

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 031033-EI

IN RE: TAMPA ELECTRIC COMPANY'S
2004-2008 WATERBORNE TRANSPORTATION
CONTRACT WITH TECO TRANSPORT AND
ASSOCIATED BENCHMARK

REBUTTAL TESTIMONY

AND

EXHIBIT

OF

BRENT DIBNER

ON BEHALF OF

TAMPA ELECTRIC COMPANY

MH 12-14-06 (entire DN)
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1 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

2 PREPARED REBUTTAL TESTIMONY

3 OF

4 BRENT DIBNER

5 ON BEHALF OF

6 TAMPA ELECTRIC COMPANY

7
8 **Q.** Please state your name, business address, occupation and
9 employer.

10
11 **A.** My name is Brent Dibner. My business address is Dibner
12 Maritime Associates, LLC, 151 Laurel Road, Chestnut Hill,
13 Massachusetts 02467.

14
15 **Q.** Are you the same Brent Dibner who submitted Prepared
16 Direct Testimony in this proceeding?

17
18 **A.** Yes, I am.

19
20 **Q.** What is the purpose of your rebuttal testimony?

21
22 **A.** The purpose of my rebuttal testimony is to address
23 certain inaccuracies and deficiencies in the assertions
24 and conclusions of the testimony of Dr. Anatoly
25 Hochstein, testifying on behalf of Ms. Catherine L.

1 Calypool, et. al and Mr. Michael J. Majoros, Jr.,
2 testifying on behalf of the Office of Public Counsel
3 ("OPC") and Florida Industrial Power Users Group
4 ("FIPUG").

5
6 **Q.** Please summarize your rebuttal testimony?

7
8 **A.** I firmly believe for the reasons detailed in my testimony
9 that the operating specifications contained in Tampa
10 Electric's request for proposal ("RFP") are common in the
11 industry and are familiar to and easily understood by
12 perspective bidders. This bid solicitation represents
13 the distinct requirements of the necessary coal movements
14 to meet Tampa Electric's needs and asks for responses
15 that will meet those stated needs and preferences. While
16 Dr. Hochstein offers certain criticisms of the request
17 RFP, he has admitted he has no experience in drafting or
18 evaluating RFPs while I have represented both carriers
19 and shippers in this process for many years. It is a
20 process with which I am thoroughly familiar.

21
22 More specifically, Dr. Hochstein's criticism of the total
23 volume requirement is particularly misplaced. Any
24 prudent shipper would prefer to rely on a single-focused

1 carrier wherever possible because such a carrier provides
2 many distinct advantages including, but not limited, to
3 economies of scale, flexibility, responsiveness,
4 reliability and the ability to respond to the specific
5 and particular needs of the shipper. The fragmentation
6 of the movement of Tampa Electric's requirements would
7 require a higher rate according to Dr. Hochstein's own
8 admission. ". . . No carrier could reasonably operate
9 equal to or lower than TECO Transport." I agree with Dr.
10 Hochstein. Consequently, if the total volume requirement
11 had been removed from the RFP the resulting market rates
12 would be higher than the current TECO Transport rates.

13
14 I further agree with Dr. Hochstein that no other coastal
15 or ocean carrier could match TECO Transport's rates.
16 This is because from the inception of the integrated
17 waterborne transportation system, TECO Energy has created
18 a means by which Tampa Electric and its ratepayers have
19 the economy of low cost fuel delivery in a highly
20 reliable manner. TECO Transport has continued to
21 improve and tailor its fleet to meet the specific needs
22 of Tampa Electric and this has provided significant
23 benefits to Tampa Electric's ratepayers. The rates

1 provided by TECO Transport are consistently lower than
2 rail rates and have ensured that a single railroad could
3 not win the business, drive away the marine option,
4 establish a captive customer and raise rates in the
5 future. TECO Transport's rates in the current contract
6 are substantially below those of other marine vessels and
7 are also below the CSXT railroad bid when adjusted to
8 reflect the full cost of the movement.

9
10 Dr. Hochstein has incorrectly asserted that certain
11 "structural problems" with Tampa Electric's RFP led to
12 few responses. This simply is incorrect. The RFP sets
13 forth a meaningful statement of the performance
14 requirements in terms that are appropriate for the
15 service required by Tampa Electric. It did not contain
16 operational limitations on prospective bidders. It is
17 essentially the same RFP structure that Tampa Electric
18 used in 1998 which attracted responses for terminal
19 service and inline transportation.

20
21 I find the consideration and analysis of backhaul by both
22 Dr. Hochstein and Mr. Majoros are totally inappropriate
23 in determining market rates. Backhaul is simply not

1 relevant to market rates for a dedicated one-way
2 transportation service for a single commodity as I will
3 explain in detail later in my testimony. A consideration
4 of backhaul is not for outside conjecture, interference,
5 confiscation, or reallocation in setting market rates.
6 Moreover, Mr. Majoros' analysis presumes that there are
7 backhaul revenues while failing to include incremental
8 backhaul costs which are significant. Both Dr. Hochstein
9 and Mr. Majoros overstate and oversimplify the actual
10 opportunity for northbound backhaul cargo. These
11 opportunities are extremely limited and are already taken
12 by other businesses and contracts. The backhaul ratios
13 used are incorrect and misleading and are arbitrary and
14 in some cases completely unsupported conjecture.
15 Backhaul rates represent incremental benefits to carriers
16 and the carrier in any market has no obligation to give
17 back or share these benefits with customers.
18 Consequently, any presumptions regarding a backhaul rate
19 are entirely speculative and inappropriate in setting
20 market rates.

21
22 The criticism of the models I used in my market rate
23 analysis for Tampa Electric is also unfounded. I based

1 my study of this market on a careful factual analysis of
2 the elements of the transportation system and I took
3 great care in my review of market conditions. I have
4 applied my more than 27 years of continuous direct
5 involvement in these markets and my results, unlike Dr.
6 Hochstein's, are not based on public port policy studies
7 and faulty U.S. Army Corps of Engineers ("Corps") data.
8 It is based on actual experience in moving millions of
9 tons of cargo. The models I use are clear, explicit,
10 detailed and above all realistic and fair. The testimony
11 describes the great lengths that I went to. I am sure
12 that my study was thorough and reflective of the market.
13 Contrary to the assertions of Mr. Majoros, my models have
14 been available to the Commission Staff and intervenors
15 for months for them to review and gain a complete
16 understanding of how and what the models considered. The
17 Commission Staff and intervenors have been free to make
18 changes to the assumptions to test results of the models
19 and their sensitivities. Further, the input values that
20 drove the calculations in the models were allowed to be
21 edited. Only the specific formulas that were in the
22 models were held constant to ensure the integrity of the
23 models. This fact, however, did not preclude intervenors

1 from establishing their own model of their own design.
2 Further, contrary to the assertions of Mr. Majoros, I
3 have described all the input that I relied on in my study
4 and other experts in waterborne transportation who have
5 derived their own experiences could have used their
6 knowledge to corroborate or reject the inputs in my
7 models. Consequently, Mr. Majoros has only put forth
8 generalized and unsupported criticisms of the models.
9 His adjustments are little more than speculation with no
10 basis in the bulk transportation marketplace. Further,
11 Dr. Hochstein made many errors in his analysis of both
12 the models and the marketplace which I discuss somewhat
13 later in my testimony.

