# REDACTED ORIGINAL

### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030133-EI

In re: Review of Tampa Electric Company's waterborne transportation contract with TECO Transport and associated benchmark.

## RC 04cTE 0 TRANSCRIPT

DEPOSITION OF:	WILLIAM B. McNULTY
TAKEN AT THE INSTANCE OF:	Tampa Electric Company
DATE:	Friday, April 2, 2004
TIME:	Commenced at 10:09 a.m. Recessed at 4:22 p.m.
LOCATION:	227 South Calhoun Street Tallahassee, Florida
REPORTED BY:	MARY ALLEN NEEL, RPR Notary Public, State of Florida at Large

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VOLUME 1 Pages 1 - 135



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FPSC-COMMISSION CLERK

#### APPEARANCES:

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#### REPRESENTING THE COMMISSION STAFF:

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#### ALSO PRESENT:

TODD BOHRMANN
DEIDRE A. BROWN
EARL POUCHER
DENISE JORDAN
BILLY STILES

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1	PROCEEDINGS
2	The following deposition was taken on oral
3	examination, pursuant to notice, for purposes of
4	discovery, for use as evidence, and for such other uses
5	and purposes as may be permitted by the applicable and
6	governing rules. Reading and signing of the deposition
7	transcript by the witness is not waived.
8	MR. FONS: Let's take appearances. My name is
9	John Fons with the Ausley law firm representing
10	Tampa Electric Company.
11	MR. TWOMEY: I'm Mike Twomey representing the
12	residential consumers.
13	MR. VANDIVER: Rob Vandiver appearing on behalf
14	of the Citizens of the State of Florida.
15	MR. KEATING: Cochran Keating appearing on
16	behalf of the Commission.
17	MS. KAUFMAN: Vicki Gordon Kaufman on behalf of
18	the Florida Industrial Power Users Group.
19	Thereupon,
20	WILLIAM B. McNULTY
21	the witness herein, having been first duly sworn, was
22	examined and testified as follows:
23	DIRECT EXAMINATION
24	BY MR. FONS:
25	Q Good morning, Mr. McNulty.

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1 A Good morning.
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- Q I'm going to be asking you some questions today
- 3 concerning matters in Docket 031033-EI. And if any of
- 4 the questions I ask you today aren't clear or you don't
- 5 understand them, will you stop me and ask that I clarify
- 6 the question?
- 7 A Yes, I will.
- 8 Q And can I assume that if you don't stop me and
- 9 ask for clarification that you fully understand the
- 10 question?
- 11 A Yes.
- 12 Q Would you state for the record your full name,
- 13 please.
- 14 A William Brian McNulty.
- 15 Q Mr. McNulty, by whom are you employed?
- 16 A The Florida Public Service Commission.
- 17 Q And in what capacity?
- 18 A I am a Public Utilities Supervisor in the
- 19 Division of Economic Regulation.
- 20 Q And what's your office address?
- 21 A 2540 Shumard Oak Boulevard, Tallahassee,
- 22 Florida 32399.
- 23 Q All right. Mr. McNulty, did you cause to have
- filed in Docket No. 030001-EI direct testimony and
- exhibits dated October 23, 2003?

Τ	A les, i did.
2	MR. FONS: Before we go further, we're going to
3	probably need to get into some confidential
4	documents. And what I would like to do is have a
5	stipulation that after Mr. McNulty's deposition is
6	taken that we will review the record and outline
7	those particular pieces of the deposition that
8	contain confidential information. Does anybody have
9	a problem with that, before we send it on to the
10	witness or to the parties?
11	MR. KEATING: I assume that everybody else here
12	is covered under some sort of
13	MR. FONS: I would assume that they are.
14	That's what my assumption is.
15	MR. KEATING: All right.
16	MR. FONS: I think it will just make it easier
17	for the flow of the deposition that we have the
18	ability to talk about confidential information
19	without the risk that it be made public. And
20	everybody stipulates and agrees to that?
21	I see nods of heads, so I'm assuming that
22	there's no objection to that.
23	MS. KAUFMAN: Just so we're clear, we're fine
24	with that procedure, but we're not waiving our righ
25	to challenge what you might claim is confidential.

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1 MR. FONS: I understand, and that's not the
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- 2 intention of it.
- 3 MS. KAUFMAN: I just wanted the record to be
- 4 clear.
- 5 BY MR. FONS:
- 6 Q Mr. McNulty, as I recall, your testimony that I
- 7 just described, the October 23, 2003 testimony, does
- 8 contain confidential information, does it not?
- 9 A Yes, it does.
- 10 Q Mr. McNulty, you're here today pursuant to a
- 11 subpoena duces tecum?
- 12 A Yes.
- 13 Q And under the subpoena duces tecum, you were
- asked to bring all documents replied upon by you in
- preparing that testimony. Did you bring those
- 16 documents?
- 17 A Yes, I did.
- 18 Q And do you have them with you?
- 19 A Yes, I do.
- 20 Q May I see them, please?
- 21 A Yes.
- MR. FONS: May we have a moment?
- MR. TWOMEY: Let the record reflect they just
- 24 gave them two feet of paper.
- 25 (Discussion off the record.)

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1 MR. FONS: Let's go back on the record for a
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- 2 moment.
- 3 BY MR. FONS:
- 4 Q I have looked through three of the binders, two
- 5 blue ones and a green one. One is called "Production of
- 6 Documents." The green one is "TECO WCTS Files," and the
- 7 third one is "Interrogatories and Testimonies."
- 8 Were any of these documents in these three
- 9 binders produced per the Public Records Act request?
- 10 A I believe that they all were, because the
- 11 public records request required it.
- 12 MR. KEATING: And I think that would exclude
- 13 the confidential files that you have not looked at
- 14 vet.
- MR. FONS: Okay. I'm just going through the
- 16 three binders right now.
- 17 BY MR. FONS:
- Q So this is the same material that was produced
- in the public records request?
- 20 A Yes. It's a subset of that.
- 21 Q A subset of it. But everything in here was
- 22 produced in that public records request?
- 23 A Yes.
- Q I'm looking at an accordion file well that does
- 25 not have a label. Yes, it does. It says "Depositions."

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1 And are these depositions that were taken in this
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- 2 proceeding? And when I say this proceeding, 030001.
- 3 A The folder you were looking at contains
- 4 deposition material from 030001, as well as other
- 5 testimony from that same docket.
- 6 Q Okay. I'm looking at a file well which says
- 7 "Docket 031033 ROGS." And is that short for
- 8 interrogatories?
- 9 A Yes, it is.
- 10 Q I also note in thumbing through it that there's
- also answers to the first request for admissions. So in
- 12 addition to interrogatories, there are other documents
- in here, production of document materials as well as
- interrogatories; is that fair?
- 15 A Yes.
- 16 Q Were any of these materials in this particular
- 17 well or in the one that we had discussed previously
- 18 produced in the Public Records Act request?
- 19 A Yes.
- 20 Q Now, in the front of this binder or this well
- 21 that says ROGS, there is a Commission calendar revised
- 22 March 15, 2004. Clearly, that wasn't produced in that
- 23 --
- 24 A That's correct. As far as I know, there may be
- in that folder -- in that manila folder, within that,

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there may be some updated material that was provided
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- 2 post the public records request.
- 3 Q Next is a binder called "Publications/Reports."
- 4 And the first document I see in there is a letter from
- 5 James D. Beasley to Blanca Bayo, which includes the
- 6 subpoena duces tecum. But the rest of it are all
- 7 reports, is that correct, publications and reports?
- 8 A They're all publications and reports, except it
- 9 does have a copy of the RFP that was issued in June of
- 10 2003 by Tampa Electric Company, and it contains a map
- 11 that was provided by Progress Energy.
- 12 Q These documents in this file well, were these
- produced in response to the Public Records Act request?
- 14 A Yes.
- 15 Q All of them, including the map?
- 16 A Yes.
- 17 Q And I'm now looking at the first of several red
- 18 binders or red envelopes. And the first one I'm looking
- 19 at is the Transportation, Storage and Transfer Agreement
- 20 between Tampa Electric and TECO Transport dated October
- 21 6, 2003. Is that --
- 22 A Yes.
- 23 Q And the next envelope contains Wehle's direct
- testimony in 030001-EI. But I also note in there that
- 25 there's some testimony from another Tampa Electric

- 1 employee, Benjamin F. Smith.
- 2 A Yes.
- 3 Q And then the next one contains a copy of the
- 4 supplemental direct testimony of William B. McNulty and
- 5 a confidential version of the Joann Wehle testimony
- 6 dated October 30, 2003. Would you verify that I've
- 7 accurately described that?
- 8 A Yes.
- 9 Q The next binder says "Dibner Model Run," the
- 10 next file envelope. Would you verify that for me,
- 11 please?
- 12 A Yes.
- 13 Q And the next file is, I believe, labeled
- "M-10," and it's Dibner supplemental testimony and Wehle
- 15 supplemental testimony. Would you verify that that's in
- there, please, for me?
- 17 A Yes.
- 18 Q And let me also then ask you to look at this
- 19 binder that's called "ROGS, M-26." It says "ROGS and
- Testimony" in one place and "ROGS" in the other. I'm
- just trying to determine what it is that's in that.
- 22 A Excuse me. You would like me to identify
- 23 what's in this as being interrogatories and testimony?
- 24 Q Yes.
- 25 A This actually contains interrogatories and

- production of documents and testimony.
- 2 Q And the five -- I'm sorry, the six or seven
- 3 binders we've just talked about -- I guess there's six.
- 4 Was any of this material produced in response to the
- 5 Public Records Act request?
- A I don't believe it could be, since it was
- 7 considered confidential.
- 8 Q All right. And the final binder is -- it's not
- 9 a binder. It's a red envelope. It says "CSXT Bid,
- 10 M-20." Would you verify that that's what's in that
- 11 envelope?
- 12 A Yes. This is a production of documents that
- 13 contains that CSX bid.
- Q And that was a production of documents by Tampa
- 15 Electric?
- 16 A Yes.
- 17 Q One moment, please.
- In the blue envelope -- this was in here, as I
- 19 recall. Is that correct?
- 20 A I think so.
- 21 Q I thought they were all in wells.
- 22 Within this one called "Depositions," there was
- a manila envelope or folder that included a number of
- documents, including a document dated March 11, 2004.
- 25 Would you take a look at that document, please?

