to ratepayers are very dependent on when and how the customer wheels its energy as well as the avoided cost that energy supplants. The third lesson learned is that all of the complicated puts, takes, rights and jurisdictions involved in this service make it very difficult to predict how the self-service wheeler will operate in the future and whether that operation will always benefit ratepayers.

Q. What did Tampa Electric learn about providing self-service wheeling to Cargill specifically?

A. Cargill's self-service wheeling case is different from those considered by the Commission in the past. Previous cases involved customers seeking to self-service wheel both energy and capacity to their remote loads. Cargill never sought to offset its capacity commitment from Tampa Electric. In fact, the loads to which Cargill was self-service wheeling in the pilot program are interruptible loads. Two of the sites were already standby service customers and, for the sake of convenience during the pilot, Tampa Electric did not seek standby service status for the third site. Cargill is now only seeking service between the two sites that are standby customers of Tampa Electric so the need to apply such service to self-service wheeled loads is not an issue in this case. As was discussed earlier, Cargill has many different transactions under two different jurisdictions ocurring at the same time at the same locations, some under contractual commitments and some under tariff rates. While Tampa Electric does not believe Cargill gamed the system, it did have many opportunities to do so while it managed its obligations and many opportunities to sell and buy power. These complicated arrangements and the opportunity for

gaming required extra vigilance on the part of Tampa Electric to assure that all transactions complied with the tariffs and contracts as well as the assignment of accurate billing determinants and billings.

It is also true that, at times, self-service wheeling by Cargill was a benefit to ratepayers. The problem is that the variation in Cargill's ability to self-service wheel at times when it provided benefits for ratepayers as well as the shifting in those times resulting from different production cost positions of Tampa Electric, means that it is impossible to predict if future wheeling by Cargill will result in benefits or harm to retail ratepayers. This inability to predict, as well as the pending changes to the transmission arrangements in Florida, makes it problematic to unconditionally approve future self-service wheeling for Cargill.

Q. What conclusions should the Commission reach as a result of the self-service wheeling pilot program?

A. Both Cargill and Tampa Electric tried to make it work. Each side made every effort to see if there was some way to make it a win/win situation. Unfortunately, without a mechanism to assure that Cargill wheeling occurs at times when ratepayers are benefited or are not harmed, there are

just too many elements and uncertainties to justify making a commitment to Cargill for the long-term arrangement it requests. The Commission should conclude that the pilot program showed that self-service wheeling did not provide ratepayer benefits and should not be continued.

Results of Tests for Self-Service Wheeling Request

Q. Have you prepared a RIM test evaluating the cost effectiveness of continuing Cargill's self-service wheeling as they have requested in this proceeding?

A. Under my direction and supervision, RIM tests were prepared addressing Cargill's request for self-service wheeling. In addition to a base case, variations to the base case have been prepared to illustrate the sensitivity of the results to changes in key assumptions.

Q. What assumptions were included in those analyses?

A. The RIM analyses included 10-year projections of benefits identified as Tampa Electric's avoided marginal costs (fuel and variable O&M) and additional revenue from transmission services provided for wheeling and GSI. On the cost side, the analysis included 10-year projections for lost base energy and cost recovery clause revenues due

to the reduction in retail energy. Also included were the incremental programming, administration, monitoring, billing and reporting expenses associated with a permanent program. Although provided in the models, avoided unit assumptions are not applicable in this RIM analysis because Cargill is wheeling interruptible energy to only serve interruptible load and no capacity is increased or displaced.

Several sensitivities were performed to measure the impact of an assumed 25% increase or decrease in gas price, varying ratios of on-peak versus off-peak wheeling, and differing seasonal usage patterns (summer months and winter months.) These sensitivities are critical because it is clear, not only from the knowledge gained from the pilot program but from Cargill's direct testimony in this proceeding, that future self-service wheeling usage cannot be predicted with any degree of accuracy. For purposes of the RIM tests, data was utilized from Cargill's self-service wheeling results for the pilot program period and the extended period (33 months) to determine an average year of future wheeling.

Q. What did the results of the base case RIM test show?

A. For the base case, the program benefit-to-cost ratio ("BCR") was below 1.0, indicating that the program is not cost-effective on a rate impact measure basis. Simply stated, ratepayers will be harmed if self-service wheeling is allowed to continue.

Q. What range of results did you get from the sensitivities to the base case RIM test?

A. Several sensitivities were performed to capture the impact of moderate changes to the more volatile assumptions such as gas prices and Cargill's wheeling patterns. The results, ranging from a BCR of .77 to a BCR of 1.24, show that self-service wheeling can be either a cost or a benefit depending on the assumed level of these volatile variables. However, these sensitivities show that the potential for creation of benefits to the general body of ratepayers is greatest if self-service wheeling occurs primarily during on-peak hours or exclusively during summer months, periods when Tampa Electric's marginal costs are highest. Conversely, if self-service wheeling is confined to periods when marginal costs are lowest, off-peak hours and cooler months, ratepayers are harmed. The RIM results are especially sensitive to fluctuations in natural gas prices because gas prices have a greater

impact on marginal fuel costs than on system average fuel costs. A matrix showing the results is provided in my Exhibit No. ___ (WRA-1), Document No. 9. The outcome is also contingent on a number of other variable inputs to the RIM that I have not included in the matrix (such as changes in the amount of wheeling, scheduling accuracy, and Optional Provision purchases, etc.)

Q. Have you prepared a TRC test evaluating the potential benefits of continued Cargill self-service wheeling?

A. Yes. Under my direction and supervision, a TRC test was prepared addressing Cargill's request for self-service wheeling. I have provided that TRC test with this testimony as my Exhibit No. ___ (WRA-1), Document No. 10. A TRC test was previously provided to Cargill in a discovery request. However, this test is revised to reflect the more recent assumptions utilized in the RIM test that I have provided.

Q. What assumptions were included in that analysis?

A. In the TRC test, it is assumed that Cargill self-service wheeled energy, while incremental to Tampa Electric's system, is not incremental to Florida. Benefits assumed in

the analysis included avoided marginal fuel, purchased power, variable O&M expenses and additional transmission services revenue. Costs assumed in the analysis included Cargill's O&M expenses associated with the self-service generation and lost receipts from as-available energy sales that otherwise would have been sold but for self-service wheeling. Environmental externalities associated with avoided fossil fuel generation on Tampa Electric's system were not quantified because any such benefits would be offset by the increased fossil fuel generation used to replace the energy that Cargill self-service wheeled for internal use instead of exporting for sale to third parties.

Q. What did the results of that TRC test show?

A. The revised TRC benefit-to-cost ratio was 0.97 indicating that the program is not cost-effective on a total resource cost basis. Tampa Electric did not run sensitivities on the TRC assumptions as it did for RIM analyses. The sensitivities performed in the RIM would not affect the TRC outcome because fuel and utilization assumptions were offsetting on the cost and benefit sides of the TRC test.

Q. You indicated earlier that the Commission's cost-effectiveness test manual states that there are other factors to be considered by the Commission in its determination of the cost-effectiveness of self-service wheeling proposals. What are these other factors and what is their significance in the context of Cargill's petition?

A. The first factor to be considered is the type of fuel used by the cogeneration project. My understanding is that Cargill uses the waste heat from its sulfuric acid plant. That plant generates heat from a chemical reaction that creates sulfuric acid from sulfur, air and water. Cargill admits in its response to Tampa Electric's Interrogatory No. 6 that the sulfur it uses is obtained from suppliers who derive the sulfur from a cleaning process. This process removes the sulfur from natural gas before the gas can be sold into the market. (see my Exhibit No. __ (WRA-1), Document No. 11). Natural gas is certainly not a renewable fuel, and therefore any by-product from its production cannot be defined as such.

Q. What is the second listed factor?

A. The second factor to be considered is the fuel efficiency of the plant. Cargill is in a better position to address this item, however my understanding from Cargill is that the fuel efficiency of the steam conversion to electricity of their sulfuric acid plants is generally above 96%, making it very efficient. The consideration to be made however is not whether the cogeneration facility is efficient. Instead, the consideration should be whether self-service wheeling will result in a net increase in the amount of efficient generation exported to the grid. Making more efficient use of existing generation is not the same thing as increasing the efficiency of that existing generation. The pilot program showed that Cargill self-service wheeled either to get a higher effective price for excess energy it produced or to displace retail load served by Tampa Electric. In either case, no additional cogeneration energy was produced. The pre-existing amount of generation was simply redirected, and the fuel efficiency of Cargill's plants was unaffected. Cargill also self-service wheeled in order to avoid paying high Optional Provision prices or potential interruption. Under such circumstances, Cargill might be able to maintain operations of a plant that might otherwise have been interrupted, but the efficiency of its generation would be unaffected and the load tied to it continued in

operation, so overall efficiency neither increased nor decreased.

Q. What is the third listed factor?

A. The third factor to be considered is the likelihood that a cogenerator would build its own transmission line to its remote location. In this case, it is highly improbable, for the reasons discussed earlier in my testimony, that Cargill will build a transmission line between its New Millpoint and Ridgewood facilities if its request for permanent self-service wheeling is denied.

Q. What is the fourth listed factor?

A. The fourth listed factor to be considered is the materiality of any lost revenues indicated by the RIM test.

Q. Do you believe that the net cost to ratepayers of the pilot period or the BCR of .98 resulting from your RIM analysis are sufficiently material to warrant denial of Cargill's request for continued self-service wheeling?

A. Yes. While the net cost after the first year was not significant enough to halt the pilot program before its scheduled completion, the total net cost after the two year pilot program is material enough to reject its continuation. Also, a RIM BCR of .98 is material and suggests that continuation of self-service wheeling is not likely to be cost effective. The Commission routinely approves conservation programs based on BCR results. As a general matter, only those programs with a BCR that exceeds 1.2 are approved by the Commission. This 1.2 BCR level is used as a benchmark for approval to increase the probability that projected net benefits will accrue even when the risk of forecast error is taken into account. Note that only three of the 27 cases presented in my RIM analysis matrix produced BCRs near 1.2 or better. Neither of those three cases are likely outcomes given the extreme nature of the underlying assumptions. Absent some certainty as to how often and when Cargill will self-service wheel, or some mechanism to assure that ratepayers are not harmed, the expected BCR for continued Cargill self-service wheeling is materially lower than the threshold of acceptability generally applicable to conservation programs. With respect to the materiality in general, similar or smaller amounts were deemed sufficiently material in Tampa Electric's last rate case

to warrant Commission Staff recommendations for disallowance and ultimate Commission adoption of those recommendations. In Tampa Electric's last rate case the accrual of AFUDC on Work Order K23 was for $95,275 of rate base, $20,954 of depreciation reserve and $4,002 of depreciation expense; an adjustment was made for the Dravo-Wellman Bucket Unloader Contract of $45,588 of plant and $6,086 of depreciation reserve; and a $52,000 rate base adjustment was made reclassifying a substation site to non-utility (see Order No. PSAC-93-0165-FOF-EI in Docket No. 920324-EI). These are only some recent examples of items the Staff and Commission believed to be sufficiently material to warrant adjusting the revenue requirements for setting retail rates. I would submit that if ratepayer impacts such as these are material in the context of a rate proceeding, then similar levels of ratepayer impact should be equally material in the context of evaluating Cargill's request for relief in this proceeding.

Q. What conclusions should the Commission draw from your analysis of the pilot program and your assessment of the costs and benefits of continued Cargill self service wheeling?

A. Continuation of self-service wheeling on the terms proposed by Cargill would perpetuate a serious misalignment of Cargill and ratepayer interests, to the probable disadvantage of ratepayers. Self-service wheeling is beneficial to the general body of ratepayers only when the avoided marginal costs and transmission revenue gains resulting from self-service wheeling exceed Tampa Electric's retail energy charges. During such periods when no threat of interruption exists, Cargill is least incented to self-service wheel since it would be no better off than it would if it just sold its excess energy to Tampa Electric at the as-available price, thereby avoiding wheeling charges. Cargill's greatest incentive to self-service wheel during times when marginal costs exceed retail energy rates is to avoid possible interruption. However, self-service wheeling during such periods would not result in fuel savings and the resulting benefit to other ratepayers. Therefore, it is my belief that Cargill's self-service wheeling incentives will never be aligned with ratepayer interests. This misalignment of Cargill incentives and ratepayer interests is reflected in the net negative ratepayer impact associated with the pilot program and the low BCRs projected for continued Cargill self-service wheeling. Based on the results of the quarterly reports, the RIM analyses and the TRC test,

Cargill's self-service wheeling has harmed, and likely will continue to harm, other ratepayers should it continue.

Q. Are there any changes that could be made to Cargill's self-service wheeling that would better align Cargill's incentives with other ratepayer interests?

A. Yes. Although the pilot program was performed at no cost to Cargill, the objective of the quarterly reporting was to determine if the cost of self-service wheeling exceeded benefits for ratepayers. If Cargill covered the net cost associated with self-service wheeling, the general body of ratepayers would be at least indifferent to the provision of this service. Such a make-whole charge could be projected and trued-up, much like the current cost recovery clauses work, to give Cargill some billing certainty but assure that the actual effect of its operations on other ratepayers are reflected and recovered to protect ratepayers and Tampa Electric. There are also other changes that Tampa Electric believes must be addressed to protect ratepayers and to assure the service is cost effective. These include 1) parameters to protect against GSI gaming, 2) recovery of the costs for programming and administrative activities to make future

monitoring and billing for the service accurate and efficient, and 3) addressing the potential service territory infringement problems. All of these considerations are difficult to put into place even if Cargill was willing to proceed under such conditions.

Calculation Of Ratepayer Make-Whole Obligation From Cargill

Q. Are there any further matters that need to be addressed with regard to Cargill interim self-service wheeling?

A. Yes, there are. In Order No. PSC-02-1451-PCO-EQ ("Order 1451") in this docket, the Commission directed that ". . . Cargill will indemnify the total negative impact on ratepayers during the interim period, if any, with a payment to flow through Tampa Electric's fuel adjustment clause." The Commission should establish a termination date for Cargill interim self-service wheeling and order Tampa Electric to file a report detailing the self-service wheeling provided to Cargill from October 1, 2002 until that date. Tampa Electric should quantify the negative impact on ratepayers resulting from those services. Upon review and approval of the calculations by Staff, Tampa Electric should be authorized to bill Cargill for that amount and then pass the entire amount back to ratepayers through the fuel clause.

Q. Have you estimated what that amount would be?

A. Yes. I have calculated the negative impact from October 1, 2002 through the end of June 2003. This amount is provided in my Exhibit No. __ (WRA-1), Document No. 12. The final amount cannot be calculated until the Commission orders that the interim self-service wheeling end.

Q. Why is the make-whole amount so small?

A. After October of last year, when Cargill utilized self-service wheeling to cover a maintenance outage at one of its facilities, it has not conducted much self-service wheeling. I believe this is because after Order 1451 Cargill was obligated to indemnify ratepayers for negative impacts of additional self-service wheeling.

Q. Why have you used the quarterly report methodology to calculate the make-whole rather than a RIM analysis?

A. The quarterly report was designed to quantify the specific elements of the self-service wheeling pilot program. All of the pertinent elements of the RIM that affect that pilot program are contained therein and reflect an appropriate methodology for calculating the required

payment from Cargill. As I discussed above, the quarterly reports have been developed after much collaboration between Cargill, the Staff and the company.