14
15 With respect to cost-plus pricing, I think that all of
16 the elements presented make it very plain that there is a
17 market for the transportation of coal from its supply to
18 Tampa which should be the focus of the Commission in this
19 proceeding. Furthermore, there is a definite market for
20 each of the three legs of the waterborne transportation
21 system, contrary to the assertions of Dr. Hochstein.
22 TECO Transport simply is the most efficient and least
23 cost option for Tampa Electric Company in this market

1 because it has the largest, most efficient and fastest
2 fleet available to serve Tampa Electric's needs. For all
3 the reasons previously acknowledged by this Commission,
4 cost-of-service pricing should not be adopted. It is
5 clear that a market does exist for all three segments,
6 bids were received from the railroad and reasonable and
7 appropriate market rates have been determined based on
8 the bid responses and my comprehensive analysis. Again,
9 the reasonableness of my market rates is specifically
10 corroborated by the railroad bid. Moreover, the rate I
11 recommended is also lower than the previous contract rate
12 that expired year-end 2003.

13
14 Dr. Hochstein's assertions that TECO Transport barges are
15 inherently inferior to ships in the preference trade and
16 ships within the same capacity are particularly
17 uninformed as I detail later in my testimony. Dr.
18 Hochstein's analysis is simply incorrect because his data
19 is incomplete and inaccurate. Again, TECO Transport
20 barges are among the largest, fastest and most reliable
21 units due to their interconnection features and their
22 many opportunities to participate in the preference
23 trades. These barges are among the most competitive in

1 the U. S.-flag fleet and therefore, demand high rates in
2 the preference trade because they are well maintained and
3 extensively re-fitted to provide low cost transportation
4 for their owner and customers. These barges could be
5 competitive in several trades including coal, fertilizer,
6 phosphates, pet coke, grain, scrap metal and cement to
7 name a few.

8
9 I believe that Dr. Hochstein's alternative rate
10 methodology is invalid for numerous reasons detailed
11 later in my testimony. Dr. Hochstein's analysis is
12 extremely rudimentary and filled with errors that are a
13 reflection of the shortcomings and errors of the Corps
14 data upon which he relies as I explain further in greater
15 detail in my testimony. Likewise Dr. Hochstein's
16 calculation of TECO Transport's freight rates based on
17 barge earnings is replete with many errors such as short-
18 term operating costs, financing terms and the exclusion
19 of port costs. Additionally, his calculation of TECO
20 Transport's freight rates based on foreign competition
21 completely ignores the dramatic strong upward trend in
22 rates for Handymax and Panamax vessels which have more
23 than quadrupled from August 2002 through March of 2004.

1 The charter rates for Handymax and small older Panamax
2 are two to three times the rates used in Dr. Hochstein's
3 model. He also fundamentally failed to adjust for draft
4 limitations that exist at present and will for years in
5 the future. The transportation arrangements for Tampa
6 Electric had to be available starting January 1, 2004,
7 not at some future date years into the future.

8
9 Q. Have you prepared an exhibit in support of your
10 testimony?

11
12 A. Yes, Exhibit No.____(BD-2), consists of one two-page
13 document, which is furnished to provide corrections to
14 certain assumptions and omissions of Dr. Hochstein's
15 calculation of freight rates based on barge earnings.

16
17 **TAMPA ELECTRIC'S REQUEST FOR PROPOSAL**

18 Q. On Page 5 of his testimony, Dr. Hochstein states Tampa
19 Electric's 2003 RFP contains "so many industry non-
20 standard and otherwise restrictive conditions." Do you
21 agree?

22
23 A. No. The terminology, requirements, conditions, rates of
24 cargo handling, and other operating specifications

1 contained in the Tampa Electric RFP are common in the
2 industry and would be familiar and easily understood by
3 prospective bidders. In addition, the bid solicitation
4 represents the distinctive requirements of the necessary
5 coal movements to meet Tampa Electric's needs. The
6 solicitation sets forth a meaningful definition of a
7 trade that exists, and asks for proposals that are
8 responsive to Tampa Electric's stated needs and
9 preferences. Dr. Hochstein's conclusion that Tampa
10 Electric's RFP contains "so many industry non-standard
11 and otherwise restrictive conditions" reflects his lack
12 of knowledge and actual experience regarding RFP
13 specifications as well as Tampa Electric's specific
14 needs. During Dr. Hochstein's deposition, he admitted
15 that he has no experience in drafting or evaluating RFPs.
16 [Hochstein Deposition Transcript, Volume I, pg 16-17]

17
18 **Q.** Which of Dr. Hochstein's assertions regarding Tampa
19 Electric's RFP requirements are you addressing?

20
21 **A.** I will address the assertions Dr. Hochstein makes
22 regarding: 1) demurrage, 2) total volume requirements and
23 3) RFP structure. Tampa Electric witnesses Joann T.
24 Wehle and Frederick Murrell will address the remainder of
25 Dr. Hochstein's assertions regarding Tampa Electric's RFP

1 requirements.

2
3 **DEMURRAGE RFP REQUIREMENT**

4 Q. On page 17 of Dr. Hochstein's testimony he concludes that
5 the demurrage requirement in the RFP was neither an
6 industry standard nor a reasonable requirement. How do
7 you respond?

8
9 A. I do not agree. Tampa Electric stated in its RFP that
10 "Tampa Electric will not be responsible for demurrage at
11 the terminal," referring to the Lower Mississippi loading
12 terminal. This means that the terminal and the ocean
13 carrier must internally absorb or settle any demurrage
14 claims that arise and that the outcome of any claims
15 cannot be passed on to Tampa Electric for payment. This
16 is entirely reasonable because Tampa Electric has no
17 control over the terminal or the barge operators'
18 performances. Therefore, this requirement protects both
19 Tampa Electric and its customers from additional
20 expenses.

21
22 **TOTAL VOLUME RFP REQUIREMENT**

23 Q. On page 26 of his testimony, Dr. Hochstein states that he
24 believes the "all or nothing" total volume RFP
25 requirement excluded smaller carriers that could handle a

1 portion of the total volume at a lower cost. Please
2 respond.

3
4 **A.** It is a widely known fact that shippers prefer to rely
5 upon a single-focused carrier wherever possible because a
6 single carrier provides economies of scale, flexibility,
7 responsiveness, greater ability to customize services and
8 technology to meet particular needs, simplified
9 operational planning, scheduling and coordination,
10 minimal financial administration and a direct path for
11 establishing responsibility and avoiding cross-claims.
12 This is particularly the case when 1) a carrier is
13 capable of providing efficient and effective service
14 within a high activity region, like TECO Transport's
15 focus on the lower Ohio River and the trade to a single
16 discharge terminal in Davant, Louisiana; and 2) when a
17 carrier has a positive, long-standing relationship with
18 the customer. There are examples of this both inside and
19 outside the inland industry. For example, the US Gulf
20 and Atlantic-based asphalt shipping industry relies on a
21 single carrier, Penn Maritime, as the specialist in
22 coastwise asphalt transportation. Also, three utilities
23 in Connecticut, Massachusetts, New Hampshire, and
24 industrial consumers in Maine individually chose a single
25 carrier to meet their domestic coal transportation needs.