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1
           A Okay.
 2
                MR. FONS: Okay. Mr. Keating, may we get a
 3
           copy of this document, please? I may want to ask
           him some questions about this.
 4
 5
                MR. KEATING: Okay.
 6
                (Off the record briefly.)
       BY MR. FONS:
 8
                Mr. McNulty, the copy of your testimony that
       you brought with you, is that annotated?
           A Yes, it is.
10
               May I see it, please?
11
12
           А
                Yes.
13
                The annotations that I note are M-1, M-2, M-3.
       What do these designate, the M-1, M-2?
14
15
           A M stands for McNulty, and the 1 stands for
        reference material that I use as support material for
16
17
        the statements that are made within my testimony.
18
              May I see those, please?
           0
19
           Α
                (Tendering documents.)
20
           Q
                Thank you.
                You're welcome.
21
           Α
22
                Mr. McNulty, how long have you been employed
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by the Florida Public Service Commission?

Q And when you first came to work for the Florida

A Since July of 1989.

23

24

- 1 Public Service Commission, in what capacity were you
- 2 hired?
- 3 A I was hired as a Regulatory Analyst I in the
- 4 Division of Communications.
- 5 Q And how long did you stay in the Division of
- 6 Communications?
- 7 A Approximately three years.
- 8 Q And from the Division of Communications, to
- 9 which department or division were you assigned?
- 10 A The Division of Auditing and Finance.
- 11 Q And the Division of Auditing and Finance, who
- 12 was the division head?
- 13 A Tim Devlin.
- 14 Q And how long did you work for Mr. Devlin in
- 15 that division?
- 16 A Approximately six years.
- 2 So that takes us up to about the year 2000; is
- 18 that correct?
- 19 A Actually, I was promoted in May of 1998 to the
- 20 Division of Research and Regulatory Review.
- 21 Q And who heads up that division?
- 22 A That division no longer exists, but at the time
- 23 it was Dan Hoppe.
- Q And how long were you there?
- 25 A About a year.

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1 Q And thereafter, where did you go to work?
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- 2 A I went to the Division of Water and Wastewater.
- 3 Q And to whom did you report there?
- A I reported to Dan Hoppe once again.
- 5 Q And how long were you in the Division of Water
- 6 and Wastewater?
- 7 A About 10 months.
- 8 Q And from that division, where did you go?
- 9 A I went to the Division of Safety and Electric
- 10 Reliability.
- 11 Q And who was the division director?
- 12 A Joseph Jenkins.
- 13 Q And how long did you remain in that division?
- 14 A I'm still in that division. The division has
- 15 changed names.
- 16 Q All right. What's it called now?
- 17 A It has been merged into the Division of
- 18 Economic Regulation.
- 19 Q And the director of the Division of Economic
- 20 Regulation is Tim Devlin?
- 21 A Correct.
- 22 Q And to whom do you report?
- 23 A I report directly to Robert Trapp.
- Q And what's his title?
- 25 A I believe his title is -- we've just recently

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1 had some changes in our organization. I believe his
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- 2 title is Associate Director.
- 3 Q Was he previously known as Deputy Director?
- 4 A Deputy Director, yes.
- 5 Q Is that what he's known as now?
- 6 A I believe it's Deputy Director. It was a
- 7 recent change.
- 8 Q And prior to that, you were in that same
- 9 division. You just said it changed and merged. Who did
- 10 you report to prior to reporting to Mr. Trapp?
- 11 A Roland Floyd.
- 12 Q Is Roland Floyd still in that division?
- 13 A Yes, sir.
- 14 Q But you don't report to him?
- 15 A Correct.
- 16 Q And ultimately you report up to Mr. Devlin?
- 17 A Yes.
- 18 Q But prior to the change, you reported to
- 19 Mr. Jenkins; is that correct? Or you reported to Roland
- 20 Floyd. Did he report to Mr. Jenkins?
- 21 A Yes.
- 22 Q Now, the Division of Economic Regulation, it's
- 23 broken up into several pieces. Is one of them
- 24 associated just with electric services?
- 25 A That hasn't been clearly defined yet. As I

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1 say, we're in transition. I would say that a good
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- 2 majority of our group of people is involved in electric
- 3 regulation.
- 4 Q When you say group of people, are you talking
- 5 about the Cost Recovery Section?
- 6 A It includes the Cost Recovery Section.
- 7 Q What else does it include?
- 8 A It includes Electric Studies, and it includes
- 9 System Planning.
- 10 Q And is there a cross-relationship within those
- 11 other sections?
- 12 A I don't understand.
- Q Do people in the Electric Reliability Section
- do work also in the Electric Studies Section, and do
- 15 people in the Electric Studies Section also do work in
- 16 the Cost Recovery Section?
- 17 A There are sometimes assignments on various
- dockets that will incorporate more than one section.
- 19 And so, yes, they do work together.
- 20 Q And the supervisor in the Electric Studies
- 21 Section, is that Martha Golden?
- 22 A Yes.
- 23 Q And in what's called the Electric Reliability
- 24 Section, is that Tom Ballinger?
- 25 A Yes.

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1 Q Now, do you have people working with you,
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- 2 Mr. McNulty, working for you that you supervise?
- 3 A Yes.
- 4 Q How many people do you have that you supervise
- 5 at this time?
- 6 A Five.
- 7 Q And would you name them for me, please?
- 8 A Sure. Todd Bohrmann, Jim Breman, Sid Matlock,
- 9 Bernie Windham, and Daniel Lee.
- 10 Q Can you tell me what the difference between an
- 11 Engineer III and a Regulatory Analyst III might be?
- 12 A The difference between an Engineer III and a
- 13 Regulatory Analyst III is often based upon the
- educational background the individual has. Obviously,
- an engineer is going to have engineering training, and
- they're also going to be assigned to the sorts of issues
- 17 very often that are more engineering-related, although
- 18 that's not an absolute rule.
- 19 Q How about -- is it an economic analyst?
- 20 A Yes.
- 21 Q And what's the foundation for that title?
- 22 A A person fulfilling that role often has
- 23 educational background in economics and is assigned to
- 24 reviewing and analyzing cost and rate information in the
- 25 main.

- 1 Q In the docket that we are here appearing on
- 2 today, 031033, who of your people that you supervise are
- 3 assigned to that docket?
- 4 A Todd Bohrmann, Sid Matlock, and Bernie Windham.
- 5 Q In the previous docket in which you filed
- 6 testimony, the 01 docket, were those same three people
- 7 assigned to that docket as well?
- 8 A I believe they were.
- 9 Q And of these three people, is there a lead
- 10 person of that team that reports to you?
- 11 A There's a lead person that reports to me that's
- on that team, and it's Todd Bohrmann.
- 13 Q And would Bernie Windham then report to Todd
- 14 Bohrmann?
- 15 A Bernie Windham reports directly to me, but he
- works cooperatively with the lead on the docket.
- 17 Q How long have you been working on this matter
- involving Tampa Electric waterborne costs?
- 19 A The issue first came up in the fall of 2002 and
- 20 was part of the 2002 fuel hearing.
- 21 Q And were you at that time in the organization
- 22 that had been overseen by Roland Floyd?
- 23 A Yes.
- 24 Q So you were assigned by Roland to work on that
- 25 matter?

- 1 A Yes.
- 2 Q How long had you been involved with electric
- 3 company related matters at that time?
- 4 A About eight years.
- 5 Q In those eight years, in what departments or
- 6 divisions had you been for those eight years that you
- 7 had been working on electric matters? I thought you
- 8 told me you were in Communications, and then you were in
- 9 Safety, and then you were in Water and Wastewater.
- 10 A Yes. After working in Communications, I was
- 11 then working in the Division of Auditing and Finance,
- 12 financial analysis, and within that division I was -- my
- 13 function was to analyze fuel -- excuse me, not fuel
- 14 forecasts, but forecasts of load and customers in
- various rate cases, including both telecommunications
- 16 companies as well as electric utilities.
- 17 Q Tell me how in a telecommunications case you
- 18 would be involved with forecasting load.
- 19 A Well, I guess in the case of communications,
- 20 you're forecasting minutes of use, call volumes,
- 21 customers, and the like. You're forecasting essentially
- 22 what sales are. So perhaps I should have stated that as
- 23 sales rather than generically as load across both of
- 24 those industries.
- 25 Q And in all that time, you were working in a

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division that had as its director Tim Devlin; is that
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- 2 correct?
- 3 A Yes.
- 4 Q So you've worked for a Tim Devlin division for
- 5 what, eight, ten years?
- 6 A Yes.
- 7 Q Was there any particular reason why you and
- 8 your team were selected to be involved in the waterborne
- 9 cost recovery?
- 10 A The designated task and role of our section is
- 11 cost recovery, and we basically are responsible for
- 12 reviewing fuel cost recovery, environmental cost
- 13 recovery, and capacity cost recovery. So it fell within
- our jurisdiction, if you will, to analyze all issues
- relating to fuel that we could identify within the fuel
- 16 docket.
- 17 Q How long has Todd Bohrmann worked for you?
- 18 A Since I started in the Division of Safety and
- 19 Electric Reliability.
- Q Which would be back to when, what date?
- 21 A That would be back to May of 2000.
- 22 Q How about Bernie Windham?
- 23 A The same.
- 24 Q Were they already in that division when you
- 25 came to it?