Rebuttal of Cargill Witness Fernandez

Q. Have you read the direct testimony and exhibits of Roger F. Fernandez filed in this proceeding?

A. Yes, I have. I was also present at his September 8, 2003 deposition in this proceeding.

Q. Do you have any comments regarding his testimony?

A. Yes. Mr. Fernandez has confused the benefits of cogeneration, which I do not dispute, with the benefits of self-service wheeling, which I contend do not exist in this case. Mr. Fernandez has admitted that denial of Cargill's request for permanent self-service wheeling will not result in a reduction in Cargill's existing cogeneration capacity. He has also admitted that Commission approval will not cause Cargill to increase its existing cogeneration capacity. Unless there is a permanent net change in Cargill's cogeneration capacity, the environmental benefits associated with Cargill's

existing cogeneration will not be affected by the availability of self-service wheeling. The testimony and deposition of Mr. Fernandez show that Cargill has only very limited ability to de-link the production of sulfuric acid from power production. Any such de-linking is costly to Cargill and is unlikely to result in any increased energy to the grid that would benefit Tampa Electric's ratepayers. I disagree with Mr. Fernandez that the results show that ratepayer impacts are not material. I also disagree with his arguments regarding policy considerations he says should be factored into the decision to grant Cargill permanent self-service wheeling. It is apparent from Mr. Fernandez's testimony that Cargill wants to have its cake and eat it too. It wants to take service at its New Millpoint and Ridgewood locations under the existing interruptible tariff rates that have been closed to new business by the Commission because they have been found to not be cost effective. Cargill wants to self-service wheel when it benefits Cargill to either avoid interruption or achieve a greater benefit for its excess energy than is afforded by as-available energy rates.

Q. Why do you disagree with Mr. Fernandez's positions regarding the beneficial effect self-service wheeling has on his cogeneration output?

A. Mr. Fernandez describes in detail how his cogenerated power is produced using waste heat resulting from chemical reactions involved in producing sulfuric acid. I take no issue with his position that his cogeneration is efficient, encouraged by public policy, and benefits ratepayers to the extent that load is served internally or by contract from such an efficient source. I have no doubt that Cargill's ability to take advantage of self-service wheeling improves the efficiency of Cargill's internal operations as he suggests. If self-service wheeling did not produce these benefits for Cargill, then Cargill would not be seeking to continue the service. As can be deduced from his testimony and confirmed in Cargill's response to Tampa Electric Interrogatory No. 3 (see Exhibit No. _-(WRA-12) Document No. 13) and stated in Mr. Fernandez's September 8, 2003 deposition (page 6, lines 9, 13, 16 and 25), Cargill has no plans to increase generation capacity as a result of self-service wheeling.

Cargill has been unable to show that self-service wheeling has increased the overall energy produced by its

generation fleet during the pilot period. On page 8, line 2 of Mr. Fernandez's direct testimony he admits that after internal use and its off-system sales to PEFI are taken into account, only 1 to 2 percent of its electric production flows to the Tampa Electric transmission system.

Q. Has Cargill shown that incremental energy was produced as a result of self-service wheeling, and if so, would that increased energy benefit ratepayers?

A. No. Nowhere in his direct testimony does Mr. Fernandez allege that self-service wheeling resulted in increased energy being generated by Cargill. During his September 8th deposition, Mr. Fernandez was asked about Cargill's limited ability to de-link the production of sulfuric acid from power production. As Mr. Fernandez describes in his testimony (page 5, line 5 through line 17) as well as during the deposition (e.g., page 19 lines 6 and 9, page 23 line 2 through page 24 line 6, page 29 lines 6 through 12), Cargill can produce additional energy for very limited periods and in very limited amounts at the expense of its phosphate production process or sulfur production. Any such de-linking is costly to Cargill. Given the resulting costs to Cargill, it is only going to implement

such measures during times when it is at risk of interruption from Tampa Electric and can avoid the interruption by producing this temporary excess generation (see Mr. Fernandez's September 8, 2003, Deposition page 77, lines 8-12 and 20-24, page 78 line 22 through page 79 line 6, and page 86 lines 3-5). When that site would otherwise be interrupted or served by Optional Provision power, any such additional cogenerated power from Cargill would not benefit Tampa Electric's ratepayers. In addition, the measures Cargill must take to provide the added energy affect its production quotas at the site where the temporary additional energy is being produced. When the self-service wheeling ends and conditions get back to normal, Cargill must make up that lost production which means less energy is available for the grid or additional energy must be produced and sold to Cargill to help it catch up.

Q. Do you agree with Mr. Fernandez's contention that the net cost associated with the pilot period, as shown on the quarterly reports, is not material?

A. No. As I described earlier in my testimony, the Commission has established a standard for materiality. Mr. Fernandez stated on page 7, line 14 of his direct

testimony that "clearly" the amount was not material. At Mr. Fernandez's September 8, 2003 deposition in this proceeding, pages 47 line 23 through page 50 line 6, Mr. Fernandez was repeatedly asked to describe what level of cost would be material in his view and he was unable to say what that level might be.

Q. Do you agree with Mr. Fernandez's contention that policy considerations should be factored into the decision to grant Cargill permanent self-service wheeling?

A. No. All of the policy considerations that Mr. Fernandez alludes to pertain to cogeneration, not self-service wheeling. On page 3 of Mr. Fernandez's direct testimony he states that self-service wheeling will give "official acknowledgement" to two functions it provides: energy conservation and environmental benefits. He also alleges a conservation benefit on page 12, lines 18 - 20. With regard to energy conservation, as I discussed earlier in my testimony, Cargill has admitted that granting permanent self-service wheeling for Cargill will not result in any additional cogeneration capacity at Cargill. I also described the limited circumstances where Cargill might be able to temporarily generate additional energy from its existing cogeneration facilities. While internal concern

about interruption might incent Cargill to do so, it is unlikely that Cargill would impair its production process in this manner at times that would create ratepayer benefits. Consequently, I do not agree that there are any conservation benefits that occur as a result of self-service wheeling for Cargill.

Q. What about environmental benefits?

A. On page 12, line 21 through page 13 line 7 of his testimony, Mr. Fernandez discusses how he believes Cargill's cogeneration provides environmental benefits. However, whatever benefits exist from Cargill's cogeneration exist regardless of self-service wheeling. Only if additional cogeneration capacity is being added or if increased energy is being produced, thereby displacing fossil fuel derived energy on the grid as a result of self-service wheeling, could additional benefits be produced. Mr. Fernandez has not provided any evidence that added capacity or energy was created during the pilot as the result of self-service wheeling. Furthermore, he has provided no reasonable basis for assuming that such incremental capacity of energy would be created in the future as the result of continued Cargill self-service wheeling. As was pointed out to him during his September

8th deposition, the calculation underlying the analysis presented by Mr. Fernandez is off by a factor of 12. His calculations, which are derived from the Tampa Electric publication listed as Exhibit RFF-5 to his direct testimony, are based on the erroneous assumption that the "1 block" of renewable energy referred to in that publication equals 50-killowatt-hours. In fact, the 50-killowatt-hour reference is the number for one month. Mr. Fernandez incorrectly assumes that publication in question was suggesting that 50-killowatt-hours of renewable energy (a monthly amount) was sufficient to offset burning 700 pounds of coal (an annual amount). However, the correct equation would have been 600 killowatt-hours (50 x 12) of renewable energy offsetting the burning of 700 pounds of coal. In any event, his calculations are not relevant because future marginal costs are predominately based on gas not coal.

Q. What do you mean when you say Cargill wants to have its cake and eat it too?

A. Cargill takes standby service under the existing interruptible tariff rates from Tampa Electric at the two locations between which it is requesting self-service wheeling. These interruptible standby rates have been

closed to new business by the Commission because they have been found not to be cost effective. In other words, the base rates are too low. Cargill is already enjoying the benefit of an interruptible rate that is too low and wants, at the same time, to use self-service wheeling to avoid the interruptions that that justify the savings that it is already enjoying. To add insult to injury, Cargill wants to enjoy these layers of benefits without assuming any financial responsibility for the costs that its use of self-service wheeling creates. In the absence of self-service wheeling, Cargill would be entitled to sell its excess generation as as-available rates, which the Commission has deemed to be fully compensatory. In this sense, Cargill faces no risk and seeks only reward.

Rebuttal of Cargill Witness Huston

Q. Have you read the direct testimony and exhibits of Jack Huston filed in this proceeding?

A. Yes, I have.

Q. Do you have any comments regarding his testimony in this proceeding?

A. Yes. On page 4, lines 12 though 14, and again on page 5 lines 3 through 5, Mr. Huston states that Cargill objects to paying more than other transmission customers pay for the same service. As indicated earlier in my testimony, Cargill has been using Tampa Electric's OATT for the transmission service associated with self-service wheeling. I want to make it perfectly clear that Cargill has not paid more for its transmission service than any other transmission customers would pay under the same circumstances and with the same wheeling loads as Cargill. Tampa Electric has not asked Cargill to pay more than is authorized under that tariff.

Q. Are there other portions of his testimony with which you disagree?

A. Yes, however most of his testimony relies on the testimony or Cargill's witnesses Fernandez and Kordecki. He simply agrees with their conclusions. My response to those positions are included in my rebuttal to their testimonies.

Rebuttal of Cargill Witness Kordecki

Q. Have you read the direct testimony and exhibits of Gerard J. Kordecki filed in this proceeding?

A. Yes, I have. I was also present at his September 10, 2003 deposition in this proceeding.

Q. Do you have any comments regarding his testimony in this proceeding?

A. Yes. I disagree with many of his statements. I disagree with Mr. Kordecki that Cargill's self-service wheeling is beneficial to Tampa Electric ratepayers and helps meet conservation goals. Mr. Kordecki has failed to produce a RIM or TRC test showing that self-service wheeling should be approved by the Commission. I disagree with his criticism that Tampa Electric has not provided data requested by Cargill in discovery. I do not agree with his criticism of the TRC test Tampa Electric provided Cargill in response to its Interrogatory No. 18. I do not entirely agree with Mr. Kordecki's views with regard to RIM tests and treatment of lost revenues, "instant recovery" and rate of return. I disagree with many of the adjustments and calculations Mr. Kordecki makes to the

results of the pilot program as shown in the quarterly reports. Finally, I disagree with Mr. Kordecki's positions regarding fuel types, fuel efficiency, and materiality. I will address each of these matters individually.

Q. Please explain why Mr. Kordecki's position that Cargill's self-service wheeling is beneficial to Tampa Electric ratepayers and helps meet conservation goals is incorrect.

A. Mr. Kordecki's analysis is based, in large part, on the contention of Mr. Fernandez that the self-service wheeled energy is incremental. As I explained with regard to Mr. Fernandez's testimony, Cargill admits that self-service wheeling has not prompted Cargill to add capacity. Further, Cargill has provided no evidence to support the contention that incremental energy has been provided to the grid as a result of self-service wheeling. Without such evidence, Mr. Kordecki's assertion on page 2, lines 17 through 20, cannot be supported. Indeed, Mr. Kordecki's points one and two on page 3 of his testimony may be true, including his assertion that self-service wheeling in some measure may improve the efficiency of Cargill's use of its cogeneration facilities (efficiency being measured overall and not as to energy production). However, in the absence of incremental capacity and energy

exports to the grid, no incremental benefits are created by self-service wheeling. In his Direct Testimony, Mr. Kordecki makes no such assertion that additional capacity or energy has been or will be produced as a result of self-service wheeling.

Q. Has Mr. Kordecki, or any Cargill witness, produced a RIM or TRC test showing that self-service wheeling for Cargill should be approved by the Commission?

A. Mr. Kordecki produced a TRC that purports to show benefits from self-service wheeling. However his analysis excludes significant participant costs associated with the self-service wheeling program. When the lost opportunity costs attributable to Cargill power sales that are displaced by self-service wheeling are included, the TRC test he produces fails to show net benefits. In addition, neither Mr. Kordecki nor Cargill have produced any RIM analysis. Mr. Kordecki alleges on pages 12 and 13 of his testimony that Tampa Electric did not submit the required RIM and TRC tests to the Commission during the pilot program. Mr. Kordecki is well aware that the RIM and TRC are forward looking analyses, and would not have been appropriate to track results from a pilot program. Mr. Kordecki then tries to make adjustments to the quarterly report results

and pass them off as RIM analysis. They are historical and not RIM. At no time did Cargill ask for RIM tests to be performed during the pilot or in this case. Mr. Kordecki knows that pilot programs are conducted to gather data from which it is hoped that better projections can be made to evaluate the merits of implementing a program on a permanent basis.

Q. What is your response to Mr. Kordecki's assertion on page 13, line 1 through page 14 line 5 that Tampa Electric has not provided data requested by Cargill in discovery to enable Cargill to perform RIM and TRC tests?

A. In Mr. Kordecki's September 10, 2003 deposition in this proceeding, page 37 line 16 through page 38 line 25, he acknowledged that he received all the data he requested that was not objected to by Tampa Electric. Further, he also acknowledged that Cargill had not moved to compel responses to some of the Cargill discovery requests to which Tampa Electric had objected. He also acknowledged that Tampa Electric had not failed to provide information that the Commission directed it to file in those cases where Tampa Electric objected and Cargill moved to compel. Mr. Kordecki may not agree with the data provided, but he cannot truthfully assert it has not been provided. It has

been provided.

Q. Do you agree with Mr. Kordecki's criticism of the TRC test Tampa Electric provided Cargill in response to its Interrogatory No. 18?

A. No. Mr. Kordecki disagrees with Tampa Electric's inclusion of programming costs because "no justification has been provided to support the costs as incremental" and he objects to the inclusion of participant "lost opportunity" costs for no valid reason other than it causes the TRC results to look bad. As indicated in Tampa Electric's response to Cargill's Interrogatory No. 25, he would have seen that the programming expenses are for contracting programmers to write required code designed to track Cargill's multiple wheeling activities as Tampa Electric does not have the available resources to perform this work. These costs are clearly incremental and attributable only to Cargill's self-service wheeling program.

Q. Do you agree with Mr. Kordecki's positions on pages 9 and 10 of his direct testimony with respect to RIM tests and treatment of lost revenues, "instant recovery" and rate of return?

A. No. The thrust of this portion of Mr. Kordecki's testimony is that revenue lost as the result of self-service wheeling is not a ratepayer impact unless or until the Commission permits recovery of this cost in a general rate case. Although he tacitly acknowledges that this lost revenue constitutes a very real impact to Tampa Electric, he suggests that Tampa Electric's current rate of return is sufficiently robust to warrant imposing the cost of Cargill self-service wheeling on Tampa Electric's shareholders. On the basis of these contentions both Mr. Fernandez and Mr. Kordecki assert that the Commission should implement self-service wheeling on a permanent basis without putting in place any mechanism that would obligate Cargill to reimburse ratepayers or Tampa Electric for the net cost associated with Cargill self-service wheeling. The fallacy of this position is several fold. First, as discussed earlier in my testimony, the Commission recognized in the Grace case that revenues lost as the result of self-service wheeling is ultimately a ratepayer impact. The Commission's conclusion on this point was not premised on the existence of a pending general rate case. Indeed, if Tampa Electric were to file a general rate case tomorrow, Cargill would be hard pressed to explain why the Commission should not directly assign to Cargill all of the net costs associated with

Cargill self-service wheeling. Mr. Kordecki suggests on page 10, lines 18 - 20 of his direct testimony that you make appropriate adjustments for such lost revenues only when a rate case comes and then he suggests in his September 10, 2003 deposition in this case at page 26 lines 1-6 that one option the Commission could entertain would be to impute the lost revenues to Cargill, again at the time of the rate case. Cargill's attempt to avoid this responsibility based on what amounts to a timing difference is unconscionable. Second, as Mr. Kordecki indicates, the RIM test does assume instant recovery of lost revenues in order to take account of all the rate impacts of a utility program when determining whether to initiate or halt that program. In fact, he adopted this assumption in his own analysis. The whole point of making this assumption in the first place is to determine whether a proposed program will create net costs or net benefits to the general body of ratepayers. When, as is the case in this proceeding, the RIM analysis suggests that a program will result in net costs to ratepayers if an instantaneous rate case is assumed, it makes no sense to approve the non-cost effective program anyway, simply because an instantaneous rate case will not in fact occur. Third, I do not agree with Mr. Kordecki's assertion on page 10 of his testimony that if the utility is earning somewhere

above the midpoint of its allowed range, its shareholders should bear the cost associated with self-service wheeling. Imposition of the cost of Cargill self-service wheeling on Tampa Electric's shareholders would be unreasonable and confiscatory since there is not a scintilla of evidence that the Company's shareholders have any hope of deriving any benefit from Cargill self-service wheeling. This position amounts to a demand, on Cargill's part, to be paid to accept a free lunch. Tampa Electric's rate of return has nothing to do with Cargill's responsibility to cover the net costs that result from its use of self-service wheeling.