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Q. Dr. Hochstein advocates that the "all or nothing" total volume requirement was not reasonable and that bids for transporting partial volumes should have been allowed. Given his assertion, what would be the impact on rates?

A. The rates would be higher according to Dr. Hochstein's own testimony:

- "Even if they had the technical capacity, due to the smaller size of their barges, no carrier could reasonably offer rates equal to or lower than TECO Transport." (Hochstein pg 26, lines 2-4)
- "TECO Transportation barges are likely the only reasonable way for Tampa Electric to transport coal between Davant, LA and Tampa in the future." (Hochstein pg 38, lines 8-10)

Therefore, if the "all or nothing" requirement total volume had been removed from the RFP, according to Dr. Hochstein, the resulting market rates would be higher than the TECO Transport rates.

Q. Dr. Hochstein concludes on page 24 of his testimony that

1 there were no other coastal or ocean carriers that could
2 match TECO Transport's rates. How do you respond?
3

4 **A.** I agree. From the inception of the integrated waterborne
5 transportation system, TECO sought to create a means by
6 which Tampa Electric and its ratepayers would have the
7 economy of low cost fuel delivered in a highly reliable
8 manner. The movement of coal to Tampa is a unique
9 movement because it is the largest single movement of
10 coal or any other commodity movement for a single
11 customer in the US coastwise trade. Throughout the more
12 than 50 years of this movement, Tampa Electric and its
13 ratepayers have benefited from delivery costs that were
14 consistently lower than rail rates and ensured that a
15 single railroad could not win the business, drive away
16 the marine option, establish a captive customer and then
17 raise rates in future contract periods as is the norm.

18
19 Dr. Hochstein is also correct that no single vessel or
20 group of vessels in the market are in a position to offer
21 rates that would be lower than TECO Transport's rates or
22 the rates I recommended in my report. Tampa Electric's
23 contract rates with TECO Transport provide savings to
24 ratepayers because the rates are substantially below
25 those of other marine vessels and are also below the CSXT

1 railroad bid, when the proper adjustments are made as
2 discussed in witness Wehle's direct testimony.
3

4 **RFP STRUCTURE**

5 **Q.** Dr. Hochstein asserts on page 22 of his testimony that
6 there were structural problems with Tampa Electric's RFP
7 that led to few responses. How do you respond?
8

9 **A.** I do not agree. The RFP sets forth a meaningful
10 statement of the salient performance requirements in
11 terms that are appropriate for the service required by
12 Tampa Electric. It did not limit the sizes of the
13 vessels or impose specific technologies. It did not
14 require unloading or specify speeds. It did not require
15 bidders to have personnel, fleeting sites, switch boats,
16 or other activities. It is essentially the same RFP
17 structure that was used in Tampa Electric's last bid
18 solicitation in 1998. Both the 1998 and 2003
19 solicitation attracted responses for terminal service and
20 inland transportation, even as the industry consolidated
21 and was experiencing very difficult market conditions.
22

23 **BACKHAUL**

24 **Q.** Should backhaul opportunities be considered in
25 calculating Tampa Electric's approved transportation

1 service rate as Dr. Hochstein and Mr. Majoros contend?

2
3 **A.** No, backhaul should not be considered when determining
4 market rates for providing Tampa Electric's coal
5 transportation services for several reasons. First,
6 backhaul is irrelevant to the market rates for dedicated
7 one-way transportation service for a single commodity.
8 The headhaul rate is the relevant rate.

9
10 Second, shippers and carriers seek the best economic
11 arrangements they can make in the marketplace. Shippers
12 seek competitive rates; carriers try to maximize earnings
13 and rates. Competitive pressures and service
14 requirements exert pressure and temper the balance
15 between long- and short-term interests. Backhaul rates
16 represent incremental benefits to carriers that are low
17 cost providers. A carrier has no obligation to give back
18 or share these benefits with headhaul customers.

19
20 Third, I have researched the inland waterways headhaul
21 and backhaul markets for many years, often working with
22 major carriers. The backhaul market is far less
23 available to open hopper barges, like TECO Transport's,
24 on the inland waterways moving through the Louisiana to
25 Lower Ohio River corridor. On the ocean side, TECO

1 Transport has methodically used its fleet's economies of
2 scale and the unique unloading technologies of some of
3 the barges in the trade to provide superior solutions.
4

5 Fourth, the terms, duration, requirements and flexibility
6 of the fertilizer and phosphate rock contracts are
7 confidential. It would be reckless and cavalier for me
8 to presume any spillover revenue or costs from these
9 other undisclosed contractual relationships between TECO
10 Transport and its customers.
11

12 Fifth, there is the very real possibility that the trade
13 volumes of the coal or the fertilizer industry could
14 change dramatically, thereby creating higher or lower
15 volumes of activity that could destroy or disrupt the
16 terms and even existence of backhaul.
17

18 Additionally, I must point out that while Mr. Majoros
19 presumes that there are backhaul revenues, he fails to
20 include in his analysis the incremental backhaul costs of
21 cleaning, shifting berths, extra sailing distances in
22 Tampa Bay and the Lower Mississippi River, and additional
23 loading and discharge times. Mr. Majoros also omitted
24 the costs for the additional fuel required to push fully-
25 loaded inland barges upstream against the river currents

1 of the Lower Mississippi and Ohio Rivers and the
2 additional fuel required to push fully loaded ocean
3 barges against the Gulfstream currents as well as
4 potential reductions in inland river tow size and speed.
5 These costs are not trivial. Regardless, in my
6 experience consideration of backhaul is not for outside
7 conjecture, interference, confiscation, or reallocation
8 when setting market rates.
9

10 **Q.** So, is it appropriate for Tampa Electric to pay a
11 headhaul rate that includes the full round trip, without
12 consideration or credit for any backhaul cargo that might
13 arise?
14

15 **A.** Yes. This approach to market pricing is consistent with
16 the necessity for dedicated service and reliability. If
17 TECO Transport is able to coordinate backhaul within the
18 constraints of serving Tampa Electric, then they are
19 entitled to the market returns of that business.
20

21 **Q.** On page 27 of his testimony, Dr. Hochstein maintains that
22 additional responses from inland waterways barge
23 companies would have resulted in lower bid proposals
24 because "these companies would have considered backhaul
25 cargoes in calculating the headhaul rates submitted to

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1 Tampa Electric." How do you respond?