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1 A Yes, they were.
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- 2 Q And when you came to that division in '99 or
- 3 2000, did you come as their supervisor?
- 4 A Yes, I did.
- 5 Q So you're familiar with their work?
- 6 A Yes, I am.
- 7 Q And in working with them, do you provide them
- 8 with particular assignments?
- 9 A Yes.
- 10 Q And are you a hands-on supervisor?
- 11 A I try to be.
- 12 Q Do you expect your people that you supervise to
- report to you frequently on a periodic -- report to you
- 14 frequently about what they're doing?
- 15 A I expect them to report periodically, and very
- often it is structured such that I may hear more from
- 17 the lead on a docket than those people who are working
- 18 within the docket that are not assigned as lead. But I
- 19 tend to check with each one of them from time to time,
- and they tend to report to me from time to time.
- 21 Q If one of your people that you supervise
- 22 performs a certain act, can we assume that whatever act
- 23 they did they did at your direction?
- 24 A No, I wouldn't say that that specific act was
- 25 directed by me. There is -- while I would agree that I

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am a hands-on sort of manager in most instances, there's
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- 2 also a degree of flexibility that is allowed employees
- 3 to fulfill their assigned roles.
- 4 Q In making assignments, do you give specific
- 5 guidelines that you want the people that you supervise
- 6 to adhere to in fulfilling whatever responsibility or
- 7 assignment that you've given to them?
- 8 A I do make assignments, and sometimes provide
- 9 guidelines for how to carry out those assignments.
- 10 Q In your experience, have any of the people that
- 11 you supervised ever deviated from or gone beyond what
- 12 you have asked them to do on a particular assignment?
- 13 A Yes.
- Q Can you give me a "for instance"?
- 15 A (No response.)
- 16 Q I assume that you're thinking and you're not
- 17 waiting for another question.
- 18 A Yes.
- 19 MR. KEATING: Would it be helpful to move on
- and allow him to think about that question?
- 21 MR. FONS: Well, let me see if I can help.
- 22 BY MR. FONS:
- 23 Q Have there been occasions when you've either
- 24 had to discipline or counsel one of the people that you
- 25 supervise for taking an act that was beyond what you had

- instructed them to do?
- 2 A Yes.
- 3 Q And can you tell me whether or not one of those
- 4 -- well, have you ever had to discipline or counsel
- 5 Bernie Windham?
- 6 A Yes.
- 7 Q Can you tell me in what respect you've had to
- 8 counsel or discipline Bernie Windham?
- 9 A Yes. I'm not sure of the exact time frame in
- 10 which it occurred, but at one point in this particular
- 11 docket, Bernie Windham had engaged another PSC employee
- 12 to look into some of the port activity in the Tampa Bay
- 13 area. And my concern with him doing that was not the
- fact that information didn't need to be gleaned or
- that that wasn't relevant to the case that he was on.
- 16 It was that he was engaging somebody who wasn't directly
- 17 involved in the docket.
- And that's a fairly minor offense. It's not a
- 19 serious offense, but I felt it strayed slightly out of
- the bounds of what our normal managerial process is for
- 21 handling dockets. And so I told him, "While you have
- 22 instructed an individual to assist you in the gathering
- of some information, that person, not being on the
- docket, not being assigned to the docket, you probably
- 25 should have checked with me first before you did that."

1	Q Is that the only instance in this docket in
2	which you had to counsel or discipline Bernie Windham or
3	any of the other members of the team?
4	MR. KEATING: John, before we keep going any
5	further on this, I do want to question it seems
6	like we're starting to stray a little bit from even
7	things that I would consider reasonably likely to
8	lead to the discovery of admissible evidence in this
9	proceeding. I'm curious as to why PSC employee
10	disciplinary matters relate to this case.
1.1	MR. FONS: What we're trying to determine is
12	whether or not whatever his people have done has
13	been done at his direction. And what I'm trying to
14	find out as we go through these things is whether or
15	not when there have been contacts outside of the
16	Commission with various people, whether or not they
17	were at Mr. McNulty's direction or whether somebody
18	was on a lark or they were freebooting and taking
19	things into their own hands.
20	MR. KEATING: I guess I'm still not sure how
21	that ties into the substantive issues in this case.
22	MR. FONS: I think I can tie it all together,
23	Cochran.
24	MR. KEATING: I understand that discovery is
25	fairly broad, and I just wanted to raise that

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concern early on.
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- 2 BY MR. FONS:
- 3 O In your work in this docket and on this matter,
- 4 you've relied upon the advice of counsel in the work
- 5 that you've done; is that correct?
- 6 A Yes.
- 7 Q And you've worked mainly with Mr. Keating in
- 8 this respect?
- 9 A Yes.
- 10 Q And if you had any perceived problems that you
- 11 thought were going beyond what was the accepted practice
- in the Commission, you would share that with
- 13 Mr. Keating; is that correct?
- 14 A Yes.
- 15 Q Have you ever had to share any information with
- 16 Mr. Keating of that type?
- 17 A Not that I recall.
- 18 Q Does the Commission have procedures for dealing
- 19 with outside parties in connection with docketed
- 20 matters? For example, does the Commission have
- 21 procedures for dealing with parties to a proceeding as
- far as exchange of information?
- 23 A Certainly.
- Q And what are those procedures?
- 25 A In a docketed matter before the Commission, if

- there is going to be any communication between more than
- 2 two people, that communication or that meeting must be
- 3 noticed.
- 4 Q And has that particular procedure been adhered
- 5 to in every instance in this proceeding?
- 6 A As far as I know.
- 7 Q How about just a one-on-one? Have you had
- 8 discussions with any of the participants in this
- 9 proceeding on a one-on-one basis?
- 10 A Yes, I have.
- 11 Q And with whom have you had those discussions?
- 12 A I'm not certain I could recall everyone that I
- 13 spoke to on a one-on-one basis. I believe I have spoken
- one-on-one with most of the representative parties in
- 15 the docket.
- Q Okay. Does the Commission have any procedures
- on dealing with the press?
- 18 A Yes, it does.
- 19 Q And do those procedures allow for staff members
- to provide information to members of the press?
- 21 A There are certain designated staff members of
- 22 the Public Service Commission that are designated to
- 23 deal with the press.
- 24 Q Are you one of those people that are designated
- 25 to deal with the press?

- 1 A No.
- 2 Q And have you ever dealt with the press on a
- 3 one-on-one basis in this proceeding?
- A I have a little bit of difficulty in answering
- 5 that question, in the sense that sometimes the press may
- 6 call you, and sometimes it's not clear what the press
- 7 is. There have been some gray areas surrounding those
- 8 questions.
- 9 So if, for instance, someone calls you and --
- 10 excuse me. If someone calls me and they want to talk
- about, you know, the case, it could be the press, and at
- 12 that point I'm having dealings with them, if nothing
- more than to say, you know, "I'm not the person you need
- to talk to. You need to talk to Kevin Bloom," and give
- 15 them that number.
- Other times, there are entities out there that
- aren't officially press, yet they may have a publication
- that they produce, and it's not also clear to me, you
- 19 know, exactly what that fine line distinction might be
- 20 between press and non-press.
- 21 Q Suppose someone called up and said, "I'm a
- 22 reporter for a newspaper." Would you then talk to that
- 23 person about matters in the case?
- 24 A I would transfer that matter to our Office of
- 25 Public Information.

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1 Q In this proceeding, have you ever spoken with
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- 2 the press with regard to this ongoing proceeding?
- 3 A I may have received a call from an individual
- 4 with the press that asked me for information and asked
- 5 me to provide that information, and I may have sent that
- 6 information to them because they directed it directly to
- 7 me. I think in that instance, I told the Office of
- 8 Public Information what I was doing. My recollection on
- 9 it is quite hazy.
- 10 Q Have you ever been directed by anyone above you
- in your chain of command to provide information to the
- 12 press?
- 13 A Not that I recall.
- 14 Q You never recall Mr. Devlin instructing you to
- provide certain information to a member of the press?
- 16 A I don't recall, but I'm anxious to hear if you
- have something to tell me about it.
- 18 Q (Tendering document.)
- MS. KAUFMAN: Do have an additional copy?
- 20 MR. FONS: Sure. Why don't we have this marked
- 21 as Exhibit Number 1.
- 22 (Deposition Exhibit 1 was marked for
- 23 identification.)
- 24 BY MR. FONS:
- 25 Q I've handed you what has been marked as Exhibit

- Number 1. Do you recognize this document?
- 2 A Yes, I do.
- 3 Q And what is this document, Mr. McNulty?
- 4 A It's a Public Service Commission facsimile
- 5 transmittal cover sheet.
- 6 Q And to whom is the facsimile directed?
- 7 A Louis Hau.
- 8 Q And who is Mr. Louis Hau?
- 9 A He is a reporter with the St. Petersburg Times.
- 10 Q And what are you sending Mr. Hau, according to
- this facsimile transmittal?
- 12 A I was sending him the staff's third set of
- 13 staff interrogatories to Tampa Electric via fax.
- Q And the comments say Tim Devlin directed that
- this be done; is that correct?
- 16 A Yes.
- 17 Q Did you have any discussions with Mr. Devlin
- about sending this information?
- 19 A Yes, I did.
- 20 Q And what was the nature of that discussion?
- A As best I can recollect, it was that Mr. Devlin
- 22 had received a phone call from Mr. Louis Hau, and that
- 23 he wanted certain information to be sent to him.
- Q Did you speak with Mr. Hau himself?
- 25 A I don't recall.