Q. Please describe your views regarding Mr. Kordecki's exhibits GJK-1 through GJK-4 which purport to provide a RIM analysis of the self-service wheeling pilot program.

A. These exhibits simply make certain adjustments to pilot program results, most of which I do not agree are appropriate. As I mentioned earlier, he attempts to use these results in lieu of an actual RIM analysis to justify continuation of self-service wheeling. I think they should be rejected in total and given no weight as they are not RIM tests and they contain errors in calculation as well as inappropriate adjustments. For Example, Mr. Kordecki

suggests that Cargill's avoided Optional Provision charges should be included as a ratepayer benefit. However, these avoided charges are just savings to Cargill's electric bill. While they may be an appropriate input for the Participant Test, which is not part of the cost-effectiveness evaluation of self-service wheeling programs, it is not an appropriate input for the RIM test.

Q. How do you view Mr. Kordecki's positions regarding type of fuel, fuel efficiency, and materiality with respect to authorizing self-service wheeling for Cargill.

A. As did Mr. Fernandez, Mr. Kordecki addressed three of the four "other considerations" mentioned in the cost effectiveness manual to be considered by the Commission when evaluating a self-service wheeling request. He goes so far as to say on page 25 of his direct testimony, that even if the Commission disagrees with his cost-effectiveness analysis, the Commission should approve self-service wheeling on the basis of these three "other considerations."

Q. Do you agree with what Mr. Kordecki says about type of fuel?

A. No. Again, Mr. Kordecki indicates that Cargill uses waste heat to produce its generation and thus reduces pollution. While the use of waste heat is a true fact, he makes no assertions and provides no facts supporting increased capacity or energy from that waste heat. This argument should be rejected.

Q. Do you agree with what Mr. Kordecki says about fuel efficiency?

A. No. Again, Mr. Kordecki indicates that Cargill uses waste heat to produce its generation which is a "free fuel" and very efficient. While contention that the use of waste heat is efficient is true, he makes no assertions and provides no facts supporting the contention that increased capacity or energy result from its efficient process. This argument should be rejected.

Q. Do you agree with what Mr. Kordecki says about materiality?

A. No. Mr. Kordecki discusses materiality on page 25 of his Direct Testimony and says that the amount indicated in the Tampa Electric RIM is "negligible" and "not material." In response to an inquiry made during his September 10, 2003

deposition, page 14 line 2, he responded that he had no specific number in mind when asked as to his opinion on what amount is material. If he has no such number in mind, then how can he support that the Tampa Electric RIM number is below that number?

Q. Does this conclude your testimony?

A. Yes, it does.

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DOCKET NO. 020898-EQ
TAMPA ELECTRIC COMPANY
(WRA-1)
FILED: SEPTEMBER 19, 2003

EXHIBIT

OF

WILLIAM R. ASHBURN

EXHIBIT NO._____
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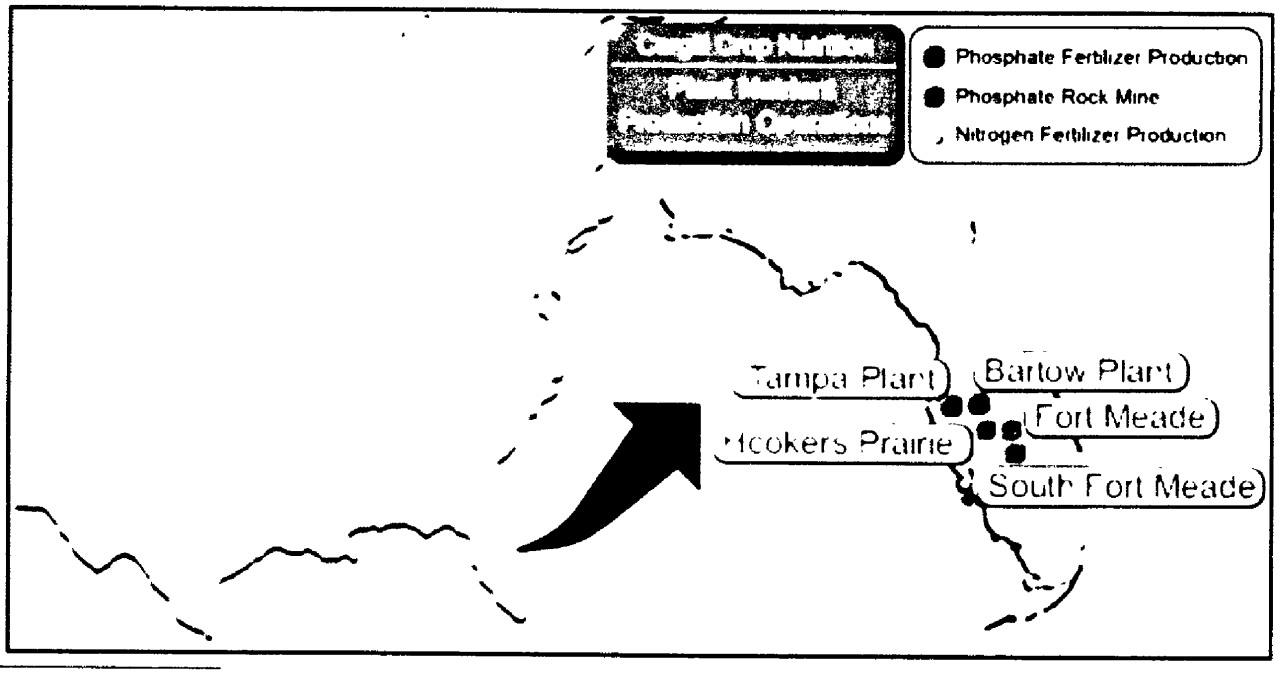
DOCUMENT NO. 1



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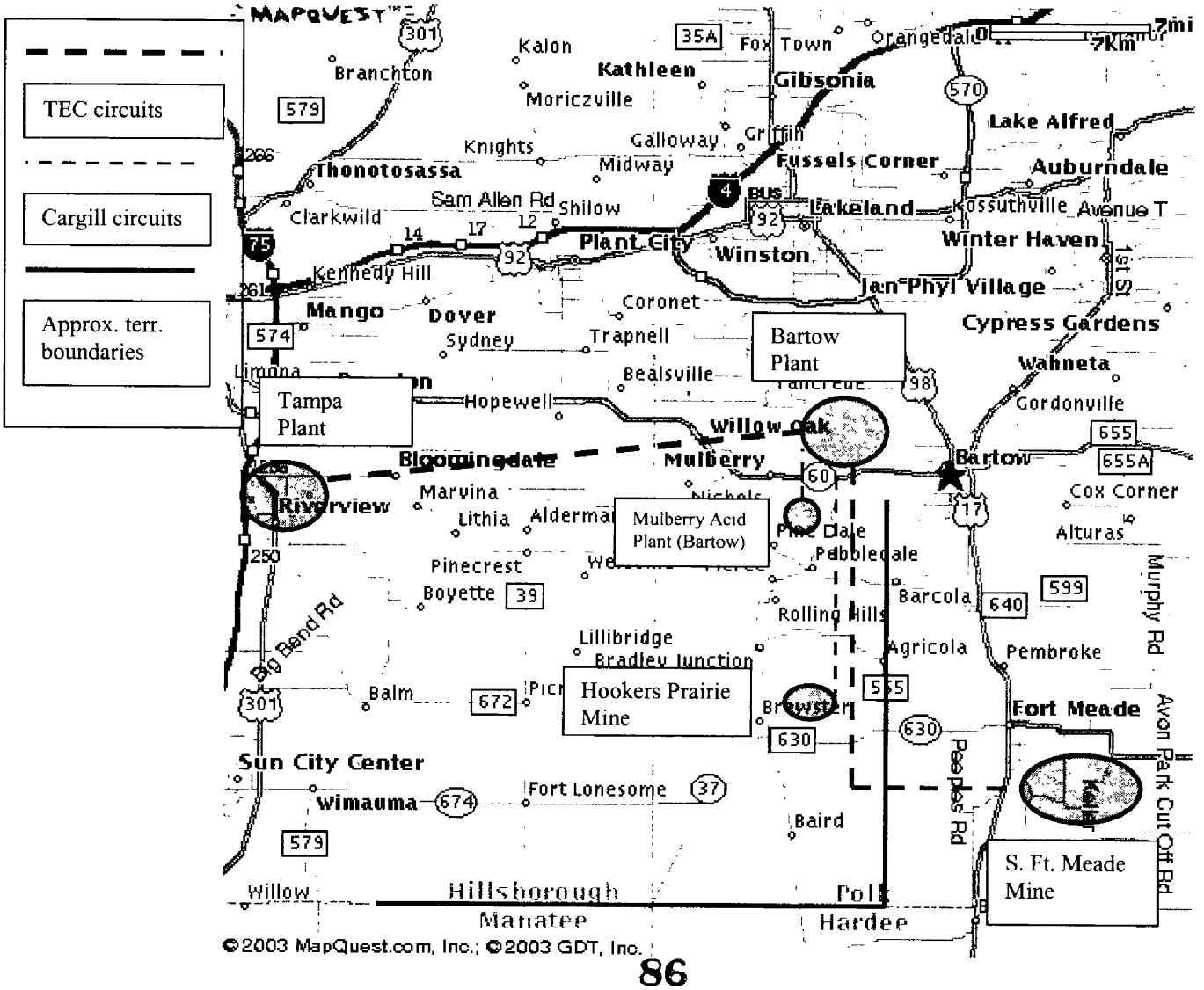

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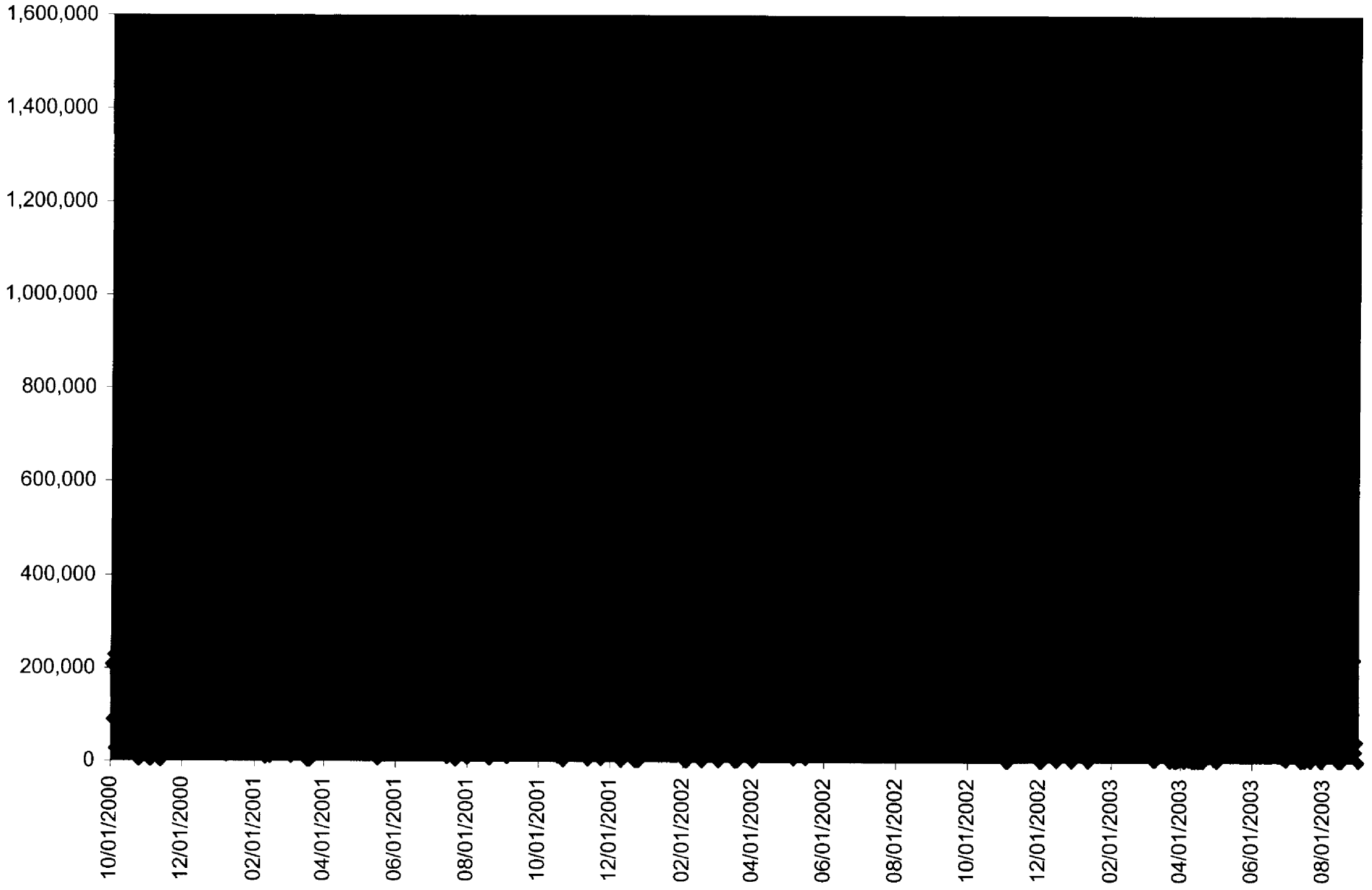
DOCUMENT NO. 2

Cargill Combined Generator Output
Oct 1, 2000 - Aug 31, 2003



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DOCUMENT NO. 3

Overview of Self-Service Wheeling Experimental Program

Pursuant to Florida Public Service Commission Order No. PSC-00-1596-TRF-EQ, dated September 6, 2000, Tampa Electric Company (TECO) and Cargill Fertilizer, Inc. (Cargill) are participating in an experimental program in which TECO provides Cargill with self-service wheeling (SSW) to, from and between Cargill's three locations identified as "New Millpoint", "Ridgewood Master" (fertilizer plants) and " Hooker's Prairie Mine".

According to the Order, transmission wheeling of self-service energy will be supplied under TECO's Open Access Transmission Tariff on file at the Federal Energy Regulatory Commission. Any applicable charges for under-delivery of scheduled energy will be collected under TECO's Open Access Generation-to-Schedule Imbalance (GSI) Service. For the duration of this pilot program (initially limited to two years), TECO will submit quarterly reports, such as the attached, that identify the costs and revenues associated with this program.

The first section of the quarterly report is a summary page designed to provide information regarding Cargill's actual energy (MWH) reduction attributable to SSW, the basis for the GSI service charge and the net revenue gains or losses for other TECO ratepayers. This page also includes TECO's monthly peak information. When SSW occurs, TECO's incremental fuel expense for serving this energy is avoided (except when Cargill under-delivers and TECO serves the energy shortfall via the GSI service). Ratepayers lose fuel revenue when the avoided incremental fuel expense is less than the otherwise applicable tariff fuel rate. Conversely, ratepayers benefit if the reverse is true. Cargill's self-service energy is assumed to be an incremental increase to TECO's energy supply. Therefore, any SSW MWs in hours that are coincident with hourly spot sales of energy are assumed to have contributed to the sales.

The second section shows the impact of SSW on Cargill's electric bills for each of the three Cargill locations. It provides the billing components before and after the SSW energy reduction adjustment. Cargill's SSW is non-firm and therefore assumed to have no impact on the billing demand used to calculate demand charges for retail electric service. Although all billing components are shown, only the energy-related components are impacted.

The third section provides a graphical presentation of the hours of SSW (including whether on-peak or off-peak); the hours of optional provision purchases; the hours of overlap of SSW and optional provision purchases, and the actual peak hour for each day. Over time these charts may assist in the assessment of reliability impacts to both TECO and Cargill.