2

3 A. That is pure speculation. Dr. Hochstein has no basis for
4 concluding that, if an additional carrier had bid, its
5 rate to transport five million tons for a five-year
6 movement of southbound coal would have been below the
7 rates I developed. The rates I developed were for the
8 full five million tons and were very close to the rates
9 bid by ACBL, an inland barge company, for just one
10 million tons. Additionally, Dr. Hochstein's assumptions
11 are simplified and lead to erroneous conclusions. For
12 example, the actual opportunities for northbound backhaul
13 cargoes into the Lower Ohio River are extremely limited
14 and are already taken by other business and contracts.
15 Dr. Hochstein's suggestion that the northbound backhaul
16 ratio on the Lower Mississippi is as high as 65 percent
17 is incorrect and misleading; the percentage provided in
18 aggregate by the Corps, fails to consider the separation
19 of cargoes that require different types of barges and the
20 geographic origins and destinations of cargoes.

21

22 Dr. Hochstein also fails to recognize that backhaul is
23 not just a revenue stream for carriers. He makes no
24 attempt to evaluate the cost and operational implications
25 of backhaul business. For example, on page 19 of my

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1 report which was filed as an Exhibit No. 1, Document No.
2 1 to my direct testimony, it is clearly shown that
3 backhaul rates into the upper portion of the Ohio River
4 and into the industrially diverse Pittsburgh area are
5 consistently much higher than the southbound rates.
6 However, when combining reported spot northbound and
7 southbound business, the round-trip market rate for a
8 barge is at least \$14.00 per ton, far more than the
9 contractual rates that I proposed in the \$6.00 to \$7.00
10 range.

11
12 **Q.** Mr. Majoros states on page 21 of his testimony that, in a
13 competitive market, a provider would allocate a portion
14 of costs to backhaul so the provider's rate can be lower
15 to keep the customer. In a non-competitive market, the
16 provider can keep the backhaul revenues as "gravy." Is
17 that what you are proposing?

18
19 **A.** Not at all. As I previously stated, backhaul is
20 irrelevant when setting market rates for providing
21 dedicated one-way transportation service for a single
22 commodity as is the case with Tampa Electric. Backhaul
23 rates represent incremental benefits to carriers and the
24 carrier has no obligation to give back or share these
25 benefits with headhaul customers. Any presumptions

1 regarding a backhaul rate would be entirely speculative
2 and inappropriate when setting market rates. Like Dr.
3 Hochstein, Mr. Majoros presumes that all backhaul
4 revenues are "gravy" but does not presume any costs.
5 Substantial costs are incurred for cleaning, loading and
6 unloading, extra miles, voyage time, tugs, pilotage, etc.
7 In addition, berth congestion and cargo handling rates
8 may introduce additional delays. Regardless, backhaul is
9 irrelevant when setting market rates.

10
11 Q. What additional information did Mr. Majoros rely on to
12 conclude that TECO Transport relies on backhaul in its
13 business?

14
15 A. Mr. Majoros points to statements on TECO Transport's web
16 site and in TECO Energy's Form 10-K filed with the
17 Securities and Exchange Commission. TECO Transport's web
18 site states that TECO Barge Line is growing, as
19 "evidenced by the success TECO Barge Line has enjoyed
20 with its northbound shipping." The 10K states that
21 "Northbound river shipments of steel-related raw
22 materials are expected to improve in 2003 as the U.S.
23 economy improves." ". . .In the meantime, TECO Transport
24 expects to move increased volumes of fertilizers and
25 petcoke northbound on the river system." These

1 statements cannot be relied on to support a robust
2 backhaul business. The barge business is inland and may
3 be unrelated to commodities being backhauled from Tampa.
4 Similarly, northbound shipments can be headhaul to some
5 locations and/or cargoes that require covered hopper
6 barges which predominately carry cement, fertilizers,
7 steel products, ores, non-ferrous metals, salt, and most
8 other northbound commodities, such as steel.

9
10 **Q.** Mr. Majoros used data obtained from the Port of Tampa to
11 estimate the amount of backhaul on the ocean segment.
12 Should the Commission consider Mr. Majoros' backhaul
13 adjustment to the ocean portion of the rate?

14
15 **A.** No, the Commission should disregard Mr. Majoros'
16 recommended backhaul adjustment on the ocean segment for
17 the same reasons I discussed above.

18
19 **Q.** How did Mr. Majoros determine the amount of the backhaul
20 adjustment for the river segment?

21
22 **A.** Mr. Majoros lacked data quantifying backhaul on this
23 segment, so he arbitrarily used the average backhaul
24 ratio of the ocean vessels, which he arbitrarily assumed
25 was 69.34 percent. He then reduced the river rate I

1 proposed by one-half this amount, or 34.67 percent.

2

3 Q. Is Mr. Majoros' approach reasonable?

4

5 A. Absolutely not. Mr. Majoros cannot assume that the
6 backhaul ratio is the same since the river trade is
7 totally different from the ocean trade. My analysis of
8 2002 traffic moving on the lower Mississippi River
9 suggests that the amount of backhaul available to open
10 hopper barges is very limited on the Lower Mississippi
11 mainstem to all destinations (the Middle Mississippi, the
12 Upper Mississippi, the Illinois Waterway, the Missouri
13 River, the Arkansas McLellan-Kerr, etc.).

14

15 Q. What is your recommendation to the Commission with
16 respect to Mr. Majoros' backhaul adjustment?

17

18 A. For the reasons I stated above, I would recommend that
19 the Commission totally disregard Mr. Majoros' backhaul
20 adjustment. It is not appropriate for the Commission to
21 consider any such adjustment when determining market
22 rates for waterborne transportation services.

23

24 **MR. DIBNER'S MODELS AND MARKET RATE ANALYSIS**

25 Q. What is your response to Dr. Hochstein's assertion that

1 your model is purely theoretical?

2

3 **A.** Throughout my involvement in this waterborne
4 transportation solicitation, and previously in 1998 and
5 1988, I have based my study of rates on a careful factual
6 analysis of the elements of the transportation system and
7 have taken great care in my review of the market
8 including bids and general market conditions. Unlike Dr.
9 Hochstein, who has no actual experience in bidding on
10 business, setting rates or analyzing waterborne
11 transportation costs for or with actual marine carriers,
12 I have more than 27 years of continuous involvement in
13 these markets. My experience is not based on public port
14 policy studies. Instead, it is based on actual
15 experience moving hundreds of millions of tons of cargo.

16

17 The models that I used are clear, explicit, detailed, and
18 above all else realistic and fair. In fact, Dr.
19 Hochstein has not made one single suggestion or
20 allegation that any aspect of the models themselves is
21 improper or misstates costs. Dr. Hochstein's adjustments
22 are crude, erroneous in many cases and disingenuous in
23 others.

24

25 My work reflects the responsibility for setting rates

1 which are fair to the shipper and carrier. I went to
2 great lengths to ensure that my study was thorough and
3 reflective of the market. I analyzed a total of 135
4 voyages, examining each vessel in its own right. I
5 ensured that TECO Transport's rates reflected an average
6 rate rather than the rate of the tug-barge unit with the
7 highest required rate. I averaged time charter earnings
8 opportunity costs with depreciated replacement values in
9 a rigorous attempt to bring TECO Transport economies
10 further into the rate-setting. I examined the supply and
11 demand balance of the US-flag fleet and evaluated more
12 than five years of monthly historical rates to identify
13 trends on the inland waterways. I also refrained from
14 including any standby or capacity charges for equipment
15 that could have reasonably been charged to meet
16 fluctuating demands on a monthly or annual basis. My
17 models are anything but theoretical.