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1 Q Would it be unusual for you to speak to a
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- 2 reporter?
- 3 A It would be unusual for me to speak to a
- 4 reporter.
- 5 Q But you don't recall whether you spoke to
- 6 Mr. Hau in this case?
- 7 A If I spoke to Mr. Hau, it was certainly a
- 8 perfunctory and quite limited conversation.
- 9 Q And you don't remember that conversation?
- 10 A No.
- 11 MR. FONS: Would you mark this as Exhibit
- 12 Number 2, please.
- 13 (Deposition Exhibit 2 was marked for
- 14 identification.)
- 15 BY MR. FONS:
- 16 Q I've handed you what has been marked as Exhibit
- 2, Mr. McNulty. Can you tell me what this is?
- 18 A This is another facsimile transmittal cover
- sheet from the Florida Public Service Commission, and it
- 20 is to Louis Hau from Bill McNulty, and it contains five
- 21 pages. One page is the facsimile cover sheet, and the
- 22 next four pages are staff's third set of interrogatories
- 23 to Tampa Electric, the questions and the answers.
- Q And is that dated August 1st or 8/1/03?
- 25 A Yes.

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1 Q And was this in response to a call that you
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- 2 received from Mr. Hau?
- 3 A It's possible. I don't remember it.
- 4 Q Well, why would you have sent this to Mr. Hau
- 5 if you had not spoken with Mr. Hau?
- 6 A The only explanation I could have for that is
- 7 that these two facsimiles are fairly close together.
- 8 One is dated July 31st, and the other is dated 8/1, and
- 9 I am noticing that it's essentially the same material.
- 10 It's staff's third set of interrogatories. I'm not
- 11 certain that the first facsimile would have been a
- 12 successful transmission. I'm not certain really what
- 13 that's about.
- 14 Q Well, Exhibit 1 indicates that it was a fax of
- 15 19 pages, and this is a fax of five pages, the August
- 16 1st one, Exhibit 2.
- 17 A Right, right.
- 18 Q But you don't recall having any conversation,
- 19 telephone conversations with Mr. Hau regarding any of
- this material? Is that your testimony?
- 21 A I don't recall it. That's not to say that it
- 22 didn't happen. There's a lot that goes on in a business
- 23 day. There could have been some discussion.
- Q Did you advise the division that's responsible
- for dealing with the outside press of this contact and

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of your sending these materials to Mr. Hau, a reporter?
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- 2 A Did I advise the Office of Public Information?
- 3 O Yes.
- 4 A I don't know.
- Do you have a copy of Order No. 20298 issued on
- 6 November 10, 1988, available to you?
- 7 A Yes.
- 8 Q Would you agree with me, Mr. McNulty, that
- 9 that order, Order No. 20298, is the seminal order in
- 10 this matter?
- 11 A It's certainly a significant order. I wouldn't
- 12 call it necessarily the seminal order.
- 13 Q Well, doesn't this order set the parameters by
- 14 which Tampa Electric can deal with its affiliated
- 15 company with regard to the transportation of coal?
- A Actually, this order was updated about five
- 17 years hence by another order that reaffirmed it.
- 18 Q I understand that, but let's just talk about
- 19 this. If it reaffirms something, then this is the
- 20 first, and this is the seminal order. Would you agree
- 21 with me?
- 22 A I agree that it's a significant order.
- 23 Q You don't agree, though, it's the seminal
- 24 order?
- 25 A I am not certain of that.

1	Q Could you tell me what in your mind might be
2	the seminal order?
3	A The seminal order might be it could very
4	well be perceived, and perhaps I would give this equal
5	weighting, Order No. PSC-03-1359-PCO-EI.
6	Q And what's the date of that order?
7	A December 1, 2003.
8	Q And what does that order do?
9	A It's the order that defers issues to a separate
10	proceeding for Tampa Electric's waterborne coal
11	transportation issues that were in the 030001 docket.
12	Q Has Order No. 20298 ever been set aside?
13	A What do you mean by set aside?
14	Q Has it ever been rejected by the Florida Public
15	Service Commission in a later order?
16	A No.
17	Q So as far as the conduct of the parties is
18	concerned with regard to waterborne transport with an
19	affiliate, it's controlled by Order No. 20298?
20	MR. KEATING: John, I believe these questions
21	to an extent are of a legal nature and call for a
22	legal conclusion as to the effectiveness of orders.
23	MR. FONS: Well, he has already testified he
24	thinks some other order has more significance than

this. I'm just trying to pin down his thinking on

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1 that.
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- 2 A I guess my concern is in terms of trying to
- 3 rank the relative importance of previous Commission
- 4 orders that -- there is certainly great importance
- 5 concerning 20298. We have to look to that for guidance
- and what the Commission determined at that time, and I
- 7 think we have to look very carefully at what the
- 8 Commission has done in more recent orders as well.
- 9 O Would you agree that in 2003, the Florida
- 10 Public Service Commission issued an order that indicated
- that Tampa Electric's dealings with TECO Transport and
- 12 Trade was still governed by Order No. 20298 and approved
- 13 the affiliate transactions?
- 14 A I would agree that that applied for the
- 15 specific allowance for cost recovery for that year in
- 16 that order.
- 17 O And that was pursuant to the order that had
- previously been issued, Order No. 20298; is that
- 19 correct?
- 20 A Yes.
- 21 Q Can you tell me -- you've reviewed this order,
- 22 Order No. 20298?
- 23 A Yes.
- Q And would you agree with me that it addressed
- 25 two issues, the purchase of coal and the purchase of

1 services from Tampa Electric's affiliate, TECO Transport

- 2 and Trade?
- 3 A Yes.
- 4 Q And would you also agree with me that there was
- 5 a stipulation entered into by the parties in that
- 6 proceeding that governed how affiliate transactions
- 7 would be reviewed by the Commission?
- 8 A Yes.
- 9 Q And one of those agreed-to transactions as to
- 10 how it would be handled was the waterborne transport of
- 11 coal?
- 12 A Yes.
- 13 Q Okay. And was that stipulation approved by the
- 14 Commission?
- 15 A Yes, it was.
- 16 Q And I believe you said that it was reaffirmed
- in a later order in 1994; is that correct? Or maybe it
- 18 was '93.
- 19 A I believe it was '93.
- 20 Q And that would have been Order No.
- 21 PSC-93-0443-FOF-EI?
- 22 A Yes.
- 23 Q And that was issued March 23, 1993?
- 24 A Yes.
- 25 Q Okay. Let's go back to the order of which we

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were speaking, 20298. Do you have a copy of it in front
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- 2 of you?
- 3 A Yes, I do.
- 4 Q And would you turn to that page of the order
- 5 which discusses the stipulation? It would be the second
- 6 page of the proposed stipulation agreement.
- 7 MR. KEATING: Do you have a page number on the
- 8 order?
- 9 MR. FONS: I've got the one out of the PSC --
- 10 here. You can look at mine. I'll just give you
- that version. That's a couple of copies. You can
- give a copy to one of them. It would be 88 FPSC
- 13 11:228.
- 14 MR. KEATING: 228?
- MR. FONS: Yes.
- 16 THE WITNESS: Okay. I'm with you.
- 17 BY MR. FONS:
- 18 O And if you'll look at the second sentence of
- that order at the top of the page that begins, "Pursuant
- to the stipulation," would you read into the record what
- that second sentence says, beginning with, "While TECO"?
- 22 A "While TECO stated that it will execute its new
- contracts with TECO Transport and Trade at approximately
- the currently existing rates, which are less than
- 25 current rail rates between the same points, the

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1 reasonableness of the actual transfer price for all of
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- 2 the transportation and transportation-related services
- 3 from mine to generating plant would be compared to a
- 4 coal transportation benchmark price."
- 5 Q And if you'll read the second to last sentence
- of that paragraph, beginning with, "The actual."
- 7 A "The actual transportation transfer price paid
- 8 by TECO to TECO Transport and Trade pursuant to its
- 9 contracts would be recoverable through the fuel
- 10 adjustment clause as long as it is equal to or less than
- the benchmark price."
- 12 Q And aren't those two provisions still governing
- 13 today the relationship between Tampa Electric and Tampa
- 14 Electric Transport and Trade as far as affiliate
- 15 transactions and recovery of costs are concerned?
- 16 A I believe that question is not settled before
- 17 the Commission. I believe that could very well be
- 18 something that needs to be determined in this case.
- 19 Q But until that happens, until the Commission
- 20 makes another determination, those particular provisions
- 21 control; is that correct?
- 22 MR. KEATING: Again, I think this would call
- for Mr. McNulty to provide a legal conclusion as to
- 24 the effect of that language given the current
- 25 factual scenario, the state of the case.