TECO has shared the information in this report with Cargill. TECO and Cargill will continue to work together to optimize the benefits of SSW to TECO ratepayers and Cargill.

Section 1

Impact of Self-Service Wheeling on Other Tampa Electric Ratepayers

Impact of Cargill Self-Service Wheeling (SSW) Pilot - Quarter IV 2000

Does Not Include Energy Reduction from Self-Service Wheeling in Hours Coincident with Optional Provsion Purchases

		October	November	December	Qtr. IV 2000
(1)	**Energy Reduction from SSW - MWH**				
	Cargill New Millpoint Plant (SBI-3)	366	739	504	1,609
	Cargill Ridgewood Master Plant (SBI-1)	327	146	295	768
	Cargill Hooker's Prairie Plant (IST-1)	198	70	43	311
	Total Cargill SSW	891	955	842	2,688
(2)	**Actual SSW Under-delivered - MWH**				
	Basis for Generator-to-Schedule Imbalance (GSI) Service	171	203	88	462
	Cost/Benefit (-/+)				
(3)	Implementation, Administration, Billing and Reporting Expense	$ (8,912)	$ (874)	$ (757)	$ (10,543)
(4)	Base Energy	$ (9,130)	$ (10,421)	$ (10,199)	$ (29,751)
(5)	Environmental Cost Recovery Charges ($1.38/MWH)	$ (1,230)	$ (1,318)	$ (1,162)	$ (3,709)
(6)	Conservation Cost Recovery Charges ($0.18/MWH)	$ (160)	$ (172)	$ (152)	$ (484)
(7)	Capacity Cost Recovery Charges ($0.15/MWH)	$ (134)	$ (143)	$ (126)	$ (403)
(8)	Lost Retail Tariff Time-Of -Use Fuel Revenues	$ (21,138)	$ (21,628)	$ (17,279)	$ (60,045)
(9)	Avoided Fuel and Purchased Power Expense				
(10)	Avoided Variable Production O&M	$ 2,042	$ 2,490	$ 2,114	$ 6,646
(11)	Avoided Energy Cost				
	Schedule 8 - Non-Firm Point-to-Point Transmission Service ($1.267/MWH)	$ 1,650	$ 1,598	$ 1,280	$ 4,527
	Schedule 2 - Reactive Supply ($0.10/MWH)	$ 130	$ 126	$ 101	$ 357
	Schedule 1 - Scheduling ($0.13/MWH)	$ 169	$ 164	$ 131	$ 464
(12)	Total Transmission Wheeling	$ 1,949	$ 1,888	$ 1,512	$ 5,349
(13)	Net GSI Service Charges	$ 518	$ 485	$ 234	$ 1,237
(14)	Refund (-$2.26/MWh)	$ 2,102	$ 2,165	$ 1,916	$ 6,183
	Net Impact				
	Tampa Electric Monthly Peak: Date	10/4/00	11/22/00	12/21/00	
	Hour	18	8	8	
	MW	2,935	2,618	3,326	

Notes:

(1) This report is based on calendar month data. Actual customer bills, which are based on billing cycles, may be different due to billing-driven meter reading dates. In Quarter IV 2000, October 31st and November 30th were billed on the November and December bills, respectively

(2) These values represent the differences between the self-service MWs that Cargill scheduled in each hour and the self-service MWs that were actually delivered to Tampa Electric's transmission system in each corresponding hour. Shortfall energy is supplied via Tampa Electric's GSI service at 110% of Tampa Electric's incremental cost for each hour GSI service is required

(3) Represents implementation expense (Oct) and monthly administration, maintenance, billing , and reporting expense associated with the pilot.

(4) Revenue losses are calculated by multiplying the IST-1 energy charge ($10.78/MWH) by the reduced energy for Hooker's Prairie; the SBI-1 supplemental energy charge ($10.78/MWH) and standby energy charge ($9.61/MWH) by the reduction in supplemental energy and standby energy, respectively, for Ridgewood Master; and the SBI-3 supplemental energy charge ($13.27/MWH) and standby energy charge ($9.61/MWH) by the reduction in supplemental energy and standby energy, respectively, for New Millpoint.

(5) Environmental Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(6) Conservation Cost Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(7) Capacity Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(8) Represents the loss in tariff time-of-use fuel revenue calculated by multiplying the on-peak and off-peak tariff fuel prices by the energy reduced in on-peak and off-peak hours respectively as a result of SSW.

(9) The avoided hourly fuel and purchased power expense including SO2 allowances and adjustment for line losses is multiplied by the energy reduction from SSW in each hour .

(10) Avoided variable O&M $/MWH, adjusted for line losses, is multiplied by the MWH reduction from SSW in hours that TEC generation is on the mar

(11) The avoided energy cost is the sum of the avoided fuel and purchased power expense (line 9) and the avoided variable O&M expense (line 10).

(12) Open Access transmission tariff wheeling charges are multiplied by the scheduled SSW MWs in each hour.

(13) Calculated by multiplying the 10% gain on the hourly incremental fuel and purchased power expense including SO2 allowances and variable O&M times the GSI MWHs in each hour. The 10% has been treated as a true gain as opposed to a premium designed to cover hard-to-quantify additional costs. The dollars gained are credited to the Fuel and Purchased Power Recovery Clause.

(14) These re-allocated amounts are calculated by multiplying the actual load reduction energy by the IS rate for the $13 million refund that was approved on August 1, 2000 (Order PSC-00-1441-AS-EI). Applies to energy reduction from SSW in all hours including optional provsion over

Section 2

Impact of Self-Service Wheeling on Cargill's Electric Bills

Impact of Self-Service Wheeling on Cargill Electric Bill for Hooker's Prairie Mine

Billing Components for Quarter IV 2000 Before and After Self-Service Wheeling[1]

Hooker's Prairie (IST-1)	Before SSW			After SSW			Impact of SSW			
	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	Quarter IV
Actual Billing Determinants: (2)										
Demand (kW)	2,709	2,268	1,323	2,709	2,268	1,323	-	-	-	-
On-Peak Energy (kWh)	147,956	142,538	143,420	147,956	140,538	143,420	-	2,000	-	2,000
Off-Peak Energy (kWh)	679,171	451,206	470,169	442,171	383,206	426,169	237,000	68,000	44,000	349,000
Power Factor %	76.77	76.73	75.50	76.77	76.73	75.50	-	-	-	-
Applicable Tariff Rate/Charge:										
Customer Facilities ($/bill)	1,000	1,000	1,000	1,000	1,000	1,000	-	-	-	-
Supplemental Demand ($/kW-mo)	1.45	1.45	1.45	1.45	1.45	1.45	-	-	-	-
Supplemental Energy (¢/kWh)	1.078	1.078	1.078	1.078	1.078	1.078	-	-	-	-
Metering Level Discount (% of D&E charges)	1	1	1	1	1	1	-	-	-	-
Transformer Ownership Discount ($/kW-mo)	0.23	0.23	0.23	0.23	0.23	0.23	-	-	-	-
On-Peak Fuel Charge (¢/kWh)	3.275	3.275	3.275	3.275	3.275	3.275	-	-	-	-
Off-Peak Fuel Charge (¢/kWh)	2.03	2.03	2.03	2.03	2.03	2.03	-	-	-	-
Energy Conservation Charge (¢/kWh)	0.018	0.018	0.018	0.018	0.018	0.018	-	-	-	-
Capacity Charge (¢/kWh)	0.015	0.015	0.015	0.015	0.015	0.015	-	-	-	-
Environmental Cost Recovery Charge (¢/kWh)	0.138	0.138	0.138	0.138	0.138	0.138	-	-	-	-
Refund (¢/kWh)	(0.226)	(0.226)	(0.226)	(0.226)	(0.226)	(0.226)	-	-	-	-
Florida Gross Reciepts Tax (%)	2.5641	2.5641	2.5641	2.5641	2.5641	2.5641	-	-	-	-
Actual Charges : (3)										
Customer Facilities Charge	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ -	$ -	$ -	$ -
Demand	$ 3,928.05	$ 3,288.60	$ 1,918.35	$ 3,928.05	$ 3,288.60	$ 1,918.35	$ -	$ -	$ -	$ -
Energy	$ 8,916.43	$ 6,400.56	$ 6,614.49	$ 6,361.57	$ 5,645.96	$ 6,140.17	$ 2,554.86	$ 754.60	$ 474.32	$ 3,783.78
On-Peak Fuel	$ 4,845.56	$ 4,668.12	$ 4,697.01	$ 4,845.56	$ 4,602.62	$ 4,697.01	$ -	$ 65.50	$ -	$ 65.50
Off-Peak Fuel	$ 13,787.17	$ 9,159.48	$ 9,544.43	$ 8,976.07	$ 7,779.08	$ 8,651.23	$ 4,811.10	$ 1,380.40	$ 893.20	$ 7,084.70
Energy Conservation Charge	$ 148.88	$ 106.87	$ 110.45	$ 106.22	$ 94.27	$ 102.53	$ 42.66	$ 12.60	$ 7.92	$ 63.18
Capacity Charge	$ 124.07	$ 89.06	$ 92.04	$ 88.52	$ 78.56	$ 85.44	$ 35.55	$ 10.50	$ 6.60	$ 52.65
Environmental Cost Recovery Charge	$ 1,141.44	$ 819.37	$ 846.75	$ 814.38	$ 722.77	$ 786.03	$ 327.06	$ 96.60	$ 60.72	$ 484.38
Transformer Discount	$ (623.07)	$ (521.64)	$ (304.29)	$ (623.07)	$ (521.64)	$ (304.29)	$ -	$ -	$ -	$ -
Meter Level Discount	$ (128.44)	$ (96.89)	$ (85.33)	$ (102.90)	$ (89.35)	$ (80.59)	$ (25.55)	$ (7.55)	$ (4.74)	$ (37.84)
Power Factor Adjustment +/- (4)	$ 355.61	$ 256.53	$ 305.28	$ 253.72	$ 226.29	$ 283.39	$ 101.90	$ 30.24	$ 21.89	$ 154.03
Refund	$ (1,869.31)	$ (1,341.86)	$ (1,386.71)	$ (1,333.69)	$ (1,183.66)	$ (1,287.27)	$ (535.62)	$ (158.20)	$ (99.44)	$ (793.26)
Florida Gross Receipts Tax	$ 810.93	$ 610.98	$ 598.78	$ 623.45	$ 554.96	$ 563.90	$ 187.49	$ 56.02	$ 34.88	$ 278.39
Total Electric Charges	32,437.32	24,439.18	23,951.24	24,937.88	22,198.47	22,555.89	$ 7,499.44	$ 2,240.72	$ 1,395.35	$ 11,135.51
							23.1%	9.2%	5.8%	13.8%

(1) All billing components are shown; however, only the energy related components are impacted by self-service wheeling.
(2) Actual billing determinants based on billing cycle meter reading date. Energy consumption in the corresponding calendar month may be different.
(3) Excludes optional provision purchases and county taxes.
(4) The power factor adjustment is positive for monthly power factors below 85%, negative for power factors above 90%. No adjustment is made for power factors 85 % to 90%.

Impact of Self-Service Wheeling on Cargill Electric Bill for Ridgewood Master Plant

Billing Components for Quarter IV 2000 Before and After Self-Service Wheeling[1]

Ridgewood Master (SBI-1)	Before SSW			After SSW			Impact of SSW			
	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	Quarter IV
Actual Billing Determinants: (2)										
Supplemental Demand (kW)	8,132	17,530	21,993	8,132	17,530	21,993	-	-	-	-
Standby Billing Demand (kW)	52,000	52,000	52,000	52,000	52,000	52,000	-	-	-	-
Actual Standby Billing kW	21,488	81,911	215,482	21,488	81,911	215,482	-	-	-	-
Supplemental On-Peak Energy (kWh)	150,984	795,052	1,588,974	150,984	755,052	1,573,974	-	40,000	15,000	55,000
Supplemental Off-Peak Energy (kWh)	1,882,446	2,486,439	6,668,814	1,698,446	2,378,439	6,421,814	184,000	108,000	247,000	539,000
Standby On-Peak Energy (kWh)	38,054	170,152	903,709	38,054	170,152	903,709	-	-	-	-
Standby Off-Peak Energy (kWh)	1,213,526	335,048	3,341,117	1,070,526	334,048	3,303,117	143,000	1,000	38,000	182,000
Power Factor %	91 65	83 88	86 62	91 65	83 88	86 62	-	-	-	-
Applicable Tariff Rate/Charge:										
Customer Facilities ($/bill)	1,025	1,025	1,025	1,025	1,025	1,025	-	-	-	-
Supplemental Demand ($/kW-mo)	1 45	1.45	1 45	1 45	1.45	1.45	-	-	-	-
Stand-by Demand ($/kW-mo)	0 95	0 95	0 95	0 95	0 95	0 95	-	-	-	-
Bulk Transmission Reservation ($/kW-mo)	0 09	0 09	0.09	0 09	0 09	0 09	-	-	-	-
Bulk Transmission Demand ($/kW-day)	0.03	0 03	0 03	0.03	0 03	0 03	-	-	-	-
Supplemental Energy (¢/kWh)	1.078	1 078	1 078	1.078	1 078	1 078	-	-	-	-
Standby Energy (¢/kWh)	0 961	0 961	0.961	0.961	0.961	0.961	-	-	-	-
Metering Level Discount (% of D&E charges)	1	1	1	1	1	1	-	-	-	-
Transformer Ownership Disc Supp ($/kW-mo)	0 23	0.23	0.23	0.23	0.23	0 23	-	-	-	-
Transformer Ownership Disc Stndby. ($/kW-mo)	0.21	0.21	0.21	0.21	0.21	0 21	-	-	-	-
On-Peak Fuel Charge (¢/kWh)	3 275	3 275	3.275	3 275	3 275	3 275	-	-	-	-
Off-Peak Fuel Charge (¢/kWh)	2 03	2 03	2 03	2 03	2 03	2 03	-	-	-	-
Energy Conservation Charge (¢/kWh)	0.018	0 018	0 018	0 018	0.018	0 018	-	-	-	-
Capacity Charge (¢/kWh)	0 015	0 015	0 015	0 015	0 015	0 015	-	-	-	-
Environmental Cost Recovery Charge (¢/kWh)	0 138	0 138	0 138	0.138	0 138	0 138	-	-	-	-
Refund (¢/kWh)	(0 226)	(0 226)	(0 226)	(0.226)	(0 226)	(0.226)	-	-	-	-
Florida Gross Reciepts Tax (%)	2 5641	2 5641	2.5641	2 5641	2.5641	2 5641	-	-	-	-
Actual Charges : (3)										
Customer Facilities Charge	$ 1,025 00	$ 1,025 00	$ 1,025 00	$ 1,025.00	$ 1,025.00	$ 1,025.00	$ -	$ -	$ -	$ -
Supplemental Demand	$ 11,791 40	$ 25,418.50	$ 31,889.85	$ 11,791.40	$ 25,418 50	$ 31,889.85	$ -	$ -	$ -	$ -
Stand-by Demand	$ 49,400.00	$ 49,400 00	$ 49,400 00	$ 49,400 00	$ 49,400 00	$ 49,400 00	$ -	$ -	$ -	$ -
The greater of: Bulk Transmission Reservation, or	$ 4,680.00	$ 4,680.00	$ 4,680.00	$ 4,680 00	$ 4,680 00	$ 4,680 00	$ -	$ -	$ -	$ -
Bulk Transmission Demand	$ 644 64	$ 2,457 33	$ 6,464.46	$ 644 64	$ 2,457 33	$ 6,464 46				
Supplemental Energy	$ 21,920 38	$ 35,374 47	$ 89,018 95	$ 19,936 86	$ 33,779 03	$ 86,194 59	$ 1,983 52	$ 1,595 44	$ 2,824 36	$ 6,403 32
Standby Energy	$ 12,027 68	$ 4,854 97	$ 40,792.78	$ 10,653 45	$ 4,845 36	$ 40,427 60	$ 1,374 23	$ 9 61	$ 365 18	$ 1,749 02
On-Peak Fuel	$ 6,190 99	$ 31,610 43	$ 81,635 37	$ 6,190.99	$ 30,300.43	$ 81,144 12	$ -	$ 1,310 00	$ 491.25	$ 1,801 25
Off-Peak Fuel	$ 62,848 23	$ 57,276 19	$ 203,201 60	$ 56,210 13	$ 55,063.49	$ 197,416 10	$ 6,638 10	$ 2,212 70	$ 5,785 50	$ 14,636 30
Energy Conservation Charge	$ 591 30	$ 681 60	$ 2,250.47	$ 532 44	$ 654.78	$ 2,196 47	$ 58 86	$ 26.82	$ 54 00	$ 139 68
Capacity Charge	$ 492.75	$ 568 00	$ 1,875 39	$ 443 70	$ 545 65	$ 1,830 39	$ 49 05	$ 22 35	$ 45 00	$ 116 40
Environmental Cost Recovery Charge	$ 4,533 31	$ 5,225 63	$ 17,253 61	$ 4,082.05	$ 5,020.01	$ 16,839.61	$ 451 26	$ 205 62	$ 414 00	$ 1,070 88
Transformer Discount	$ (12,790.36)	$ (14,951.90)	$ (15,978.39)	$ (12,790 36)	$ (14,951.90)	$ (15,978 39)	$ -	$ -	$ -	$ -
Meter Level Discount	$ (998.19)	$ (1,197 28)	$ (2,175.66)	$ (964 62)	$ (1,181.23)	$ (2,143 77)	$ (33 58)	$ (16 05)	$ (31 90)	$ (81.52)
Power Factor Adjustment +/- (4)	$ (157 16)	$ 222 09	$ -	$ (141 51)	$ 213 36	$ -	$ (15 64)	$ 8 74	$ -	$ (6 90)
Refund	$ (7,424 12)	$ (8,557 92)	$ (28,255.91)	$ (6,685 10)	$ (8,221 18)	$ (27,577.91)	$ (739 02)	$ (336.74)	$ (678 00)	$ (1,753 76)
Florida Gross Receipts Tax	$ 3,952 1	$ 4,913.6	$ 12,266 6	$ 3,701 6	$ 4,784 4	$ 12,028.9	$ 250 43	$ 129.19	$ 237 68	$ 617 30
Total Electric Charges	$ 158,083 30	$ 196,543 38	$ 490,664 11	$ 148,066 09	$ 191,375 70	$ 481,157.04	$ 10,017.21	$ 5,167.68	$ 9,507 07	$ 24,691 96
							6 3%	2.6%	1 9%	2 9%