18
19 **Q.** On page 18 of his testimony, Mr. Majoros was critical of
20 your models because of limitations from editing formulas
21 and variables within the models. Please explain how
22 access to the model was provided to the Commission Staff
23 and intervenors in this case?

24
25 **A.** The Commission Staff and the intervenors were given

1 access to my models so they could review and gain an
2 understanding of how the models worked and what they
3 considered. I flew to Tallahassee to provide a tutorial
4 session for the Commission Staff and the intervenors.
5 They were free to make changes to the assumptions and to
6 test the results of the models and their sensitivities.
7 The input values that drove the calculations in the
8 models were allowed to be edited. Only the formulas that
9 run the models were held constant to ensure the integrity
10 of the models.

11

12 **Q.** Could the intervenors create their own models if they did
13 not agree with your analysis?

14

15 **A.** Absolutely. All of the intervenors had ample opportunity
16 to retain a waterborne transportation consultant to
17 develop market models of their own design.

18

19 **Q.** Mr. Majoros agrees that you have "extensive experience"
20 in the area of waterborne transportation, but says that
21 data derived from your own experience cannot necessarily
22 be verified by others. Is this true?

23

24 **A.** Mr. Majoros' statement on this point can be said of every
25 expert who draws on his or her professional experience.

1 However, the important point is that I have shared with
2 the Commission Staff and the intervenors all the formulas
3 that make up my models and all of the inputs I relied
4 upon in my study. Other experts in waterborne
5 transportation could have used their knowledge to
6 corroborate or reject the inputs to my models.
7 Additionally, none of the intervenors have challenged my
8 assumptions despite the fact that every single variable
9 was set forth explicitly for review by Commission Staff
10 and the intervenors. The voluntary tutorial session I
11 conducted provided the Commission Staff and the
12 intervenors an explanation of the data and the models'
13 operations. Tampa Electric also responded to numerous
14 interrogatories regarding the models. Supporting data
15 has been provided in discovery and in my report. In view
16 of this, Mr. Majoros' generalized criticisms of the
17 models and his adjustments appear to be little more than
18 speculation because Mr. Majoros has provided no basis for
19 his concepts of the marketplace that bear on the bulk
20 transportation marketplace.

21
22 **Q.** Dr. Hochstein states on page 40 of his testimony that
23 "Witness Dibner's methodology apparently assumes that
24 replacement cost, or the cost based on construction of a
25 new TECO Transport fleet and other similar dry bulk

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1 vessels, approximates the supply side...". Do you agree?

2

3 **A.** No. Dr. Hochstein is mistaken in his understanding and
4 explanation that I applied replacement costs for my ocean
5 rate analysis. In fact, my analysis was based on the
6 depreciated value of full replacement cost in almost all
7 cases. This applied substantial reductions in the cost
8 of the assets. The replacement value of the core barges
9 is \$193.4 million; I only used \$95.2 million as my basis.
10 My total value for the ocean fleet amounts to less than
11 30 percent of TECO Transport's total assets, which
12 substantially understates the investment cost because of
13 vessels under lease agreements.

14

15 **Q.** Do you agree with Dr. Hochstein's assertion that it is
16 impossible to know the costs of US-flag tugs and dry bulk
17 barges?

18

19 **A.** No. The U.S. Department of Transportation's Maritime
20 Administration ("MarAd") publishes the actual costs of
21 all dry bulk barges and ocean barge towing and pushing
22 tugs in its Title XI mortgage guarantee program. Once
23 adjusted to 2003 cost levels, they provide a very sound
24 basis for understanding the magnitude of costs. In
25 addition, active and expert naval architects in the tug-

1 barge design arena are constantly working with shipyard
2 quotes and contract prices.

3
4 **Q.** Do you agree with Dr. Hochstein's statement that "the
5 cost that determines price is always the "opportunity
6 cost" and not a theoretical replacement cost?"

7
8 **A.** Yes, I do and that is why I considered the replacement
9 cost of the vessels and also the estimated value of these
10 assets in the marketplace. Overall, my approach served
11 to lower TECO Transport's rates below the real
12 opportunity costs that Dr. Hochstein and I agree
13 determine the price. I did not permit the fleet to price
14 at the highest required rate of the tug-barge, but rather
15 ensured that the efficiencies of the TECO Transport ocean
16 fleet were reflected in the market rate calculations.

17
18 Dr. Hochstein concurs with my assessment that smaller,
19 slower, non-articulated or non-integrated tug-barges
20 cannot possibly provide lower transportation rates for
21 one million tons of coal, let alone five million tons.
22 As a result, I focused on TECO Transport's rates by
23 exploring their earnings potential in the markets they
24 could serve. As I previously stated, I did this by using
25 135 preference transactions served by barges that

1 participate in the Jones Act trade. As shown in my
2 report and in additional documentation provided in
3 discovery responses, the information clearly suggests
4 that vessels that chose to leave their highly utilized
5 activities in Jones Act trade were earning rates that
6 were comparable and consistent.

7
8 **COST-PLUS PRICING**

9 **Q.** Dr. Hochstein concludes that cost-plus pricing,
10 especially for the coastal leg, may be the best way to
11 determine fair and reasonable coal transportation rates
12 since no one can effectively compete. How do you
13 respond?

14
15 **A.** I do not agree. Dr. Hochstein has not demonstrated that
16 there is not a market for the coastal or ocean segment or
17 that the market rates from my analysis are above market
18 price. With respect to the coastal segment, Dr.
19 Hochstein acknowledges that there are other coastal
20 barges that could deliver coal to Tampa, but that they
21 were unable to pursue the contract due to prior
22 commitments. In addition, Dr. Hochstein acknowledges
23 that TECO Transport is the most efficient and least cost
24 option for Tampa Electric's ocean-going coal movement.
25 The fact that the present supply of vessels in the market

1 does not include another fleet of the size and capacity
2 to serve Tampa Electric does not support the conclusion
3 that there is no market; rather, it reflects the
4 competitive and efficient use of the market's available
5 operating capacity. My task was to analyze in detail the
6 participants in the markets and derive from my analysis
7 fair market rates for transportation services required by
8 Tampa Electric. That is what I did and the use of the
9 resulting rates would be far superior to any type of
10 cost-plus pricing.

11
12 As Dr. Hochstein has acknowledged, and as the Commission
13 has previously recognized, cost-of-service pricing
14 requires specialized knowledge. It is complex,
15 expensive, contentious and time consuming; accordingly,
16 the Commission required that market prices should be
17 established for affiliate provided transportation-related
18 services, if possible. Therefore, there is no reason for
19 cost-plus regulation given that a market does exist for
20 all three segments. Bids were received from the railroad
21 and reasonable and appropriate market rates have been
22 determined based on the bid responses and my
23 comprehensive analysis. Again, the reasonableness of the
24 market rate I recommended is corroborated by the railroad
25 bid as discussed in witness Wehle's direct testimony.