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MR. FONS: You can answer.
1
                I have a lot of problems in answering that with
2
       a yes or a no, and the reason I have that problem is
3
       because we as staff, and operating in the best fashion
       that we could in the jobs and roles that we had,
       attempted to carry out the wishes of the Commission in
6
        its December 2002 order in the fuel docket when it said
7
        that the staff and parties would work to -- to quote
8
        from Order PSC-02-1761-FOF-EI, "The parties stipulated
9
        that a review" -- excuse me. Let me start over. "The
1.0
        parties stipulated that this Commission should not open
11
        a docket to evaluate whether the waterborne coal
12
        transportation benchmark price for services provided to
13
        TECO by TECO affiliates is still valid and reasonable.
14
        Instead, the parties stipulated that such a review
15
        should take place as part of our continuing fuel and
16
        purchased power cost recovery clause proceedings. We
17
        approve this stipulation as reasonable."
18
                 That directive was directed not only to
19
        parties, but also to staff. And that directive was for
20
        the Commission -- to staff and parties, to look into and
21
        wrestle with the question of is the benchmark price
22
        still appropriate. At that point, the door was open on
23
        what the appropriate policy is for Tampa Electric and
24
        its relations with TECO Transport and Trade, in my
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1 opinion.
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- Q And is that the only issue that is relevant to
- 3 the proceeding that we're currently in?
- 4 A No, that's not.
- 5 Q What other issue is relevant, in your mind,
- 6 Mr. Non-lawyer?
- 7 Let me ask you this. Is the cost of coal an
- 8 issue in this proceeding?
- 9 A Definitely.
- 10 Q In what respect?
- 11 A The recoverability of coal transportation as it
- 12 relates to the contract that was entered into on October
- 13 6, 2003, between Tampa Electric and TECO Transport.
- 14 Q But not for the purchase price of coal?
- 15 A It hasn't been designated as an issue in this
- 16 case at this time. I don't of my own volition exclude
- 17 that from becoming an issue. As with all dockets,
- issues can be identified all the way up until the
- 19 prehearing conference, if necessary.
- 20 Q Well, certainly Tampa Electric is not
- 21 purchasing coal from an affiliate, is it?
- 22 A No, it is not.
- 23 Q It is purchasing coal in the free market on an
- 24 arm's length basis, isn't it?
- 25 A Yes, it is. It's at an arm's length basis, but

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I don't deny that there may be variables that would
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- 2 impact the utility's decision-making in contracting for
- 3 the coal.
- 4 Q Is there anything in Order 20298 that requires
- 5 Tampa Electric to request bids on transport costs?
- 6 A No.
- 7 Q Is there anything in Order 20298 that requires
- 8 that Tampa Electric invoke any backhaul savings or
- 9 setoff?
- 10 A No.
- 11 Q Is there anything in Order No. 20298 that gives
- 12 staff a say in what TECO might include in an RFP or a
- bid request?
- A Could you repeat that question for me, please?
- 15 Q Would you agree that there's nothing in the
- order that gives staff a say in what TECO includes in an
- 17 RFP or a request for bid?
- 18 A No.
- 19 Q You agree or you don't agree?
- 20 A I agree.
- Q Okay. And would you agree that Order 20298 has
- 22 been affirmed on several occasions?
- 23 A It was affirmed on at least two occasions, and
- 24 it has been affirmed somewhat passively on an annual
- 25 basis with the approval of a benchmark figure.

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1 Q And would you agree that TECO has acted in
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- 2 accordance with the order in all respects?
- 3 A I don't know specifically whether or not Tampa
- 4 Electric has complied with this order in every respect
- 5 every year. I've been involved with fuel cost recovery
- 6 since, as was discussed earlier, May of 2000.
- 7 Q But you're not aware in your research of all
- 8 these decisions going back to 1988 that you apparently
- 9 have in front of you that there was ever a time that the
- 10 Commission ever questioned or rejected the recovery of
- 11 the waterborne coal transportation that was paid to TECO
- 12 Transport and Trade?
- 13 A I'm not aware of it.
- 14 Q I'm sure if it had happened, you would have
- 15 brought it to our attention.
- 16 A (No response.)
- 17 Q Yes?
- 18 A Yes.
- 19 Q In that order, there is what has been described
- 20 as the transportation benchmark. Are you familiar with
- 21 that?
- 22 A Yes.
- 23 Q Let's turn to your testimony, please, page 15.
- Oh, before we go there, let me ask you a few preliminary
- 25 questions.

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1 This testimony dated October 23, 2003, did you
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- prepare that testimony?
- 3 A Yes, I did.
- 4 Q Was it prepared by you alone?
- 5 A Yes, it was.
- 6 Q Nobody provided any input to your testimony?
- 7 A Oh, well, I would say that there were many
- 8 people that provided input to this testimony. That's
- 9 how you get the information with which to create the
- 10 testimony.
- 11 Q But you wrote all the questions and gave all
- 12 the answers?
- 13 A Yes. This is wholly my own.
- 14 Q But you circulated it for review, I'm sure?
- 15 A Yes, I did.
- 16 Q And who reviewed this testimony?
- 17 A The review would have included Todd Bohrmann,
- 18 who is lead on the docket, Roland Floyd, Joe Jenkins,
- and Tim Devlin. And there may have been other people
- 20 who may have looked at it and gave me some comment as
- 21 well, people who would have been on the docket.
- 22 Q Is the version that was filed significantly the
- same as the version that you circulated for comments?
- 24 A I don't believe that there is a lot of
- 25 difference in what was circulated and what ended up. I

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don't have a full recollection of the entire review
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- 2 history of it. If you'll give me a moment, I'll analyze
- 3 this for a moment and see if there's anything that I can
- 4 recall as being something that was given significant
- 5 input, maybe possibly affecting my decision on anything.
- As I recall, as I mentioned to you earlier, I
- 7 had input from Joe Jenkins on this, and management
- 8 staff, and I believe I also got some input from Cochran
- 9 Keating, the attorney in the case, who provided input as
- 10 well.
- 11 Q Okay. This testimony also had several -- had
- three exhibits attached to it, WBM-1, 2, and 3, which
- makes sense. Who prepared these exhibits?
- 14 A I prepared them.
- 15 Q Again, with input from your staff?
- 16 A These were prepared with very little input from
- 17 anyone else, if any.
- 18 Q And this testimony was prepared by you using
- 19 the documents that you showed me previously; is that
- 20 correct?
- 21 A Yes.
- 22 Q This testimony was, as we've noted earlier,
- filed in another proceeding, Docket No. 030001-EI, and
- 24 we're now in a new proceeding. Do you believe that this
- 25 testimony still has relevance in the new proceeding?

- 1 A That's a hard question to answer, because I
- 2 believe staff's role in the subject of testifying is to
- 3 complete a report where parties do not fully or
- 4 adequately address all issues that in staff's view
- 5 should be addressed.
- 6 When you talk about the relevance of this
- 7 testimony in this docket, there would be some relevance
- 8 to this in the sense that there has been some intervenor
- 9 testimony that has referenced my testimony from the last
- 10 docket.
- I think that this certainly has a lot to say
- 12 about the matters that may still be relevant, and it has
- some other portions of it that may no longer be relevant
- by the time the Commission completes the proceeding.
- Q Can you identify those sections?
- A Again, it's going to be hard to decide which is
- 17 relevant and which is not, because that would require me
- 18 to have a complete understanding of all the intervenor
- 19 testimony that has been filed, which I do not. And it
- 20 would also require that staff have completed its
- 21 discovery process, which it has not.
- 22 Q Well, let me ask it this way. If I were to ask
- you the same questions today as were posed to you in
- 24 your prefiled direct testimony in that proceeding, that
- testimony that you filed on October 23, 2003, would your

answers be the same today?