(1) All billing components are shown, however, only the energy related components are impacted by self-service wheeling
(2) Actual billing determinants based on billing cycle meter reading date Energy consumption in the corresponding calendar month may be different
(3) Excludes optional provision purchases and county taxes
(4) The power factor adjustment is positive for monthly power factors below 85%, negative for power factors above 90% No adjustment is made for power factors 85 % to 90%

Impact of Self-Service Wheeling on Cargill Electric Bill for New Millpoint Plant

Billing Components for Quarter IV 2000 Before and After Self-Service Wheeling[1]

New Millpoint (SBI-3)	Before SSW			After SSW			Impact of SSW			
	OCT	NOV	DEC	OCT	NOV	DEC	OCT	NOV	DEC	Quarter IV
Actual Billing Determinants: (2)										
Supplemental Demand (kW)	516	2,282	5,997	516	2,282	5,997	-	-	-	-
Standby Billing Demand (kW)	34,908	34,908	34,908	34,908	34,908	34,908	-	-	-	-
Actual Standby Billing kW	137,492	174,284	148,191	137,492	174,284	148,191	-	-	-	-
Supplemental On-Peak Energy (kWh)	30,018	152,460	532,909	16,018	90,460	391,909	14,000	62,000	141,000	217,000
Supplemental Off-Peak Energy (kWh)	53,433	352,552	1,989,636	40,433	137,552	1,650,636	13,000	215,000	339,000	567,000
Standby On-Peak Energy (kWh)	665,276	827,675	680,178	449,276	573,675	680,178	216,000	254,000	-	470,000
Standby Off-Peak Energy (kWh)	1,077,656	1,670,655	2,914,527	1,015,656	1,401,655	2,890,527	62,000	269,000	24,000	355,000
Power Factor %	94 42	95.20	93.19	94.42	95.2	93.19	-	-	-	-
Applicable Tariff Rate/Charge:										
Customer Facilities ($/bill)	1,025	1,025	1,025	1,025	1,025	1,025	-	-	-	-
Supplemental Demand ($/kW-mo)	1.45	1.45	1.45	1.45	1.45	1.45	-	-	-	-
Stand-by Demand ($/kW-mo)	0.95	0.95	0.95	0.95	0.95	0 95	-	-	-	-
Bulk Transmission Reservation ($/kW-mo)	0.09	0.09	0.09	0.09	0.09	0.09	-	-	-	-
Bulk Transmission Demand ($/kW-day)	0.03	0.03	0.03	0.03	0.03	0.03	-	-	-	-
Supplemental Energy (¢/kWh)	1.327	1.327	1.327	1.327	1.327	1.327	-	-	-	-
Standby Energy (¢/kWh)	0.961	0.961	0.961	0.961	0.961	0.961	-	-	-	-
Metering Level Discount (% of D&E charges)	1	1	1	1	1	1	-	-	-	-
Transformer Ownership Disc. Supp ($/kW-mo)	0.23	0.23	0.23	0.23	0.23	0.23	-	-	-	-
Transformer Ownership Disc. Stndby. ($/kW-mo)	0.21	0.21	0.21	0.21	0.21	0.21	-	-	-	-
On-Peak Fuel Charge (¢/kWh)	3.275	3.275	3.275	3.275	3.275	3.275	-	-	-	-
Off-Peak Fuel Charge (¢/kWh)	2.03	2.03	2.03	2.03	2.03	2.03	-	-	-	-
Energy Conservation Charge (¢/kWh)	0.018	0.018	0.018	0.018	0.018	0.018	-	-	-	-
Capacity Charge (¢/kWh)	0.015	0.015	0.015	0.015	0.015	0.015	-	-	-	-
Environmental Cost Recovery Charge (¢/kWh)	0.138	0.138	0.138	0.138	0.138	0.138	-	-	-	-
Refund (¢/kWh)	(0.226)	(0.226)	(0.226)	(0.226)	(0.226)	(0.226)	-	-	-	-
Florida Gross Reciepts Tax (%)	2.5641	2.5641	2.5641	2.5641	2.5641	2.5641	-	-	-	-
Actual Charges : (3)										
Customer Facilities Charge	$ 1,025.00	$ 1,025.00	$ 1,025.00	$ 1,025.00	$ 1,025.00	$ 1,025.00	$ -	$ -	$ -	$ -
Supplemental Demand	$ 748.20	$ 3,308.90	$ 8,695.65	$ 748.20	$ 3,308.90	$ 8,695.65	$ -	$ -	$ -	$ -
Stand-by Demand	$ 33,162.60	$ 33,162.60	$ 33,162.60	$ 33,162.60	$ 33,162.60	$ 33,162.60	$ -	$ -	$ -	$ -
The greater of: Bulk Transmission Reservation, or	$ 3,141.72	$ 3,141.72	$ 3,141.72	$ 3,141.72	$ 3,141.72	$ 3,141.72	$ -	$ -	$ -	$ -
Bulk Transmission Demand	$ 4,124.76	$ 5,228.52	$ 4,445.73	$ 4,124.76	$ 5,228.52	$ 4,445.73	$ -	$ -	$ -	$ -
Supplemental Energy	$ 1,107.39	$ 6,701.51	$ 33,474.17	$ 749.10	$ 3,025.72	$ 27,104.57	$ 358.29	$ 3,675.79	$ 6,369.60	$ 10,403.68
Standby Energy	$ 16,749 58	$ 24,008.95	$ 34,545.12	$ 14,078.00	$ 18,982.92	$ 34,314.48	$ 2,671.58	$ 5,026.03	$ 230.64	$ 7,928.25
On-Peak Fuel	$ 22,770.88	$ 32,099.42	$ 39,728.60	$ 15,238.38	$ 21,750.42	$ 35,110.85	$ 7,532.50	$ 10,349.00	$ 4,617.75	$ 22,499.25
Off-Peak Fuel	$ 22,961.11	$ 41,071.10	$ 99,554.51	$ 21,438.61	$ 31,245.90	$ 92,185.61	$ 1,522.50	$ 9,825.20	$ 7,368.90	$ 18,716.60
Energy Conservation Charge	$ 328.75	$ 540.60	$ 1,101.11	$ 273.85	$ 396.60	$ 1,010.39	$ 54.90	$ 144.00	$ 90.72	$ 289.62
Capacity Charge	$ 273.96	$ 450.50	$ 917.59	$ 228.21	$ 330.50	$ 841.99	$ 45.75	$ 120.00	$ 75.60	$ 241.35
Environmental Cost Recovery Charge	$ 2,520.41	$ 4,144.61	$ 8,441.81	$ 2,099.51	$ 3,040.61	$ 7,746.29	$ 420.90	$ 1,104.00	$ 695.52	$ 2,220.42
Transformer Discount	$ (7,449.36)	$ (7,855.54)	$ (8,709.99)	$ (7,449.36)	$ (7,855.54)	$ (8,709.99)	$ -	$ -	$ -	$ -
Meter Level Discount	$ (558 93)	$ (724.10)	$ (1,143 23)	$ (528.63)	$ (637.09)	$ (1,077.23)	$ (30.30)	$ (87.02)	$ (66.00)	$ (183.32)
Power Factor Adjustment +/- (4)	$ (247 45)	$ (488.92)	$ (581.76)	$ (206.12)	$ (358.68)	$ (533 82)	$ (41.33)	$ (130.24)	$ (47.94)	$ (219.51)
Refund	$ (4,127 63)	$ (6,787.55)	$(13,824.99)	$ (3,438.33)	$ (4,979.55)	$(12,685.95)	$ (689.30)	$ (1,808.00)	$ (1,139.04)	$ (3,636.34)
Florida Gross Receipts Tax	$ 2,394.6	$ 3,484.2	$ 6,175.2	$ 2,090.9	$ 2,760.7	$ 5,708 6	$ 303.73	$ 723.56	$ 466 56	$ 1,493 84
Total Electric Charges	95,783 86	142,511.56	250,148.80	86,776.36	113,569.24	231,486.49	$ 9,007.50	$ 28,942.32	$ 18,662.30	$ 56,612.13
Percent of Total Bill							9.4%	20.3%	7 5%	11 6%

(1) All billing components are shown; however, only the energy related components are impacted by self-service wheeling.
(2) Actual billing determinants based on billing cycle meter reading date. Energy consumption in the corresponding calendar month may be different
(3) Excludes optional provision purchases and county taxes
(4) The power factor adjustment is positive for monthly power factors below 85%, negative for power factors above 90%. No adjustment is made for power factors 85 % to 90%

Section 3

Hourly Summary

Cargill Hourly Self-Service Wheeling Summary (Includes All Plant-to-Plant Transactions)

October 2000
Hour Ending

DATE	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	Sum
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1
4	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
5	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0
6	4	4	4	4	4	3	4	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	3	30
7	4	1	2	1	4	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	23
8	4	2	4	3	3	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
9	0	3	3	3	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	21
10	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	24
11	1	2	2	4	6	5	7	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
12	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	1	0	0	0	0	0	4	1	19
13	1	1	2	4	4	4	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	31
14	4	4	1	3	3	5	4	1	1	2	2	0	0	0	0	0	0	0	0	0	0	5	5	5	45
15	5	5	5	5	5	5	5	5	1	4	4	0	0	0	0	0	0	0	0	0	0	0	1	3	53
16	4	4	4	5	2	5	4	4	4	5	0	0	0	0	0	0	0	0	0	0	0	0	5	5	51
17	5	4	4	4	4	5	5	6	6	5	0	0	0	0	12	12	12	12	12	12	12	0	0	0	132
18	0	0	0	0	0	0	0	0	0	16	16	16	8	8	8	8	8	8	8	7	8	0	0	0	119
19	0	0	0	0	0	0	0	0	0	8	7	6	7	5	7	7	7	7	7	7	7	6	0	0	88
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	10
21	3	5	4	3	5	5	4	3	5	4	4	4	0	0	0	0	0	0	0	0	0	4	5	4	66
22	4	4	4	4	4	4	4	4	3	2	3	0	0	0	0	0	0	1	1	0	0	0	3	3	46
23	4	4	3	3	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	23
24	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	10
25	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5
26	1	1	1	1	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	0	0	0	1	0	9
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29		0	Daylight Savings Additional Hour																						0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	1	5	7	7	6	7	7	7	7	7	0	0	61
																					Total MWH =			930	
	51	49	48	51	55	59	55	35	28	46	37	26	16	20	39	40	34	34	34	33	34	22	37	47	930

70.3% Off-Peak Wheeling **29.7% On-Peak Wheeling**

Hours of Self-Service Wheeling | Hours of Optional Provision Purchases | Overlap of SSW and OP Purchase | Actual Peak Hour of Day | Tariff-Defined Peak Hours

Cargill Hourly Self-Service Wheeling Summary (Includes All Plant-to-Plant Transactions)

November 2000
Hour Ending

DATE	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	Sum
1	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	4	4	1	1	2	2	2	4	36
2	4	4	4	3	0	0	0	4	4	4	4	4	4	4	4	1	1	0	0	1	0	0	1	1	52
3	3	4	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
10	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	9
11	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	8	8	8	8	7	15	15	15	15	0	0	0	0	0	0	0	0	99
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	3	1	3	3	0	0	0	0	0	0	0	3	13
17	4	4	4	4	4	4	1	1	0	0	0	0	0	1	1	3	0	0	0	0	0	0	0	0	31
18	0	2	2	2	2	2	0	0	0	0	0	0	3	3	3	0	0	0	0	0	0	0	0	3	22
19	3	3	3	3	3	3	2	1	1	1	3	2	1	1	3	3	2	2	2	2	2	1	2	0	49
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
21	3	3	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15
22	3	1	1	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
23	0	1	3	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	0	0	2	24
24	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	4
25	5	5	5	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	18	18	17	12	8	8	9	10	10	10	10	10	16	18	174
28	18	17	17	18	18	17	10	10	10	10	0	0	0	0	12	13	8	8	8	8	8	8	14	13	245
29	14	14	13	14	14	14	8	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																				Total MWH =				958	
	60	61	62	61	56	56	21	32	30	23	35	34	46	43	55	55	24	24	21	22	22	21	40	54	958

76.2% Off-Peak Wheeling **23.8% On-Peak Wheeling**

Hours of Self-Service Wheeling | Hours of Optional Provision Purchases | Overlap of SSW and OP Purchase | Actual Peak Hour of Day | Tariff-Defined Peak Hours

Cargill Hourly Self-Service Wheeling Summary (Includes All Plant-to-Plant Transactions)

December 2000
Hour Ending

DATE	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	24:00	Sum
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	[redacted]	[redacted]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0	0
7	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	14
12	0	0	0	0	0	0	0	0	0	0	0	0	10	12	12	12	0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0	0	46
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	[redacted]	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	0	0	0	0	0	0	5	5	30
16	5	5	5	6	5	5	0	0	0	0	4	4	5	5	5	5	0	0	0	0	0	0	3	0	62
17	0	1	5	4	4	4	0	0	0	0	4	4	4	5	4	5	0	0	0	0	0	0	5	5	54
18	5	6	5	5	5	4	0	0	0	0	3	4	5	19	19	19	0	0	0	0	0	0	5	5	109
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	1	1	0	0	17
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3	3	3	15
21	3	3	3	3	3	0	[redacted]	[redacted]	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	25
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	12	12	11	12	12	12	12	12	11	12	12	12	142
24	12	12	11	12	12	12	12	12	11	12	12	11	12	12	11	12	12	12	12	12	11	12	12	12	283
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	0	9
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	6	7	6	6	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	[redacted]	[redacted]	[redacted]	1	5	42
																				Total MWH =				848	
	31	34	35	36	34	31	12	12	11	12	27	26	60	75	74	84	26	26	27	28	26	28	46	47	848

79.6% Off-Peak Wheeling **20.4% On-Peak Wheeling**

Hours of Self-Service Wheeling | Hours of Optional Provision Purchases | Overlap of SSW and OP Purchase | Actual Peak Hour of Day | Tariff-Defined Peak Hours

100

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SCHEDULE 4A

GENERATION TO SCHEDULE IMBALANCE SERVICE

Generation to Schedule Imbalance Service is provided by the Transmission Provider, utilizing generation under automatic generation control within its Control Area and net interchange, when unintentional differences occur during a single hour between the amount of energy received from a generating unit (or units, if the units are synchronized as a single system) located in the Transmission Provider's Control Area, but not under the Transmission Provider's direct control ("Generator"), and the amount of energy scheduled for that hour for transmission from the Generator to (1) another Control Area or (2) a load within the Transmission Provider's Control Area.