1 The rate I recommended is also lower than the previous
2 contract rate that expired year-end 2003.

3
4 **PREFERENCE TRADE**

5 Q. Do you agree with Dr. Hochstein's assertion that TECO
6 Transport's barges are inherently inferior to ships in
7 the preference trades and to ships with the same
8 capacity?

9
10 A. No, I do not. First, in response to Dr. Hochstein's
11 testimony, I must clarify the terms integrated tug-barge
12 ("ITB"), articulated tug-barge ("ATB") and tug-barge as
13 he incorrectly referenced them.

14 • An integrated tug barge is a mechanically linked tug
15 pushing a barge 100 percent of the time, usually with
16 a linkage that restricts the tug's movements in two
17 axes of movement, essentially rigidly locking the tug
18 to the barge. An ITB is essentially a ship that has a
19 small crew and is often built at a lower overall cost.
20 ITB tugs are generally not used without their consort
21 barge. Other than TECO Transport, only one other ITB
22 is in coastwise trade, primarily in the Pacific coast
23 sugar trade.

24 • An articulated tug barge is a mechanically linked tug
25 pushing a barge 100 percent of the time, usually with

1 a linkage that restricts the tug's movement in one
2 axis, usually transverse, essentially leaving the tug
3 free to move in another axis. Other equipment, such
4 as hydraulic pads, notch configurations and other
5 features may be involved. The tug involved with ATBs
6 can usually retract its linkage gear and can work with
7 multiple barges, and operate as a sea-going tug,
8 towing barges if necessary. Other than TECO
9 Transport, no other barges have ATB linkages and
10 consort tugs in operating condition at this time.

- 11 • A tug-barge unit involves a tug that is able to push
12 barges in moderate seaways, but must withdraw from the
13 barge's stern notch and tow the barge when sea
14 conditions make pushing impossible due to motion
15 between the tug and barge. All other barges are
16 loose-linked.

17
18 TECO Transport's barges are among the largest, fastest
19 and most reliable units due to their interconnection
20 fixtures and tug-barge connections. From public
21 statements in reports as well as industry knowledge, TECO
22 Transport's ITBs and ATBs have successfully operated
23 through the Americas and to points in Africa, Asia, the
24 Middle East, the Far East and the former Soviet Union.
25 Furthermore, Dr. Hochstein is simply incorrect in his

1 reliance on Maritime Administration data for the
2 identification of ITBs and ATBs because the data is
3 incomplete and inaccurate. For example, one ATB,
4 comprised of a former east coast coastal tug and a former
5 New York City sludge barge, has been engaged in multiple
6 preference voyages to Pakistan from the US Gulf
7 transporting cooking oil during the past two years.

8
9 **Q.** Dr. Hochstein believes that the premium for preference
10 trades is not appropriate because the TECO Transport
11 barges presently serving Tampa Electric have limited
12 alternative employment opportunities. Do you agree?

13
14 **A.** No. All barges face some limitations but the TECO
15 Transport barges are among the most competitive in the
16 US-flag fleet and therefore, they can demand high rates
17 in the preference trades. They are large, very well-
18 maintained and extensively re-fitted to provide low cost
19 transportation for their owner and customers. These
20 barges are most competitive in several trades: coal,
21 fertilizer and phosphates from Tampa to the Mississippi
22 River, petcoke from the US Gulf to various plants,
23 fertilizer and grain from the US Gulf and Atlantic coasts
24 to San Juan, Puerto Rico and scrap metal to North
25 Carolina. If necessary, they can also compete in the

1 coastal cement trade, which is served today by smaller
2 barges that are not ideally suited for the long voyages
3 from the Hudson River to the Southeast. As shown in my
4 report, the TECO Transport fleet was highly utilized
5 based on 2001 demand data. In fact, the demand increased
6 in trades other than Tampa in 2002. It is also important
7 to note that TECO Transport's tugs and barges are
8 extremely valuable for their potential to be converted
9 into coastal petroleum products barges or coastwise
10 container barges. TECO Transport's large and powerful
11 tugs are quite rare in these power ranges. TECO
12 Transport's large barges have double bottoms already and
13 can be converted for these purposes. Finally, these tug-
14 barge units can compete in the preference trades, which
15 represent millions of tons of additional trade.

16
17 **MR. MAJOROS' PREFERENCE TRADES ADJUSTMENT**

18 Q. Mr. Majoros made an adjustment to eliminate what he
19 refers to as the "preference trade premium" incorporated
20 in your model. Do you agree with this adjustment?

21
22 A. No, I do not. What Mr. Majoros characterizes as a
23 premium is actually an economically sound consideration
24 of the opportunity costs of the vessels serving Tampa
25 Electric rather than participating in other earnings

1 opportunities available to them. The preference rates
2 are very representative of the rates prevailing in the
3 US-flag-Jones Act marketplace. Barges move between the
4 two trades and would not bid if earnings were very
5 different from the rates that could be earned in the
6 coastwise trade, based on size of vessel. TECO
7 Transport's alternative opportunities include Jones Act
8 and preference trades. Preference time charter rates
9 tend to be higher because the ships are larger than the
10 small and less efficient barges that exist in the Jones
11 Act fleet.

12
13 Q. What is Mr. Majoros' basis for not agreeing with this
14 aspect of your model?

15
16 A. Mr. Majoros provides no basis other than saying, in his
17 opinion, such a premium would not be used in the model of
18 a competitive market. He apparently does not subscribe
19 to the very real opportunities that TECO Transport has in
20 the marketplace, and that these opportunity costs have to
21 be considered in arriving at a market price.

22
23 **Dr. Hochstein's Alternate Market Rate Methodology**

24 Q. Is Dr. Hochstein's methodology for establishing a market
25 rate based on replacement costs appropriate?

1 **A.** No. It appears that Dr. Hochstein misunderstood the
2 methodology I employed because I did not use replacement
3 cost as he states. As I stated earlier, I used
4 depreciated replacement cost, which recognizes the age
5 and reduced remaining service life of each vessel. My
6 methodology resulted in substantial reductions in
7 valuations, thereby yielding lower rates. Dr.
8 Hochstein's methodology is also erroneous because he did
9 not establish replacement cost for any of the tug-barge
10 units in TECO Transport's service. He used the Corps'
11 "Planning Guide" information as a source for replacement
12 costs for the 35,000 dead tonnage weight ("dwt") bulk
13 ship in his hypothetical example. This information is
14 used by planners and engineers within the Corps for
15 general guidance when considering the cost-benefit
16 analysis of federal infrastructure investments in
17 channels and waterways. While it is drawn from various
18 sources, it is generally processed by individuals with
19 little or no exposure to commercial shipping economics.
20 Consequently, the information is not widely used or
21 accepted, certainly not by actual vessel operators.