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            А
                 No.
                 Can you tell me -- do I need to ask you each
 3
        one of these questions and ask you to answer them?
 5
                 No, we don't have to go sequentially through
 6
        each one of these items, but I will have to preface that
 7
        whatever I say here is certainly a preliminary idea at
 8
        this point. I really think it's very important to
 9
        strongly emphasize that staff has not -- and I include
        myself as staff -- have not completed the review that
10
11
       would be necessary in this case to put forth testimony.
        The staff filing date is still ahead of us, and there's
12
13
        also staff analysis ahead of us.
14
                 So I would say that what we're looking at here
15
        is impressions at a certain point in time by a single
16
        staff member. And with that understanding, I would say
       that there are certain things that I would change in
17
       this testimony. But at the same time, I'm not totally
18
19
       be comfortable, and perhaps my legal counsel can tell me
20
       whether or not I should be trying to characterize what
21
       would be potentially forthcoming in staff testimony.
                MR. KEATING: I think Mr. McNulty has given an
22
23
            important caveat in his response to your question.
24
           And I think, Mr. McNulty, you can respond to the
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question in going through the areas that that

1	testimony covered and indicating which give an
2	understanding that this is sort of an impression at
3	this point in time that you may draw back from or

- 4 may still agree with.
- 5 THE WITNESS: Okay. Without going into too
- 6 much specificity, but I do feel it is appropriate to
- 7 address a singular change that was on page 9 of my
- 8 testimony. The third paragraph on the page --
- 9 BY MR. FONS:
- 10 Q Do you have lines? Why don't you just tell us
- 11 what lines?
- 12 A Certainly. Lines 15 and 16. There's a phrase
- 13 there that is incorrect. The phrases is "and a stated
- 14 preference for an integrated bid." That was an error in
- 15 my testimony. Because we never went -- this testimony
- never made it to the hearing, so there was no need to
- 17 make any redaction at that time, and so that redaction
- 18 was not made. But in answer to your question of what
- changes would I make, that would be my first change.
- 20 Q And that change is only because it contains
- 21 confidential information? I'm not sure why you're
- 22 making that change.
- 23 A That's not confidential information. That's
- 24 simply factually incorrect.
- 25 Q You would just end the sentence after the

- parenthetical 1.4 million tons; is that correct?
- 2 A Correct.
- 3 Q And you're talking about the 1997 bid?
- 4 A Correct, correct.
- 5 The change that I would make with this is that
- 6 while I believe that the analysis that was done here,
- 7 specifically the analysis on Exhibit WBM-1, while I
- 8 believe that that was a valid analysis to do with the
- 9 information that was available to me at the time, I
- 10 would not make this analysis today.
- 11 Q Why?
- 12 A I wouldn't make this analysis today because I
- 13 have further information that would lead me to question
- 14 whether or not the Commission should be looking at a
- 15 cost basis for determining the rate to be charged in
- 16 this proceeding as a possible way of proceeding in this
- 17 proceeding.
- 18 Q You're talking cost-plus versus market rate?
- 19 A It would be either cost-plus or cost of
- 20 service, two distinct methods of looking at costs, that
- 21 would be a method for looking at the appropriate rate to
- 22 set for the five-year period in the contract.
- 23 Q All right. Any other changes?
- 24 A Yes. Within the testimony, I made reference in
- 25 several locations that I did not have sufficient

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1 information at this time to fully analyze the Dibner
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- 2 model that was the basis for the rates that were in the
- 3 contracts that were ultimately signed by Tampa Electric
- 4 and TECO Transport.
- 5 Q Since that time, have you received that
- 6 information?
- 7 A I've received some information. The
- 8 information that is a cause of concern for me today is
- 9 the fact that we have supposedly a model that's
- 10 presented by witness Dibner that was understood by
- myself at the time that I wrote this testimony to be one
- that was based on costs, and I perceived those costs, as
- has been discussed in witness Dibner's testimony and in
- 14 the deposition of witness Dibner, to reflect TECO
- Transport's costs, so I thought we were looking at
- 16 costs.
- 17 And I had always -- in processing this case and
- 18 looking at the facts in this case, I looked very
- 19 carefully at what Mr. Dibner described as the market for
- ocean transport, and it appeared to me that the argument
- 21 was being made that there was only one entity that could
- 22 provide ocean transport with the economies that TECO
- 23 Transport does, and it was TECO Transport itself. And
- 24 so I became very concerned is there truly a market
- 25 there, if the economies of scale and economies of scope

- 1 that are reflected in the RFP, in the provisions of the
- 2 RFP, would prevent any outside entity from actually
- 3 being able to engage in that significant leg of the
- 4 market. Without another player, and without even a bid
- 5 received in that market, it caused me a lot of concern
- 6 that we may not be looking at a market.
- 7 And going back to 20298, Order 20298, it
- 8 specifically states that market information should be
- 9 the basis of rates as long as sufficient market
- 10 information can be found. And in this case, I feel as
- 11 though there has not credible evidence been put forth,
- 12 given the provisions of the RFP, that a market has been
- 13 found in that leg.
- 14 And because of the integrated nature of the
- 15 RFP, requiring an integrated bid, or preferencing,
- 16 excuse me, preferencing an integrated bid, I thought it
- 17 sent a very strong signal to anyone who could
- 18 participate in that process that they weren't really
- 19 welcome. My concern was that staff attempted to address
- 20 these kinds of issues, attempted to address the issue of
- 21 the integration.
- 22 There's also the concern about a single entity
- 23 providing all 5.5 million tons of shipment from Davant,
- Louisiana, to Big Bend in Tampa Bay. That entire 5.5
- 25 million tons, by Mr. Dibner's own testimony, can only be

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1 provided by a single entity at an economic rate.
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- There's only one competitor there, which means there's
- no competition. So without there being competition in
- 4 that leg, we have to analyze what 20298 would direct us
- 5 to do.
- 6 Q Where in 20298 are you referring?
- 7 Thank you, Mr. Keating.
- 8 A "Considering the many" --
- 9 Q What page are you referring to?
- 10 A I'm sorry. It's page 12 of the order, using my
- 11 copy. You gave me a copy. I should be able to find
- 12 it. Hold on.
- Okay. It would be page 88, is it?
- 14 Q No, that's 88 FPSC.
- 15 A 226.
- 16 Q All right.
- 17 A Okay. "Considering the many advantages offered
- 18 by" --
- 19 Q Where are you?
- 20 A I'm sorry. At the bottom of the page, the very
- 21 last paragraph.
- "Considering the many advantages offered by a
- 23 market pricing system, we as a policy matter shall
- 24 require its adoption for all affiliated fuel
- 25 transactions for which comparable market prices may be

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1 found or constructed.
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- 2 "In concluding, we note the following caveats:
- 3 "From the record in this case, we are convinced
- 4 that market prices can be established for the affiliated
- 5 coals. Number 2" -- I'm sorry. I didn't -- there
- 6 should be a number 1 after "caveats."
- 7 "Number 2. Market prices for the
- 8 transportation related services should be established if
- 9 possible, but if not, methodologies for reasonably
- 10 allocating costs should be suggested.
- 11 "Number 3. Cost of service methodologies
- 12 should be avoided if possible."
- 13 Q Let me ask you, that particular discussion is
- 14 talking about the coals, is it not?
- 15 A No. Number 2 clearly identifies transportation
- 16 related services.
- 17 Q If possible, but if not, methodologies for
- 18 reasonably allocating costs should be suggested. Are
- 19 you suggesting an allocation of costs?
- 20 A I'm suggesting that the Commission looked very
- 21 hard at that question in this case.
- 22 Q And then they concluded that the stipulation
- 23 was the appropriate way to go, and that is to use a
- 24 market rate; isn't that correct?
- 25 A Yes, they did, at that time.

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1 Q All right. Let me ask you, are you going to
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- 2 file testimony in this proceeding?
- 3 A I don't know.
- 4 Q If not you, is someone else on the staff going
- 5 to file testimony?
- 6 A I don't know.
- 7 Q And I believe you testified earlier that there
- 8 are other parties in this proceeding that are relying
- 9 upon your October 23rd testimony; is that correct?
- 10 A They reference it in their testimony, and to
- 11 the extent they reference it, I would assume they rely
- 12 on it.
- 13 Q Have you reviewed those pieces of that
- 14 testimony, your testimony that's referenced?
- 15 A I've skimmed it. I really don't have a full
- appreciation for those testimonies at this time.
- 17 Q So you haven't concluded whether or not they've
- either properly stated your testimony or are properly
- relying upon what you stated?
- 20 A No.
- 21 Q Now, let me just see if I understand what
- 22 you've talked about previously. Cost of service
- 23 analysis, is that cost of the service analysis limited
- 24 solely to one portion of the transportation?
- 25 A My concerns at this time --

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1 Q You can answer yes or no. Is it limited to
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- 2 just one segment of the transportation?
- 3 A I would like to qualify it if I could.
- 4 Q Well, first of all tell me yes or no, and then
- 5 you can qualify it.
- A Yes, but I believe the case for establishing
- 7 cost of service is most compelling in the ocean leg.
- 8 And there may be reasons for looking at cost of service
- 9 in the other two legs as well, and it would be something
- 10 that would require some careful study to determine
- whether or not the benefit of studying those other two
- legs, which is the terminal leg and the river transport
- leg, would be the most beneficial way to go in this
- 14 case.
- 15 Q Didn't Tampa Electric receive bids for the
- 16 terminal costs?
- 17 A It did receive a bid, yes.
- 18 Q And it did receive a bid also for the inland
- barge as well; isn't that correct?
- 20 A Yes, it did.
- 21 Q And are you contending that those were not bona
- 22 fide bids?
- 23 A I am not contending that.
- 24 Q And if you have a bona fide bid, then you have
- a market price for those elements, those components,

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don't you?
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- 2 A It's hard to say that a single bid is going to
- 3 be sufficient for determining a market price. You want
- 4 as much market information as you can get. And in the
- 5 absence of any other information than single bid, you
- 6 look closely at that bid, but it also raises a question
- 7 about whether the bid was sufficient or not. You would
- 8 have to look at it carefully, and I think you would have
- 9 to take it on a case-by-case basis.
- 10 Q On what authority do you draw that conclusion
- 11 that you have to have more than one bid to have relevant
- 12 information?
- 13 A On the general understanding of -- my general
- understanding of what constitutes a competitive market.
- 15 Q What is your understanding of what constitutes
- 16 a competitive market?
- 17 A A competitive market is truly competitive if
- 18 you have many players.
- 19 Q Can you give me one market that is truly
- 20 competitive under that definition?
- 21 A Certainly. The price of gasoline at the pump.
- 22 Q You think that's a competitive market?
- 23 A It's a competitive market. You can have an
- 24 intersection, and you can have four gas stations on each
- 25 corner, and they're very competitive. They're watching