The Transmission Provider will offer this service subject to the Transmission Provider's ability to maintain system reliability and to serve other commitments that exist at the commencement of the given hour. To the extent that energy from a Generator is scheduled by or for the Transmission Customer at the interconnection(s) between the Generator and the Transmission Provider, and the schedule is not met, the Transmission Customer must either (a) receive Generation to Schedule Imbalance Service under this Schedule 4A or (b) cause the schedule to be balanced through prearranged alternative comparable service (e.g., service provided by the Generator itself or by a third party through automatic generation control or dynamic scheduling).

No charge shall apply under this schedule (1) for any transaction in which an over-delivery or an under-delivery of energy by the Generator relative to the transmission schedule is offset by a corresponding deviation between the schedule and the load served by the transaction that is covered by Schedule 4 (Energy Imbalance Service), to the extent of such offset; or (2) when an imbalance occurs because the Generator producing the energy is providing frequency control service at the request of the Transmission Provider.

Subject to the exceptions set forth in Appendix 1 to this Schedule 4A, if more than one transaction is scheduled at the interconnection(s) between the Generator and the Transmission Provider in a given hour, and at least one of the amounts scheduled is for transmission by the Transmission Provider under this Tariff, then the amount of energy actually received at such interconnection(s) in the hour shall be allocated between or among the transactions in proportion to the amounts scheduled for the

Issued by: J.B. Ramil, President
Issued on: June 29, 2001

Effective: May 1, 2001

transactions. The service under this schedule shall apply only to under-deliveries or over-deliveries of energy by the Generator that are allocated to transactions for which transmission service is provided under this Tariff.

In the event that the Transmission Provider determines during any hour that service under this schedule cannot be provided due to the Transmission Provider's need to maintain system reliability and/or to serve prior commitments, the Transmission Provider shall adjust the scheduled transaction(s) received at the interconnection(s) with the Generator, as necessary, and provide the Transmission Customer with as much notice of such adjustment as is reasonably possible. If less than full service is available under this schedule, the amount of such service that is available shall be allocated between or among the affected scheduled transactions in proportion to the amounts scheduled for those transactions; provided, that if a Transmission Customer has more than one transaction scheduled from a Generator in the hour, its aggregate allocated share of available Generation to Schedule Imbalance Service may be distributed between or among its transactions from the Generator on other than a proportionate basis pursuant to a prior agreement between the Transmission Customer and the Transmission Provider.

In the event that the Transmission Provider determines that the amount of energy actually received on behalf of the Transmission Customer for transmission under this Tariff in any hour was less than the amount scheduled under the Tariff for that hour, the Transmission Customer shall compensate the Transmission Provider at a price equal to 110% of the Transmission Provider's System Incremental Cost for energy provided to make up the difference between the scheduled receipt and actual receipt in the hour.

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Subject to the exceptions set forth in Appendix 1 to this Schedule 4A, in the event that the Transmission Provider determines that the amount of energy actually received on behalf of the Transmission Customer for transmission under this Tariff in any hour exceeded the amount scheduled under the Tariff for that hour, the Transmission Provider shall credit the Transmission Customer at a price equal to the lesser of 90% of the Transmission Provider's System Decremental Cost or 100% of the Transmission Customer's Incremental Cost for the energy comprising the difference between the scheduled receipt and actual receipt in the hour.

For the purposes of this Schedule 4A, the terms "Transmission Provider's System Incremental Cost" and "Transmission Provider's System Decremental Cost" shall have the same meaning as under Schedule 4 of this Tariff. The term "Transmission Customer's Incremental Cost" is defined as the incremental cost of energy produced by the Generator at the time of the over-delivery, including the delivered fuel cost plus any incremental variable operation and maintenance expenses associated with delivery of the energy to the interconnection(s) between the Generator and the Transmission Provider.

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Issued on: June 29, 2001

Effective: May 1, 2001

APPENDIX 1 TO SCHEDULE 4A

EXCEPTIONS TO PROVISIONS OF SCHEDULE 4A

The following exceptions shall apply to the provisions of this Schedule 4A:

I. Unless otherwise agreed by Tampa Electric Company ("Tampa Electric") and Auburndale Power Partners, Limited Partnership ("APP"), the provisions of this Schedule 4A shall not apply to any transmission of energy from the interconnection(s) between Tampa Electric and APP during the "Term," as defined therein, of the Contract for the Sale and Purchase of Capacity and Energy between APP and Tampa Electric dated July 1, 1999, as amended from time to time.

II. If the Generator is a Qualifying Facility ("QF") within the meaning of Florida Public Service Commission Rule 25-17.080, Florida Administrative Code, then, unless otherwise agreed by Tampa Electric and the owner of the QF, the provisions of this Schedule 4A shall not apply to any energy received at the interconnection(s) between the QF and the Transmission Provider that exceeds the amount(s) scheduled for receipt, whether the amount(s) scheduled is/are for transmission by the Transmission Provider or sale to Tampa Electric.

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DOCUMENT NO. 5

INTERROGATORY NO. 18. Has Cargill ever wheeled energy purchased from Tampa Electric or delivered by Tampa Electric to Cargill over Cargill's 69kV tie-line into Progress Energy Florida's service territory to serve South Fort Meade mine load? If so, please provide the dates, times and duration of each such transaction and amount of energy transmitted on each such occasion. If no, please explain how Cargill can be certain that no such flows have occurred.

A. Yes, there was one instance of inadvertent TECo flow over Cargill's transmission line to SFM. It happened on January 16, 2001, when an electrical incident (we suspect a lightening/ground fault) inside our Bartow plant suddenly took out both of our generators and a small part of the Bartow complex. The duration of the event was approximately 45 minutes and a total of approximately 8 MWH flowed inadvertently. The protective relay on TECo's supply line failed to trip from the power upset. This is the only occurrence in four years of operation.

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DOCUMENT NO. 6

Impact of Cargill Self-Service Wheeling (SSW) Pilot

Does Not Include Energy Reduction from Self-Service Wheeling in Hours Coincident with Optional Provsion Purchases

		Qtr. IV 2000	Qtr. I 2001	Qtr. II 2001	Qtr. III 2001	Qtr. IV 2001	Qtr. I 2002	Qtr. II 2002	Qtr. III 2002	Period
(1)	**Energy Reduction from SSW - MWH**									
	Cargill New Millpoint Plant (SBI-3)	1,609	-	2,920	465	69	9	138	136	$ 5,346
	Cargill Ridgewood Master Plant (SBI-1)	768	125	213	408	16	1,497	145	415	$ 3,587
	Cargill Hooker's Prairie Plant (IST-1)	311	37	-	-	-	-	-	-	$ 348
	Total Cargill SSW	2,688	162	3,133	873	85	1,506	283	551	$ 9,281
(2)	**Actual SSW Under-delivered - MWH**									
	Basis for Generator-to-Schedule Imbalance (GSI) Service	462	16	660	108	8	97	205	157	$ 1,713
	Cost/Benefit (-/+)									
(3)	Implementation, Administration, Billing and Reporting Expense	$ (10,543)	$ (273)	$ (2,002)	$ (1,177)	$ (221)	$ (835)	$ (994)	$ (877)	$ (16,922)
(4)	Base Energy	$ (29,751)	$ (1,746)	$ (30,273)	$ (8,727)	$ (836)	$ (14,768)	$ (2,831)	$ (5,496)	$ (94,427)
(5)	Environmental Cost Recovery Charges ($1 38/MWH)	$ (3,709)	$ (258)	$ (4,981)	$ (1,388)	$ (135)	$ (2,274)	$ (427)	$ (832)	$ (14,005)
(6)	**Conservation Cost Recovery Charges ($0 18/MWH)**	**$ (484)**	**$ (47)**	**$ (909)**	**$ (253)**	**$ (25)**	**$ (617)**	**$ (116)**	**$ (226)**	**$ (2,677)**
(7)	**Capacity Cost Recovery Charges ($0 15/MWH)**	**$ (403)**	**$ (24)**	**$ (470)**	**$ (131)**	**$ (13)**	**$ (331)**	**$ (62)**	**$ (121)**	**$ (1,556)**
(8)	Lost Retail Tariff Time-Of -Use Fuel Revenues	$ (60,045)	$ (2,619)	$ (94,509)	$ (27,794)	$ (2,475)	$ (46,683)	$ (10,789)	$ (17,718)	$ (262,631)
(9)	Avoided Fuel and Purchased Power Expense									
(10)	Avoided Variable Production O&M	$ 6,646	$ 397	$ 4,129	$ 1,300	$ 201	$ 2,167	$ 373	$ 555	$ 15,768
(11)	Avoided Energy Cost									
	Schedule 8 - Non-Firm Point-to-Point Transmission Service ($1 267/MWH)	$ 4,527	$ 380	$ 7,551	$ 2,278	$ 114	$ 2,054	$ 1,698	$ 1,245	$ 19,848
	Schedule 2 - Reactive Supply ($0 10/MWH)	$ 357	$ 30	$ 596	$ 180	$ 9	$ 162	$ 134	$ 98	$ 1,567
	Schedule 1 - Scheduling ($0 13/MWH)	$ 464	$ 39	$ 775	$ 234	$ 12	$ 211	$ 174	$ 128	$ 2,036
(12)	Total Transmission Wheeling	$ 5,349	$ 449	$ 8,922	$ 2,692	$ 135	$ 2,427	$ 2,006	$ 1,472	$ 23,451
(13)	Net GSI Service Charges	$ 1,237	$ 35	$ 3,036	$ 351	$ 18	$ 289	$ 909	$ 672	$ 6,548
(14)	Refund (-$2 26/MWh)	$ 6,183	$ -	$ -	$ -	$ -	$ -	$ 173	$ 755	$ 7,112
	Net Impact									

Notes:

(1) This report is based on calendar month data Actual customer bills, which are based on billing cycles, may be different due to billing-driven meter reading dates In Quarter IV 2000, October 31st and November 30th were billed on the November and December bills, respectively

(2) These values represent the differences between the self-service MWs that Cargill scheduled in each hour and the self-service MWs that were actually delivered to Tampa Electric's transmission system in each corresponding Shortfall energy is supplied via Tampa Electric's GSI service at 110% of Tampa Electric's incremental cost for each hour GSI service is required

(3) Represents implementation expense (Oct) and monthly administration, maintenance, billing , and reporting expense associated with the pilot

(4) Revenue losses are calculated by multiplying the IST-1 energy charge ($10 78/MWH) by the reduced energy for Hooker's Prairie, the SBI-1 supplemental energy charge ($10 78/MWH) and standby energy charge ($9 61/MWH reduction in supplemental energy and standby energy, respectively, for Ridgewood Master, and the SBI-3 supplemental energy charge ($13 27/MWH) and standby energy charge ($9 61/MWH) by the reduction in supplement and standby energy, respectively, for New Millpoint

(5) Environmental Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW

(6) Conservation Cost Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW

(7) Capacity Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW

(8) Represents the loss in tariff time-of-use fuel revenue calculated by multiplying the on-peak and off-peak tariff fuel prices by the energy reduced in on-peak and off-peak hours respectively as a result of SSW

(9) **The avoided hourly fuel and purchased power expense including SO2 allowances and adjustment for line losses is multiplied by the energy reduction from SSW in each hour**

(10) Avoided variable O&M $/MWH, adjusted for line losses, is multiplied by the MWH reduction from SSW in hours that TEC generation is on the margin

(11) The avoided energy cost is the sum of the avoided fuel and purchased power expense (line 9) and the avoided variable O&M expense (line 10)

(12) Open Access transmission tariff wheeling charges are multiplied by the scheduled SSW MWs in each hour

(13) Calculated by multiplying the 10% gain on the hourly incremental fuel and purchased power expense including SO2 allowances and variable O&M times the GSI MWHs in each hour The 10% has been treated as a true gain opposed to a premium designed to cover hard-to-quantify additional costs The dollars gained are credited to the Fuel and Purchased Power Recovery Clause

(14) These re-allocated amounts are calculated by multiplying the actual load reduction energy (including reduction during optional provision overlap hours) that by the IS rate for the refund

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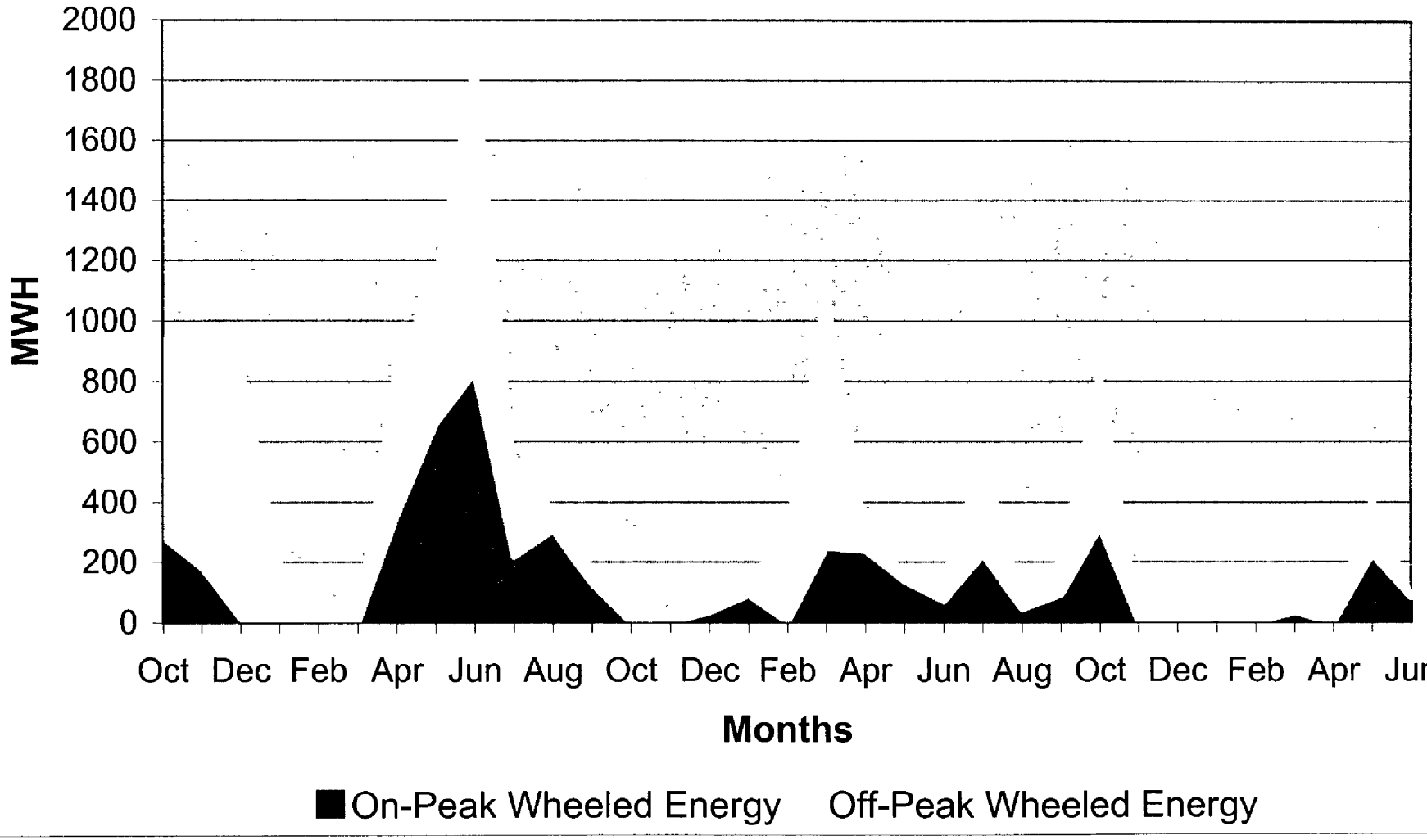
Self-Service Wheeling Time of Use