22

23 Additionally, the Corps' annual capital costs are
24 incorrect for a commercial enterprise because the costs
25 assume 100 percent debt financing, which is not available

1 to commercial ships and the cost is not replacement cost
2 because it is based on a seven year old built ship.
3 Furthermore, depreciation and tax shield effects are not
4 considered.

5
6 The problem with Dr. Hochstein's analysis is the cursory
7 manner in which he relied on limited, inapplicable
8 statistics, applied them in error and then presumed that
9 he could cast aside market conditions, bid proposals and
10 actual costs for port time, cleaning, additional transit,
11 port costs and other expenses. He also assumes
12 competition exists from vessels he admits cannot apply
13 market pressure and he erroneously evaluates a single
14 hypothetical ship and then puts forward a simple
15 conclusion that has no basis in reality.

16
17 **Q.** On page 54 of his testimony, Dr. Hochstein presents a
18 sample of time charter equivalent rates of TECO
19 Transport's barges and ships, compared with those based
20 on Corps data. Is this an appropriate comparison?

21
22 **A.** No, it is not. The time charter equivalent rates are
23 based upon a hypothetical 35,000 dwt ship that is non-
24 existent and therefore, meaningless in such an analysis.
25 Furthermore, a single ship, even if it existed and was

1 available, could not move a substantial portion of Tampa
2 Electric's coal.

3
4 **Q.** Is Dr. Hochstein's calculation of TECO Transport's
5 freight rates based on its barges' earnings in the
6 preference trade correct or appropriate?

7
8 **A.** No. Dr. Hochstein's analysis is based on a hypothetical
9 ship, his analysis is severely flawed and as I state
10 above, his use of the Corps replacement costs is
11 inappropriate. Even if I accept his hypothetical
12 example, which clearly I do not, I note the following
13 regarding Dr. Hochstein's analysis and provide Exhibit
14 No. ___ (BD-2), Document No. 1 which corrects his
15 incorrect assumptions and omissions and graphically
16 demonstrates the corrected results:

- 17
- 18 • Assuming commercial terms instead of federal financing
19 terms, the \$65.1 million cost for the same ship cited
20 in the Corps fiscal year ("FY") 2000 "Planning
21 Guidance" and an assumed residual value, the ship
22 would require \$24,000 per day as compared with Dr.
23 Hochstein's \$13,343. Using Dr. Hochstein's 6.02-day
24 voyage, this difference adds \$ 1.82 per short ton to
25 his rate.
 - Using operating costs from the MarAd which is based on

1 actual filings by carriers, the bulk ship costs
2 returns adjusted to 2003 for a 35,000 dwt ship is
3 \$16,400 per day compared with the \$13,900 per day used
4 by Dr. Hochstein. This difference adds \$0.43 per
5 short ton to his rate.

6 • Inclusion of the port costs for tugs, pilots, line-
7 handlers, etc. which Dr. Hochstein omitted. Assuming
8 a modest \$10,000, this adds \$0.29 per short ton to his
9 rate.

10 • Dr. Hochstein assumes that his ship will burn heavy
11 fuel oil. In fact, as an ITB, the vessel will burn a
12 very light IFO or diesel fuel. Assuming diesel fuel,
13 the fuel cost increases by \$7,161 which adds \$0.20 per
14 short ton to his rate.

15 • The actual cost of a new US-flag ship would be even
16 higher than the Corps' \$52.3 million in FY 2002 or
17 \$65.1 million in FY 2000. Based on Title XI costs for
18 the real capital costs of a self-unloading bulk ship
19 would be in the range of \$140 million. A non-self-
20 unloading ship could be less, even at \$100 million
21 this would indicate a daily capital cost of \$36,900,
22 which adds an additional \$2.22 per short ton to Dr.
23 Hochstein's rate.

24
25 Therefore, when fairly adjusted, Dr. Hochstein's \$5.12

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1 per ton for a new vessel is more realistically \$10.05 per
2 ton. This is substantially above the \$8.01 per ton rate
3 that I recommended. By any standard, Mr. Hochstein's
4 calculation is deficient and contains numerous errors.
5 In any event, the methodology is based on a hypothetical
6 example with an inappropriate application of data. His
7 freight rate calculation deviates from reality to pure
8 hypothesis and must be rejected entirely.

9
10 **Q.** Is Dr. Hochstein's calculation of TECO Transport's
11 freight rates based on foreign competition correct or
12 appropriate?

13
14 **A.** Dr. Hochstein grossly understates the freight rates and
15 his analysis of foreign costs is replete with errors,
16 such as short ton conversions and the exclusion of port
17 costs. It completely ignores the fact that at the time
18 of the bid, foreign-flag time charter rates for the
19 35,000, 50,000 and 60,000 dwt were nowhere close to the
20 \$10,062, \$11,029, and \$11,673 rates that he presumed.
21 They were much higher.

22
23 Shipping rates had been on a strong upward trend since
24 August 2002 continuing through mid-2003 when the bids
25 were prepared. Handymax and Panamax spot rates had more

1 than doubled to \$14,000 and \$15,000 per day,
2 respectively. Long term charter rates were soaring. By
3 year-end these rates had more than doubled again towards
4 \$25,000 and \$35,000 per day. At present they are even
5 higher. As of March 2004, the Fearnley Research Monthly
6 report (Norway) listed one-year time charter rates at
7 \$27,200, \$32,800 and \$44,100 per day for Handy, Handymax
8 and small older Panamaxes, respectively. Each of these
9 rates is two to three times the rates used in Dr.
10 Hochstein's model.

11
12 Dr. Hochstein's analysis also fails to adjust for draft
13 limitations that exist at present and will for years into
14 the future. The transportation arrangements needed to be
15 available starting January 1, 2004, not at some future
16 date years in the future, pending Corps approval.
17 Furthermore, given the possibility of declining coal
18 volume, the costs of improvement would be much higher
19 than those assumed by Dr. Hochstein.

20
21 **MR. MAJOROS' TERMINAL ADJUSTMENT**

22 Q. Mr. Majoros reduced the transportation rate in the new
23 contract to reflect the price for terminal services in
24 the old contract. Was this adjustment proper?
25

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1 **A.** No, Mr. Majoros' incorrectly interpreted the "meet or
2 beat" provision by recommending an adjustment to the
3 contract rate to reflect the terminal segment in the old
4 contract instead of the rate I recommended. The rate I
5 recommended was based on a bona fide market bid by
6 International Marine Terminal ("IMT"). IMT's bid stands
7 as a valid indication of the market price for terminal
8 services and was appropriately relied on in my analysis.

9
10 **Q.** Does this conclude your rebuttal testimony?

11
12 **A.** Yes, it does.