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the tenth of a cent very carefully trying to make sure
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- they can beat their competition.
- 3 Q Do you think there's competition in the gas
- 4 market today, the gasoline market today?
- 5 A I think in the retail sector, there is
- 6 competition on any street corner.
- 7
  Q Even if they're all charging the same price?
- 8 A That's an even better indication of
- 9 competition.
- 10 Q So a differential price if one competitor is
- 11 charging one price and the other competitor is charging
- a different price, you don't think that's an indication
- of competition?
- 14 A Certainly you're going to have changes in
- price. But if we're talking about a homogeneous product
- 16 that's being sold in the same geographic area, you're
- going to expect in a competitive market for those prices
- to be quite similar.
- 19 Q Are you an economist?
- 20 A I have a master's in business administration
- 21 degree, and within that is a fair amount of economic
- 22 study.
- O Are you holding yourself out as an economist,
- 24 Mr. McNulty?
- 25 A Not strictly as an economist, but as someone

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with economic training.
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- 2 MR. FONS: Why don't we break for lunch for the
- 3 court reporter. I think she's been at it for a
- 4 couple of hours here.
- 5 (Deposition recessed from 12:06 to 1:20 p.m.)
- 6 BY MR. FONS:
- 8 A Yes.
- 9 Q Okay. Would you go to page 14, please.
- 10 A Okay.
- 11 Q You have page 14 of your October testimony?
- 12 A Yes.
- Q At line 16, you indicate that the proper market
- 14 rate to consider is the rail rate offered by the rail
- 15 company. Do you see that?
- 16 A Yes.
- 17 Q And this is the same type of rate the
- 18 Commission has used to determine cost prudence for WCTS
- for TECO. Do you agree with that?
- 20 A I agree that's what it says.
- 21 Q Do you still agree with your statement in your
- 22 testimony that the proper market rate to consider is the
- rail rate offered by the rail company?
- A No, I'm not certain that that is necessarily
- 25 the right rate. Again, let me preface my remarks with

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the concern that anything that I say about the
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- 2 appropriate -- a recommendation to the Commission at
- 3 this point is very preliminary. With that caveat, I
- 4 would say that the new information that we discussed
- 5 earlier relating to the nature of the Dibner model
- 6 causes me to want to look at a broader scope of
- 7 information.
- 8 Q A broader scope of information other than the
- 9 type of transportation benchmark that has been used
- 10 since 1988?
- 11 A Yes.
- 12 Q And for the reasons you had stated previously?
- 13 A Yes.
- 14 Q Yet in October of 2003, less than six months
- ago, you were of the opinion that the market rate to
- 16 consider is the rail rate offered by the rail company.
- 17 A Yes.
- 18 Q And has something -- what have you learned
- 19 since then that causes you to change that opinion?
- 20 A Well, everyone was introduced to the Dibner
- 21 model and how it operates in a meeting in January in
- 22 which Mr. Dibner presented his model at the Commission
- on a computer screen so that everyone could see how it
- operated and explained how the model operated, and a
- 25 couple of things came to light at that meeting that I

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1 previously was not aware of.
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- 2 One was that there seemed to be no recognition
- 3 in the model for allocations of cost or revenue
- 4 associated with the backhaul of goods from Tampa Bay to
- 5 Davant, Louisiana. And that was a concern of mine in
- 6 the sense that it appeared as though there was a
- 7 noncompetitive nature to that omission.
- 8 And I was also concerned about some of the
- 9 limitations that exist with the model relating to the
- operation of the model and its output as regards to
- 11 preference trade activity.
- 12 Finally, I was concerned that the model as
- constructed seemed to identify each of the TECO
- transport ships or barges that -- ocean tug-barge units
- 15 that were least cost in providing the services to Tampa
- 16 Electric, and I was concerned that that calculation of
- the cost was based on 5.5 million tons, yet 5.5 million
- tons is not necessarily the amount that will be
- 19 delivered in all five years of the contract, thereby
- 20 inflating the contract in the last two years.
- 21 Q Let me ask you about this. Backhaul, would you
- 22 agree with me that backhaul is irrelevant to a market
- 23 rate?
- 24 A No, I wouldn't agree with that.
- Q Well, when you have a market rate, you have a

- price offered by a supplier, don't you?
- 2 A Yes.
- Q And the supplier in making that offer has put
  into that price calculation all of its costs and all of
  its benefits and is given a price, so that if you have a
- 6 market price, backhaul would be irrelevant, wouldn't it?
- 7 A I don't think so.
- 8 Q Tell me how it would be relevant to a market
- 9 price.
- 10 A It would be relevant to a market price because
  11 of the fact that in a competitive market, the services
- would have to match the costs that are being provided.
- In this instance, we're talking about a
- 14 round-trip operation, an ocean tug-barge unit or a ship
- traversing the Gulf of Mexico in a round-trip fashion.
- 16 To presume that an entire round trip of a tug-barge unit
- or ship is a single operation rather than two operations
- is fallacious. It's two operations. The return trip
- 19 denotes more revenue and denotes a need for some
- 20 allocation of those costs. The reason those costs have
- 21 to be allocated is that if it's a truly competitive
- 22 market, a competitor would gain an advantage on that
- 23 return trip by having revenues generated without having
- 24 to incur any costs, and that is the situation that
- 25 appears to be the case with this most recent contract

- and previous contracts with TECO Transport.
- 2 Q The rate offering by CSX to Tampa Electric to
- 3 haul the coal, the price that they offered, is that a
- 4 market price?
- 5 A I can't say with any certainty whether or not
- 6 that is an optimal market price. I can say that in
- 7 comparison, the comparison that I did with the market
- 8 price that is reflected in the TECO/TECO Transport
- 9 contract, it is more competitive.
- 10 Q Is it a market price? Is the CSX bid offered
- 11 to Tampa Electric a market price?
- 12 A It's hard to say whether or not it's a market
- 13 price, and the reason I say that is because there is
- 14 intermodal and intramodal competitive forces that have
- 15 to be adjudged in this instance. And we don't know yet
- until we have a full review of all the testimony that
- 17 has been filed whether or not a truly competitive nature
- 18 exists between those two modes.
- 19 Q The rail prices that CSX charges to the five
- 20 municipal electrics that are used in the benchmark, the
- 21 prices that CSX charges to those municipal electrics,
- 22 are those market prices?
- 23 A I haven't evaluated all the options available
- 24 to each one of those entities, so I would presume there
- 25 would be an element of market in there, that the market

- 1 would be operating. But you would have to know whether
- or not there could be restrictions in the way that the
- market is operated. You would have to analyze each one
- 4 of those individually.
- 5 O So you think since 1988 the Commission was
- 6 wrong in using the transportation benchmark as a market
- 7 proxy?
- 8 A I think that I cannot characterize whether or
- 9 not the Commission was right or wrong at that time.
- 10 They made their decision based upon the information that
- was available to them at that time, and it may have been
- completely accurate, what they determined at that time.
- 13 The concern I have, of course, is with the change in
- 14 conditions that may have occurred over time.
- 15 Q You say may have occurred. Do you have any
- 16 information that conditions have in fact changed over
- 17 time?
- 18 A Certainly there's information in the record
- 19 about changes in market conditions.
- 20 Q In market conditions for the transport of coal?
- 21 A Excuse me. I would like to correct something I
- 22 said, that there is information in the record. No
- 23 record has been officially established in this case.
- But when it comes to the transportation of
- 25 coal, certain market changes have certainly developed

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1 since 1988.
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- 2 O The CSX rates, both in the bid to Tampa
- 3 Electric and in the rates it charges to the five
- 4 municipal utilities, is there a backhaul component in
- 5 that rate?
- 6 A There could very well be reflected a backhaul
- 7 component in that rate.
- 8 Q Just like a backhaul component could be
- 9 reflected in the rate that CSX has offered to haul coal
- 10 for Tampa Electric; isn't that correct?
- 11 A Yes.
- 12 Q And if it does have a backhaul component, there
- would be nothing -- CSX wouldn't have to refund money to
- 14 Tampa Electric for every load that it brought here that
- 15 had a backhaul in it, would it?
- 16 A We have to go back to the intermodal level of
- competition. A fundamental question in my mind is, is
- the rail mode competitive with the barge mode, and if it
- is competitive, on what routes and under what
- 20 circumstances is it competitive?
- 21 Q So you would have to look on a route-by-route
- 22 basis?
- 23 A You would have to certainly look at the best
- 24 strategy that the company could have for securing the
- 25 types of coal that it needs from the regions that it is

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1 available to it, with a total combination of not only
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- the commodity cost, but also the transportation cost, in
- 3 order to be able to know what's the best combination.
- 4 Q And who would make this ultimate decision as to
- 5 what is the best strategy? Would it be you?
- 6 A It would be the company's determination as to
- 7 what is the best strategy. However, the company would
- 8 have to support its determination for that strategy
- 9 before the Commission if the Commission were to
- 10 determine that the benchmark that has been established
- 11 since 1988 is no longer valid.
- 12 Q How would the company go about satisfying the
- 13 Commission on this intermodal route-by-route basis that
- it has picked the proper strategy?
- MR. KEATING: I would suggest that calls for
- 16 some speculation on the witness's part. Are you
- 17 asking his opinion on what would satisfy him?
- 18 MR. FONS: Yes, I'm asking his opinion.
- 19 BY MR. FONS:
- 20 Q I assume you're speaking for staff.
- 21 A I'm speaking for myself.
- 22 Q You're not speaking for staff?
- 23 A No. I'm here as someone who provided testimony
- 24 in this case, and so I don't necessarily maintain that
- 25 what I'm saying here is agreed to by all the staff. I'm