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CALCULATION OF AFUDC AND IN-SERVICE COST OF PLANT
PLANT: 2006 Avoided Unit

PSC FORM CE 1.1B
PAGE 1 OF 1
September 17, 2003

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
YEAR	NO. YEARS BEFORE INSERVICE	PLANT ESCALATION RATE (%)	CUMULATIVE ESCALATION FACTOR	YEARLY EXPENDITURE (%)	ANNUAL SPENDING ($/KW)	CUMULATIVE AVERAGE SPENDING ($/KW)	CUMULATIVE SPENDING WITH AFUDC ($/KW)	YEARLY TOTAL AFUDC ($/KW)	INCREMENTAL YEAR-END BOOK VALUE ($/KW)	CUMULATIVE YEAR-END BOOK VALUE ($/KW)
1997	-9	0	1	0	0	0	0	0	0	0
1998	-8	0	1	0	0	0	0	0	0	0
1999	-7	0	1	0	0	0	0	0	0	0
2000	-6	0	1	0	0	0	0	0	0	0
2001	-5	0	1	0	0	0	0	0	0	0
2002	-4	0	1	0	0	0	0	0	0	0
2003	-3	0.023	1.023	0	0	0.00	0.00	0.00	0.00	0.00
2004	-2	0.023	1.046529	0	0	0.00	0.00	0.00	0.00	0.00
2005	-1	0.023	1.070599167	0.59	144.52	72.26	72.26	5.62	150.14	150.14
2006	0	0	1.070599167	0.41	98.58	193.81	199.43	5.19	103.77	253.91
				1.000	243.1			10.81	253.91	

IN-SERVICE YEAR = 2006

PLANT COSTS (2002 $) 227.07
AFUDC RATE: 7.79%

FORM 2.1

AVOIDED GENERATING UNIT BENEFITS

PSC FORM CE 2.1
PAGE 1 OF 1
09/17/2003

(1)	(2)	(3)	(4)	(5)	(6)	(7)
YEAR	AVOIDED GEN UNIT CAPACITY COST $(000)	AVOIDED UNIT FIXED O&M COST $(000)	AVOIDED GEN UNIT VARIABLE O&M COST $(000)	AVOIDED GEN UNIT FUEL COST $(000)	REPLACEMENT FUEL COST $(000)	AVOIDED GEN UNIT BENEFITS $(000)
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
Nominal:	0	0	0	0	0	0
NPV:	0	0	0	0	0	0

Discount Rate: 9.39%

NOTE: AVOIDED UNIT COSTS NOT APPLICABLE FOR NON-FIRM SELF-SERVICE WHEELING PROGRAM

FORM 2.2

PSC FORM CE 2.2
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AVOIDED T&D AND PROGRAM FUEL SAVINGS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
YEAR	AVOIDED TRANSMISSION CAPACITY COST $(000)	AVOIDED TRANSMISSION O&M COST $(000)	TOTAL AVOIDED TRANSMISSION COST $(000)	AVOIDED DISTRIBUTION CAPACITY COST $(000)	AVOIDED DISTRIBUTION O&M COST $(000)	TOTAL AVOIDED DISTRIBUTION COST $(000)	PROGRAM FUEL SAVINGS* $(000)
2004	0	0	0	0	0	0	131
2005	0	0	0	0	0	0	133
2006	0	0	0	0	0	0	141
2007	0	0	0	0	0	0	148
2008	0	0	0	0	0	0	156
2009	0	0	0	0	0	0	168
2010	0	0	0	0	0	0	173
2011	0	0	0	0	0	0	181
2012	0	0	0	0	0	0	193
2013	0	0	0	0	0	0	200
Nominal:	0	0	0	0	0	0	1,626
NPV:	0	0	0	0	0	0	989

Discount Rate: 9.39%

*Avoided marginal fuel and purchase power expense including losses based on participant's on/off peak ratio of self-service wheeled energy.

FORM 3.1

INPUT DATA - PART 1
SELF-SERVICE WHEELING

PSC FORM CE 3.1
PAGE 1 OF 1
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	PROGRAM DEMAND SAVINGS & LINE LOSSES		
I	(1) GENERATOR KW REDUCTION	0 000	KW
I	(2) KW LINE LOSS PERCENTAGE	2 48	%
I	(3) KWH LINE LOSS PERCENTAGE	2 48	%
I	(4) GROUP LINE LOSS MULTIPLIER	1.0254	
	ECONOMIC LIFE & K FACTORS		
II	(1) STUDY PERIOD FOR CONSERVATION PROGRAM	10	YRS
II	(2) GENERATOR ECONOMIC LIFE	30	YRS
II	(3) T & D ECONOMIC LIFE	30	YRS
II	(4) K FACTOR FOR GENERATION	1 7048	
II	(5) K FACTOR FOR T & D	1 7048	
	UTILITY AND QF PURCHASES		
III.	(1) BLENDED BILLING KW REDUCTION	0	KW
III.	(2)BLENDED MWH REDUCTION AT METER	3,641	MWH/YR
III	(3) SELF-SERVICE WHEELING CHARGE (Blended on/off peak)	13,566	$/YR
III	(4) WHEELING ESCALATION RATE	0.00	%
III	(5) STANDBY BILLING KW INCREASE	0	KW
III.	(6) STANDBY MWH INCREASE AT METER	0	MWH/YR
	UTILITY & CUSTOMER COSTS		
IV.	(1) UTILITY NON-RECURRING COST PER CUSTOMER	$ 27,540	
IV.	(2) UTILITY RECURRING COST PER CUSTOMER	$ 6,000	
IV.	(3) UTILITY COST ESCALATION RATE	2.5	%

	AVOIDED GENERATOR AND T&D COSTS		
V	(1) BASE YEAR	2004	
V	(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2006	
V.	(3) IN-SERVICE YEAR FOR AVOIDED T & D	2006	
V.	(4) BASE YEAR AVOIDED GENERATING UNIT COST	227.07	$/KW
V	(5) BASE YEAR AVOIDED TRANSMISSION COST	0	$/KW
V	(6) BASE YEAR DISTRIBUTION COST	0	$/KW
V	(7) GEN, TRAN, & DIST COST ESCALATION RATE	2 3	%
V.	(8) GENERATOR FIXED O & M COST	2 544	$/KW/YR
V	(9) GENERATOR FIXED O&M ESCALATION RATE	2.5	%
V.	(10) TRANSMISSION FIXED O & M COST	0	$/KW/YR
V	(11) DISTRIBUTION FIXED O & M COST	0	$/KW/YR
V	(12) T&D FIXED O&M ESCALATION RATE	2 5	%
V	(13) AVOIDED GEN UNIT VARIABLE O & M COSTS	0 8135	¢/KWH
V	(14) GENERATOR VARIABLE O&M COST ESCALATION RATE	2 5	%
V	(15) GENERATOR CAPACITY FACTOR	9 4	%
V.	(16) AVOIDED GENERATING UNIT FUEL COST	5.462	¢/KWH
V.	(17) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.25	%
	UTILITY RATE DATA		
VI.	(18) BLENDED SERVICE RATE, NON-FUEL	$ 1 0422	¢/KWH
VI.	(19) BLENDED SERVICE RATE, DEMAND	NA	$/KW/YR
VI.	(20) BLENDED SERVICE ESCALATION RATE	1	%
VI.	(21) STANDBY RATE, NON-FUEL	NA	¢/KWH
VI	(22) STANDBY RATE, DEMAND	NA	$/KW/YR
VI	(23) STANDBY ESCALATION RATE	0	%

FORM 3.2

INPUT DATA - PART 2
SELF-SERVICE WHEELING

PSC FORM CE 3.2
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
YEAR	Utility Avg. System Fuel Adj Cost (¢/kWh)	Utility Purchase Marginal Fuel Cost (¢/kWh)	QF Supplemental Marginal Fuel Cost (¢/kWh)	QF Standby Purchase Marginal Fuel Cost (¢/kWh)	Replacement Fuel Cost (¢/kWh)	QF Effectiveness kW	QF Effectiveness Factor kWh
2004	2.991	3.519	3.519	3.519	0.000	1.000	1.000
2005	2.954	3.570	3.570	3.570	0.000	1.000	1.000
2006	3.037	3.769	3.769	3.769	0.000	1.000	1.000
2007	3.188	3.975	3.975	3.975	0.000	1.000	1.000
2008	3.301	4.175	4.175	4.175	0.000	1.000	1.000
2009	3.416	4.509	4.509	4.509	0.000	1.000	1.000
2010	3.561	4.646	4.646	4.646	0.000	1.000	1.000
2011	3.701	4.854	4.854	4.854	0.000	1.000	1.000
2012	3.891	5.168	5.168	5.168	0.000	1.000	1.000
2013	4.038	5.364	5.364	5.364	0.000	1.000	1.000

FORM 3.3 SELF-SERVICE WHEELING RATE IMPACT TEST PSC FORM CE 3.3
PAGE 1 OF 1
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
YEAR	Increased Fuel Costs $(000)	Revenue Losses $(000)	Other Costs $(000)	Total Costs $(000)	Avoided Generating Unit & Fuel Benefits $(000)	Avoided T&D Benefits $(000)	Revenue Gains $(000)	Other Benefits $(000)	Total Benefits $(000)	Net Benefits $(000)	Cumulative Disconnected Net Benefits $(000)
2004	0	158	34	192	0	0	15	137	153	-39	-39
2005	0	157	6	163	0	0	16	139	155	-8	-47
2006	0	161	6	167	0	0	16	147	162	-5	-52
2007	0	167	6	173	0	0	16	155	170	-3	-55
2008	0	171	7	178	0	0	16	162	178	0	-54
2009	0	176	7	183	0	0	16	175	191	8	-47
2010	0	182	7	189	0	0	16	180	196	7	-39
2011	0	188	7	195	0	0	16	188	204	10	-30
2012	0	195	7	202	0	0	16	200	216	14	-15
2013	0	201	7	208	0	0	17	207	224	16	0
NOMINAL	0	1,755	95	1,850	0	0	160	1,691	1,850	0	
NPV:	0	1,084	67	1,151	0	0	100	1,029	1,129	-22	

Discount rate: 9.39%

Benefit/Cost Ratio (Col 10 / Col 5): 0.981

(1) 10-year program period assumed.
(2) No increased fuel cost assumed as no new load is associated with this specific program.
(3) Includes base energy, cost recovery clause revenue based on annual energy reduction.
(4) Includes a non-recurring incremental cost of $27K for programming and a recurring incremental annual cost of $6K for administration, billing, and reporting.
(5) Sum of columns 2 through 4.
(6) Not applicable. No capacity is deferred in this specific self-service wheeling program.
(7) No avoided T&D costs assumed
(8) Includes wheeling revenue and 10% gain on GSI service.
(9) Includes avoided system marginal fuel and purchased power costs, variable O&M, and adjustments for line losses.
(10) Sum of columns 6 through 9.

FORM 3.3S SUPPLEMENTARY FORM ON REVENUE GAINS AND LOSSES PSC FORM 3.3S
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Revenue Gain					Revenue Loss				
YEAR	General & Administrative $(000)	Generation $(000)	Transmission $(000)	Distribution $(000)	Total $(000)	General & Administrative $(000)	Generation $(000)	Transmission $(000)	Distribution $(000)	Total $(000)
2004	0	0	15	0	15	0	158	0	0	158
2005	0	0	16	0	16	0	157	0	0	157
2006	0	0	16	0	16	0	161	0	0	161
2007	0	0	16	0	16	0	167	0	0	167
2008	0	0	16	0	16	0	171	0	0	171
2009	0	0	16	0	16	0	176	0	0	176
2010	0	0	16	0	16	0	182	0	0	182
2011	0	0	16	0	16	0	188	0	0	188
2012	0	0	16	0	16	0	195	0	0	195
2013	0	0	17	0	17	0	201	0	0	201
Nominal:	0	0	160	0	160	0	1755	0	0	1755
NPV:	0	0	100	0	100	0	1084	0	0	1084

Discount Rate: 9.39%

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DOCUMENT NO. 9

Rate Impact Measure Test
Benefit-to-Cost Ratio

Assumptions Sensitivity Matrix

	Current Fuel Forecast	Natural Gas Higher by 25%	Natural Gas Lower by 25%
Average Annual Wheeling			
33/67 Hourly On/Off-Peak MWH Reduction	**0.981**	1.130	0.813
100% Hourly On-peak MWH Reduction	1.009	1.162	0.835
100% Hourly Off-peak MWH Reduction	0.965	1.111	0.800
Summer Months Only (April - September)			
33/67 Hourly On/Off-Peak MWH Reduction	1.035	1.193	0.856
100% Hourly On-peak MWH Reduction	1.073	1.238	0.886
100% Hourly Off-peak MWH Reduction	1.012	1.166	0.838
Winter Months Only (Jan-Mar & Oct- Dec)			
33/67 Hourly On/Off-Peak MWH Reduction	0.940	1.082	0.780
100% Hourly On-peak MWH Reduction	0.957	1.101	0.793
100% Hourly Off-peak MWH Reduction	0.931	1.071	0.773

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DOCUMENT NO. 10

PROGRAM DEMAND SAVINGS & LINE LOSSES

I.	(1) CUSTOMER KW REDUCTION AT THE METER	0	KW
I.	(2) GENERATOR KW REDUCTION PER CUSTOMER	0.000	KW
I.	(3) KW LINE LOSS PERCENTAGE	2 48%	
I.	(4) GENERATION KWH REDUCTION PER CUSTOMER	3,733,575	KWH
I.	(5) KWH LINE LOSS PERCENTAGE	2 48%	
I.	(6) GROUP LINE LOSS MULTIPLIER	1.0254	
I.	(7) CUSTOMER KWH INCREASE AT METER	0	KWH

ECONOMIC LIFE & K FACTORS

II.	(1) STUDY PERIOD FOR PROGRAM	10	YRS
II.	(2) GENERATOR ECONOMIC LIFE	30	YRS
II.	(3) T & D ECONOMIC LIFE	30	YRS
II.	(4) K FACTOR FOR GENERATION	1.7048	
II.	(5) K FACTOR FOR T & D	1.7048	

UTILITY & CUSTOMER COSTS

III.	(1) UTILITY NONRECURRING COST PER CUSTOMER	$	27,000	
III.	(2) UTILITY RECURRING COST PER CUSTOMER	$	6,000	PER YR
III.	(3) UTILITY COST ESCALATION RATE		2.5%	
III.	(4) CUSTOMER EQUIPMENT COST	$	-	
III.	(5) CUSTOMER EQUIPMENT ESCALATION RATE		2.5%	
III.	(6) CUSTOMER O & M COST	$	7,582	PER YR
III.	(7) CUSTOMER O & M ESCALATION RATE		2.5%	