13

14

15

16

17

18

19

20

21

22

23

24

25

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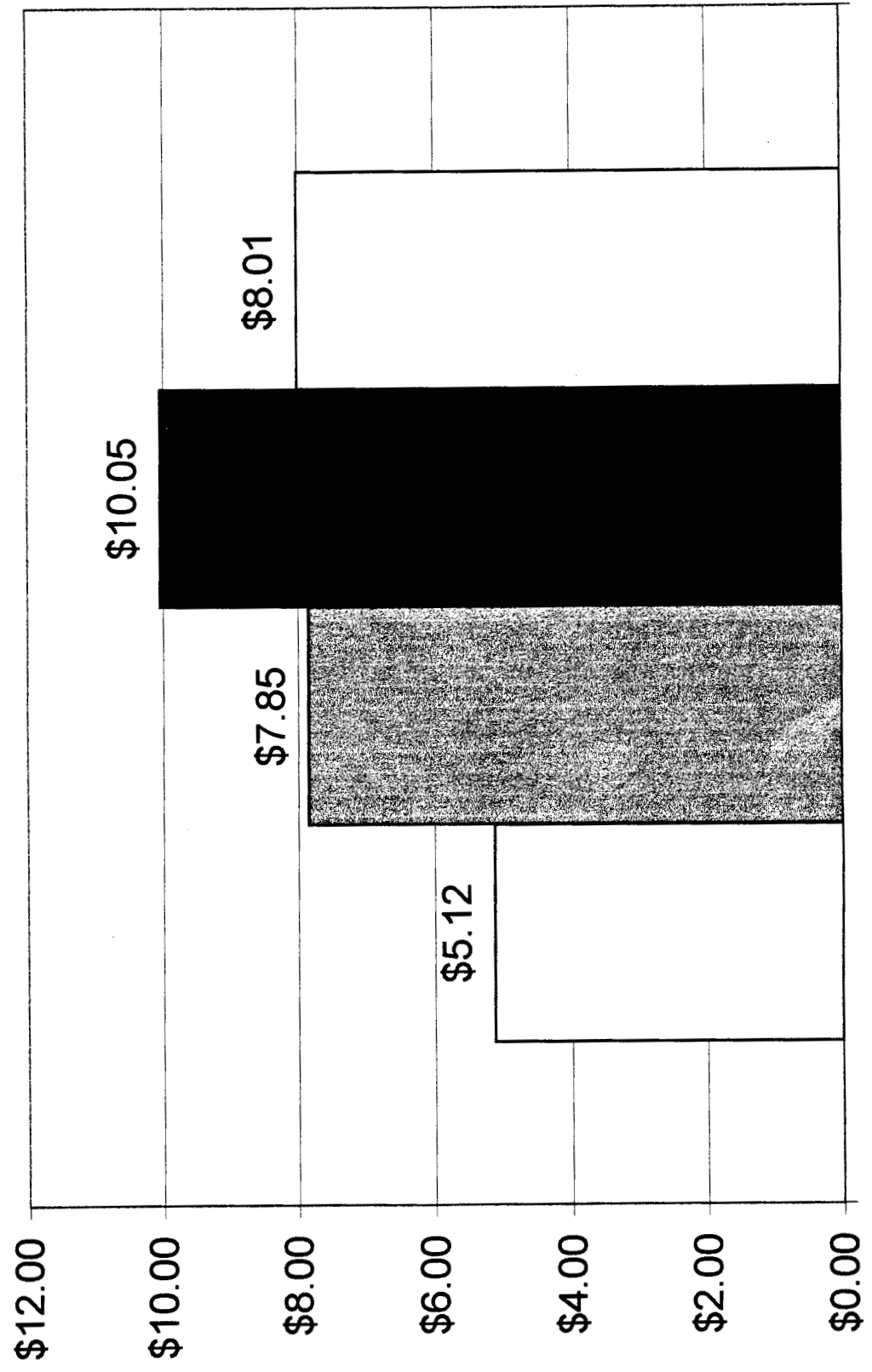
EXHIBIT NO. _____
TAMPA ELECTRIC COMPANY
DOCKET NO. 031033-EI
(BD-2)
FILED: MAY 3, 2004
DOCUMENT NO. 1

EXHIBIT TO THE
REBUTTAL TESTIMONY
OF
BRENT DIBNER

DOCUMENT NO. 1

"COMPARISON OF HOCHSTEIN AND ADJUSTED HOCHSTEIN"

**Comparison of Hochstein and Adjusted Hochstein
 \$ per Short Ton
 (Davant to Tampa)**



□ Original AH ▨ AH Corrected at \$65mm ■ AH Corrected at \$100mm □ Diberner Proposed Rate

Source: Diberner Maritime Associates

COMPARISON OF HOCHSTEIN AND CORRECTED MODEL

	Hochstein AH-5	AH Revised (\$65mm)	AH Revised (\$100mm)
DWT Metric Tons	35,000		
LOA	608	608	608
Beam	90	90	90
Draft	35	35	35
Speed	14	14	14
Cargo DWT Short Tons	35,000	35,000	35,000
Draft on arrival	not specified	34	34
Replacement cost	\$52,250,153	\$65,089,621	\$100,000,000
Days in Service	343	343	343
Daily Costs \$/Day			
Daily Capital	\$13,343	\$24,000	\$36,800
Operating Daily	\$13,990	\$16,362	\$16,362
Capital & Operating (Time Charter)	\$27,333	\$40,362	\$53,162
Fuel at Sea Tons/Day	32	32	32
Fuel at Port Tons/Day	2	2	2
Cost Fuel at Sea	\$13,318	\$20,749	\$20,749
Cost Fuel at Port	\$1,290	\$1,290	\$1,290
Voyage Time Round Trip (days)			
Service Speed, knots	14	14	14
Service Speed 90%,knots	12.60	12.60	12.60
Days at Sea	3.02	3.02	3.02
Days at Port/Slack	3.00	3.00	3.00
Total Days	6.02	6.02	6.02
Voyage Cost Round Trip			
Fuel at Sea	\$13,318	\$20,749	\$20,749
Fuel at Port	\$1,290	\$1,290	\$1,290
Port Costs		\$10,000	\$10,000
Capital	\$80,270	\$144,381	\$221,384
Operating	\$84,162	\$98,433	\$98,432
Total	\$179,040	\$274,853	\$351,855
Freight Cost/ \$/Ton			
Fuel at Sea	\$0.38	\$0.59	\$0.59
Fuel at Port	\$0.04	\$0.04	\$0.04
Port Costs	\$0.00	\$0.29	\$0.29
Capital	\$2.29	\$4.13	\$6.33
Operating	\$2.40	\$2.81	\$2.81
Total per Short Ton	\$5.12	\$7.85	\$10.05
AH Values	5.12		
Fuel Per Ton			
Diesel	212	212	212
IFO	135	135	135
Adder	3	3	3
Diesel/gallon with delivery	\$0.71	\$0.71	\$0.71
Interest Cost	6.13%	8.00%	8.00%
Pct Equity	-	0.333	0.333
Loan Term	20	10	10
Residual Value	-	5,000,000	5,000,000
Tax Effects	none	yes as shield	yes as shield

47

EXHIBIT NO. _____
 TAMPA ELECTRIC COMPANY
 DOCKET NO. 031033-EI
 (BD-2)
 FILED: MAY 3, 2004
 DOCUMENT NO. 1
 PAGE 2 OF 2