AVOIDED GENERATOR, TRANS. & DIST COSTS

IV	(1) BASE YEAR	2004	
IV	(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2006	
IV	(3) IN-SERVICE YEAR FOR AVOIDED T & D	2006	
IV	(4) BASE YEAR AVOIDED GENERATING UNIT COST	227.07	$/KW
IV	(5) BASE YEAR AVOIDED TRANSMISSION COST	0	$/KW
IV.	(6) BASE YEAR DISTRIBUTION COST	0	$/KW
IV.	(7) GEN, TRAN, & DIST COST ESCALATION RATE	2.3%	%
IV.	(8) GENERATOR FIXED O & M COST	2.544	$/KW/YR
IV	(9) GENERATOR FIXED O&M ESCALATION RATE	2.5%	%
IV.	(10) TRANSMISSION FIXED O & M COST	0	$/KW/YR
IV.	(11) DISTRIBUTION FIXED O & M COST	0	$/KW/YR
IV.	(12) T&D FIXED O&M ESCALATION RATE	2.5%	%
IV.	(13) AVOIDED GEN UNIT VARIABLE O & M COSTS	0.8135	¢/KWH
IV.	(14) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.5%	
IV.	(15) GENERATOR CAPACITY FACTOR	9.4%	
IV.	(16) AVOIDED GENERATING UNIT FUEL COST	5.462	¢/KWH
IV.	(17) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.3%	

NON-FUEL ENERGY AND DEMAND CHARGES

V.	(1) NON-FUEL COST IN CUSTOMER BILL *	10.380	¢/KWH
V.	(2) NON-FUEL ESCALATION RATE	1.0%	
V.	(3) DEMAND CHARGE IN CUSTOMER BILL *	1.10	$/KW/MO
V.	(4) DEMAND CHARGE ESCALATION RATE	1.0%	

*Blended SBI-1, SBI-3, and IST1 charges weighted by % of wheeled MWH from each schedule including both supplemental and standby

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
YEAR	NO. YEARS BEFORE INSERVICE	PLANT ESCALATION RATE (%)	CUMULATIVE ESCALATION FACTOR	YEARLY EXPENDITURE (%)	ANNUAL SPENDING ($/KW)	CUMULATIVE AVERAGE SPENDING ($/KW)	CUMULATIVE SPENDING WITH AFUDC ($/KW)	YEARLY TOTAL AFUDC ($/KW)	INCREMENTAL YEAR-END BOOK VALUE ($/KW)	CUMULATIVE YEAR-END BOOK VALUE ($/KW)
1997	-9	0	1	0	0	0	0	0	0	0
1998	-8	0	1	0	0	0	0	0	0	0
1999	-7	0	1	0	0	0	0	0	0	0
2000	-6	0	1	0	0	0	0	0	0	0
2001	-5	0	1	0	0	0	0	0	0	0
2002	-4	0	1	0	0	0	0	0	0	0
2003	-3	0.023	1.02300	0.0000	0.00	0.00	0.00	0.00	0.00	0.00
2004	-2	0.023	1.04653	0.0000	0	0.00	0.00	0.00	0.00	0.00
2005	-1	0.023	1.07060	0.5945	144.52	72.26	72.26	5.62	150.14	150.14
2006	0	0	1.07060	0.4055	98.58	193.81	199.43	5.19	103.77	253.91
				1.000	243.1			10.81	253.91	

IN-SERVICE YEAR = 2006

PLANT COSTS (2002 $) 227.07
AFUDC RATE: 7.79%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
YEAR	CUMULATIVE TOTAL PARTICIPATING CUSTOMERS	ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS	UTILITY AVERAGE SYSTEM FUEL COSTS (C/KWH)	AVOIDED MARGINAL FUEL COST (C/KWH)	INCREASED MARGINAL FUEL COST (C/KWH)	REPLACEMENT FUEL COST (C/KWH)	PROGRAM KW EFFECTIVENESS FACTOR	PROGRAM KWH EFFECTIVENESS FACTOR
2004	1	1	2.991	3.519	0	0	1	1
2005	1	1	2.954	3.570	0	0	1	1
2006	1	1	3.037	3.769	0	0	1	1
2007	1	1	3.188	3.975	0	0	1	1
2008	1	1	3.301	4.175	0	0	1	1
2009	1	1	3.416	4.509	0	0	1	1
2010	1	1	3.561	4.646	0	0	1	1
2011	1	1	3.701	4.854	0	0	1	1
2012	1	1	3.891	5.168	0	0	1	1
2013	1	1	4.038	5.364	0	0	1	1

AVOIDED UNIT GENERATING BENEFITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
YEAR	AVOIDED GEN UNIT CAPACITY COST $(000)	AVOIDED UNIT FIXED O&M COST $(000)	AVOIDED GEN UNIT VARIABLE O&M COST $(000)	AVOIDED GEN UNIT FUEL COST $(000)	REPLACEMENT FUEL COST $(000)	AVOIDED GEN UNIT BENEFITS $(000)
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
Nominal:	0	0	0	0	0	0
NPV:	0	0	0	0	0	0

Discount Rate: 9.39%

NOTE; AVOIDED UNIT COSTS NOT APPLICABLE TO NON-FIRM SELF-SERVICE WHEELING PROGRAM

(4) Substituted avoided variable production O&M for all TEC units applied to 60% of avoided MWHs.

FORM 2.2

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AVOIDED T&D AND PROGRAM FUEL SAVINGS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
YEAR	AVOIDED TRANSMISSION CAPACITY COST $(000)	AVOIDED TRANSMISSION O&M COST $(000)	TOTAL AVOIDED TRANSMISSION COST $(000)	AVOIDED DISTRIBUTION CAPACITY COST $(000)	AVOIDED DISTRIBUTION O&M COST $(000)	TOTAL AVOIDED DISTRIBUTION COST $(000)	PROGRAM FUEL SAVINGS $(000)
2004	0	0	0	0	0	0	131
2005	0	0	0	0	0	0	133
2006	0	0	0	0	0	0	141
2007	0	0	0	0	0	0	148
2008	0	0	0	0	0	0	156
2009	0	0	0	0	0	0	168
2010	0	0	0	0	0	0	173
2011	0	0	0	0	0	0	181
2012	0	0	0	0	0	0	193
2013	0	0	0	0	0	0	200
Nominal:	0	0	0	0	0	0	1,626
NPV:	0	0	0	0	0	0	989

Discount Rate: 9.39%

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Form CE 2.3

TOTAL RESOURCE COST TEST

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
YEAR	INCREASED SUPPLY COSTS $(000)	UTILITY PROGRAM COSTS $(000)	PARTICIPANT PROGRAM COSTS $(000)	OTHER COSTS $(000)	TOTAL COSTS $(000)	AVOIDED PRODUCTION BENEFITS $(000)	AVOIDED T & D BENEFITS $(000)	PROGRAM FUEL SAVINGS $(000)	OTHER BENEFITS $(000)	TOTAL BENEFITS $(000)	NET BENEFITS $(000)	CUMULATIVE DISCOUNTED NET BENEFITS $(000)
2004	0	34	133		166	0	0	131	6	137	(29)	(29)
2005	0	6	135		141	0	0	133	6	139	(2)	(31)
2006	0	6	142		148	0	0	141	6	147	(1)	(32)
2007	0	7	149		156	0	0	148	6	155	(1)	(34)
2008	0	7	157		163	0	0	156	6	162	(1)	(35)
2009	0	7	169		176	0	0	168	7	175	(1)	(35)
2010	0	7	174		181	0	0	173	7	180	(1)	(36)
2011	0	7	181		189	0	0	181	7	188	(1)	(37)
2012	0	7	193		200	0	0	193	7	200	(0)	(37)
2013	0	8	200		208	0	0	200	7	207	(0)	(37)
Nominal:	0	97	1,631	0	1,728	0	0	1,626	65	1,691	(37)	
NPV:	0	68	993	0	1,061	0	0	989	40	1,029	(32)	

Discount Rate: 9.39%

Benefit/Cost Ratio: 0.97

Notes:

(1) 2004 is assumed to be the start date for a proposed 10-year program.
(2) No increased supply costs are assumed.
(3) Includes a non-recurring incremental cost of $27K for programming and a recurring incremental annual cost of $6K for administration, billing, and reporting.
(4) Participant program costs include variable O&M, assumed @ $2/MWH escalating @ 2.5% per year times the total SSW MWHs generated w/ losses is assumed to be 3,697 MWH per year. (No adjustment for Optional Provision Overlap or losses applies for participant costs.) Also included are lost receipts from as-available energy sales that are assumed to be equal to the avoided energy cost of Tampa Electric (col 7 plus col 9) less transmission losses.
(5) No other costs assumed as it has not been proven that the SSW generation in incrementally new.
(6) Sum of cols (2) through (5).
(7) Avoided production benefits include variable O&M projected at @ $2.5 /MWH excalating at 2.5%.per year This amount is applied to 62% of the annual reduced MWHs of 3,7 including adjustment for optional provision overlap hours and line losses.
(8) No avoided T&D expense is assumed.
(9) Fuel savings are based on projected on-peak and off-peak marginal fuel costs at a ratio of 33/67% . This blended rate is multiplied by the annual reduced MWHs of 3,734 including adjustment for optional provision overlap hours and line losses.
(10) No other costs included. Any avoided environmental externalities benefit associated with avoided natural gas generation will be off-set by the additional fossil fuel generation required by those utilities that would have purchased the SSW energy as as-available energy were it not for the SSW program.
(11) Sum of cols (7) through (10).
(12) Col (11) minus col (6)

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INTERROGATORY NO. 6. Describe the process that Cargill uses to generate the energy at its generating plants within Tampa Electric's service area. Include in that description all the inputs to the process from the original source (e.g. fuel, additives, raw materials, processed materials, product, etc.)

A. Cargill mines phosphate rock in Polk County. Phosphate rock is a raw material in the process of making phosphate fertilizer. The rock is shipped by rail to the processing plants in Polk and Hillsborough counties (the plants identified as Ridgewood and Millpoint in the SSW proceedings). At the Ridgewood and Millpoint locations, Cargill converts elemental sulfur into sulfuric acid for the purpose of reacting with the phosphate rock. This converts the plant food ingredient (phosphate) from an insoluble form that can't be used in agriculture to a soluble form easily available to crops. The elemental sulfur we use has been extracted from natural gas before shipping to customers. Cargill takes this by product and converts it into sulfuric acid. The other raw materials in the sulfuric acid conversion process are ambient air (for oxygen) and ground water (for making steam and cooling). In the sulfuric acid facilities, the combustion of sulfur, oxidation, and absorption processes are heat-releasing reactions. With proper equipment, this heat is captured in the form of steam and super heated steam. The super heated steam is used to generate power, to drive machinery and then sequentially is used for process heat applications. The steam turbines that drive our generators are "extraction/condensing" turbines, with the various amounts of steam extracted for process heat applications (CHP). Sulfuric acid can be made without generating power, or it can be produced in the more capital intensive, and more efficient facilities, we use that also recover heat and generate power. Cargill has made the investment to run its fertilizer facilities using waste heat generators as QFs for supplying power both to utilities and for Cargill's internal use.

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Impact of Cargill Self-Service Wheeling (SSW) Pilot

Does Not Include Energy Reduction from Self-Service Wheeling in Hours Coincident with Optional Provsion Purchases

		Qtr. IV 2002	Qtr. I 2003	Qtr. II 2003	PTD
(1)	**Actual Energy Reduction from SSW - MWH**				
	Cargill New Millpoint Plant (SBI-3)	0	41	183	224
	Cargill Ridgewood Master Plant (SBI-1)	507	0	1	508
	Cargill Hooker's Prairie Plant (IST-1)	0	0	0	0
	Total Cargill SSW	507	41	184	732
(2)	**Actual SSW Under-delivered - MWH**				
	Basis for Generator-to-Schedule Imbalance (GSI) Service	65	8	1	74
	Revenue Gains/Losses (+/-)				
(3)	Administration, Billing, and Reporting Expense	$ (617)	$ (531)	$ (859)	$ (2,007)
(4)	Base Energy	$ (5,180)	$ (434)	$ (1,769)	$ (7,384)
(5)	Environmental Cost Recovery Charges ($1.51/MWH)	$ (766)	$ (56)	$ (252)	$ (1,074)
(6)	Conservation Cost Recovery Charges ($0.41/MWH)	$ (208)	$ (8)	$ (37)	$ (253)
(7)	Capacity Cost Recovery Charges ($0.22/MWH)	$ (112)	$ (7)	$ (31)	$ (150)
(8)	Lost Retail Tariff Time-Of -Use Fuel Revenues	$ (16,179)	$ (1,416)	$ (6,009)	$ (23,604)
(9)	Avoided Fuel and Purchased Power Expense				
(10)	Avoided Variable Production O&M	$ 425	$ 161	$ 673	$ 1,260
(11)	Avoided Energy Cost				
	Schedule 8 - Non-Firm Point-to-Point Transmission Service ($1.267/MWH)	$ 1,628	$ 450	$ 2,139	$ 4,218
	Schedule 2 - Reactive Supply ($0.10/MWH)	$ 129	$ 28	$ 131	$ 288
	Schedule 1 - Scheduling ($0.13/MWH)	$ 167	$ 8	$ 44	$ 219
(12)	Total Transmission Wheeling	$ 1,924	$ 486	$ 2,315	$ 4,725
(13)	Net GSI Service Charges	$ 273	$ 55	$ 9	$ 336
(14)	Refund (Not Applicable)	$ -	$ -	$ -	$ -
	Net Impact				

Notes:

(1) This report is based on calendar month data. Actual customer bills, which are based on billing cycles, may be different due to billing-driven meter reading dates.

(2) These values represent the differences between the self-service MWs that Cargill scheduled in each hour and the self-service MWs that were actually delivered to Tampa Electric's transmission system in each corresponding hour. Shortfall energy is supplied via Tampa Electric's GSI service at 110% of Tampa Electric's incremental cost for each hour GSI service is required.

(3) Represents monthly administration, maintenance, billing , and reporting expense associated with the pilot.

(4) Revenue losses are calculated by multiplying the IST-1 energy charge ($10.78/MWH) by the reduced energy for Hooker's Prairie; the SBI-1 supplemental energy charge ($10.78/MWH) and standby energy charge ($9.61/MWH) by the reduction in supplemental energy and standby energy, respectively, for Ridgewood Master; and the SBI-3 supplemental energy charge ($13.27/MWH) and standby energy charge ($9.61/MWH) by the reduction in supplemental energy and standby energy, respectively, for New Millpoint.

(5) Environmental Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(6) Conservation Cost Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(7) Capacity Cost Recovery Charge is multiplied by the MWH reduced as a result of SSW.

(8) Represents the loss in tariff time-of-use fuel revenue calculated by multiplying the on-peak and off-peak tariff fuel prices by the energy reduced in on-peak and off-peak hours respectively as a result of SSW.

(9) The avoided hourly fuel and purchased power expense including SO2 allowances and adjustment for line losses is multiplied by the energy reduction from SSW in each hour .

(10) Avoided variable O&M $/MWH, adjusted for line losses, is multiplied by the MWH reduction from SSW in hours that TEC generation is on the margin.

(11) The avoided energy cost is the sum of the avoided fuel and purchased power expense (line 9) and the avoided variable O&M expense (line 10).

(12) Open Access transmission tariff wheeling charges are multiplied by the scheduled SSW MWs in each hour.

(13) Calculated by multiplying the 10% gain on the hourly incremental fuel and purchased power expense including SO2 allowances and variable O&M times the GSI MWHs in each hour. The 10% has been treated as a true gain as opposed to a premium designed to cover hard-to-quantify additional costs. The dollars gained are credited to the Fuel and Purchased Power Recovery Clause.

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INTERROGATORY NO. 3. What are the current generation expansion plans for the electric generating facilities owned and/or operated by Cargill within the Tampa Electric service area? Does Cargill have any other generation expansion plans at other sites? What effect, if any, does Cargill expect the continued availability of the self-service wheeling option to have on Cargill's generation expansion plans at sites within the Tampa Electric service area during the next fifteen years?

A. There are no additional turbine generators planned at any site. Cargill's generation is directly

connected to its fertilizer operations. The availability of waste heat governs the ability to expand generation. SSW will make us more efficient and help enable us to remain in business and avoid constructing back up self-generation burning fossil fuel. SSW should be a positive impact to our waste heat generation efforts for the next fifteen years.