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an individual member of the staff.
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- 2 Q Did Mr. Devlin agree to your testimony?
- 3 A Yes, he did.
- Q Okay. He's the boss of your particular staff,
- 5 isn't he?
- 6 A Yes, he is.
- 7 Q When Mr. Devlin speaks, does he speak for
- 8 staff?
- 9 A Yes. But I would maintain that anything I say
- now is not being monitored and reviewed by Mr. Devlin.
- 11 Q Are you preparing testimony at the moment,
- 12 Mr. McNulty?
- 13 A I haven't prepared any testimony to date.
- 14 O Do you have any drafts of testimony to date?
- 15 A No drafts.
- 16 Q Have you seen any drafts of testimony to date?
- 17 A I haven't seen any drafts of testimony.
- 18 Q I believe you said you've not reviewed the
- 19 testimony that has been filed by the other parties.
- 20 A I have read parts of it. Some of it I've
- 21 scanned. I haven't read all of it.
- 22 Q Have you read the CSX testimony?
- 23 A I've read some of that.
- Q Whose testimony did you read?
- 25 A I read Sansom's testimony.

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1 Q Can we agree that in the benchmark, the
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- 2 transportation benchmark, the five municipal electrics,
- 3 JEA, St. Johns River Power Park, Orlando Utilities,
- 4 Lakeland, and Gainesville, that they are all receiving
- 5 their coal deliveries by rail?
- 6 A I believe they're all receiving at least a
- 7 portion of their coal deliveries by rail, and some may
- 8 be being delivered by barge.
- 9 Q Does any rail line that delivers coal serve
- 10 Florida other than CSX?
- 11 A I don't know.
- 12 Q And in calculating the benchmark, are the rates
- 13 that are used, the rail rates that are used, are those
- 14 the rates just for the delivery of coal and do not
- include a coal component?
- 16 A That's correct.
- 17 Q And the rail proxy or the benchmark is the
- 18 average of the two lowest rates charged to the
- 19 municipalities?
- 20 A Yes.
- 21 Q And doesn't that by definition mean that for
- 22 the other three, the rate is higher than the rates for
- 23 the two lowest, the average of the two lowest?
- 24 A Yes.
- 25 Q And isn't the rate charged to the

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1 municipalities higher than the rate that CSX has offered
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- 2 to Tampa Electric in their bid response?
- 3 A Could you repeat the question?
- 4 Q Isn't the rate that's charged to the
- 5 municipalities, the two lowest, the average, isn't that
- 6 higher than the rate that CSX has offered to provide the
- 7 delivery of coal to Tampa Electric at the Big Bend Power
- 8 Plant?
- 9 A Yes.
- 10 Q Substantially higher?
- 11 A Yes.
- 12 Q Have you made any analysis as to why CSX would
- 13 offer Tampa Electric a rate that is substantially lower
- 14 than the rate it's charging to the five municipals in
- 15 the State of Florida?
- 16 A I have an opinion as to why they may be
- 17 offering that.
- 18 Q Why is that?
- 19 A The Staggers Rail Act of 1980 deregulated a lot
- of aspects of the rail industry in the United States.
- It deregulated abandonment issues, and it also
- deregulated pricing to a very large extent.
- 23 There is differential pricing that's practiced
- 24 today in the rail industry, and essentially what that
- 25 means is, there are significant advantages to some

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1 geographic locations and to certain customers. And how
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- 2 that would apply in this case is that the geography of
- 3 Tampa Electric, being on a port, gives it intermodal
- 4 competitive options.
- 5 In addition, Tampa Electric represents a very
- large amount of coal, and so they are an attractive
- 7 customer from the standpoint that they represent larger
- 8 amounts of coal than the municipalities.
- 9 Those are two reasons why you would not expect
- 10 CSX to be offering the same price to different entities
- ll in this case.
- 12 Q And so in your opinion, the CSX price is a
- 13 competitive price because they're competing with the
- 14 intermodal opportunities that Tampa Electric has, which
- is waterborne; isn't that correct?
- A Again, it's hard to determine whether or not
- 17 it's competitive, because we're looking at intermodal
- 18 competition, and we are about the process of determining
- 19 whether or not it's competitive, and if it's competitive
- in the whole or in the part.
- 21 Q I thought in your answer you said that one of
- 22 the reasons why CSX probably offered a lower price to
- 23 Tampa Electric than they're offering to the other
- 24 municipal electrics in Florida is because Tampa Electric
- 25 has the ability to get waterborne transport.

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1 A Yes.
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- 2 Q And that is competition, isn't it?
- 3 A That denotes a level of competition, but it
- doesn't mean that it's truly competitive figures. It's
- 5 a matter of degree.
- 6 Q I understand that, but do you know what the
- 7 economic definition of truly competitive is?
- 8 A I have a good understanding of that, I think.
- 9 Q Please tell us for the record what you think
- 10 truly competitive means from an economic standpoint, an
- 11 economist's standpoint.
- 12 A That participants in a market are not able to
- 13 charge more than the incremental cost of the service, or
- 14 much above the incremental cost of the service, without
- 15 losing some level of demand to the other parties in that
- 16 market.
- 17 Q Thank you.
- 18 Turn to page 16 of your testimony. There at
- 19 the bottom of the page, the rhetorical question is
- 20 asked, "If the Commission elects to address 17H at this
- 21 time, should the Commission eliminate TECO's WCTS
- 22 benchmark?" Do you see that?
- 23 A Yes.
- Q And I believe it's safe to say that you go on
- 25 to suggest that the Commission should establish a WCTS

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1 market price proxy for TECO for the duration of the
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- 2 contract period by adjusting the initial recoverable
- 3 costs for the escalation methodology included in the
- 4 TECO/TECO Transport contract. Do you see that?
- 5 A Yes.
- 6 Q What do you mean by that?
- 7 A What I'm suggesting here is that at the time I
- 8 wrote this testimony, I thought the initial recoverable
- 9 costs would be calculated per my Exhibit WBM-1. That
- 10 specifies a methodology for calculating the average rail
- 11 rate, which I found to be more competitive than the
- 12 contract rate in this instance. And what I'm suggesting
- 13 here is that that initial recoverable costs be escalated
- 14 in two ways. It would be escalated according to the
- variable cost component, given the pricing escalation
- 16 methodology in the contract that TECO and TECO Transport
- 17 now have in effect, and it would also be escalated
- 18 according to the fuel adjustment surcharge that is
- 19 discussed in that same contract.
- 20 Q So you would abandon the benchmark altogether?
- 21 A Oh, yes.
- 22 Q Even in your testimony back in October of 2003,
- you were recommending abandonment of the benchmark?
- 24 A Yes.
- 25 Q And you were using instead a base number plus

- 1 an escalator?
- 2 A Yes.
- 3 Q And how do you describe that in economic terms?
- 4 A Describe what?
- 5 Q What that particular device is for establishing
- 6 the market price.
- 7 A It's a market escalation methodology. I'm not
- 8 sure what you mean.
- 9 Q Well, that's fine.
- 10 Who made the decision that's reflected in your
- 11 testimony here?
- 12 A Which decision?
- 13 Q The decision to abandon the benchmark and to
- 14 use this escalator.
- 15 A This is not a decision. This is a
- 16 recommendation via testimony to the Commission.
- 17 Q I'm sorry. Who within the staff decided that
- this would be the recommendation that would be made to
- 19 the Commission?
- 20 A It was me.
- 21 Q You alone?
- 22 A Naturally, as we discussed earlier, there's a
- 23 review process involved, and so I received feedback on
- 24 various portions of this testimony, but I believe that
- 25 idea was my own.

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1 Q And you convinced Mr. Devlin that it was the
2 right thing to do?
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- A Mr. Devlin did not disagree with my testimony.
- 4 Q Did you ever have a direct discussion with
- 5 Mr. Devlin about the use of this escalator in lieu of
- 6 the traditional benchmark that has been in effect since
- 7 1989?
- 8 A I don't recall such a discussion.
- 9 Q What analyses did you perform in coming up with 10 this escalation methodology?
- 11 A The primary component of the analysis is, once
- 12 again, Exhibit WBM-1. I felt that it was important to
- 13 find what I believed at that time to be a reasonable
- 14 starting point for what a market rate would be for this
- 15 service, and I didn't disagree with the escalation
- 16 methodology as was described in the TECO/TECO Transport
- 17 contract.
- 18 I was also operating under the assumption that,
- 19 this being a five-year contract, it was a limited period
- 20 of time. And as I had testified in the Progress Energy
- 21 waterborne coal transportation issues in 030001, I
- 22 believe that there has to be an end point to an approved
- 23 market price proxy, and a five-year period such as what
- 24 was described in the contract appeared to me to be a
- 25 reasonable period of time before the Commission would be

- 1 expected to go back and review that methodology.
- 2 Q And you were going to use the CSX bid rate as
- 3 the baseline, is that correct, in this escalator
- 4 methodology?
- 5 A Yes.
- 6 Q Do you still believe that that's an appropriate
- 7 methodology?
- 8 A I'm not certain what the correct methodology is
- 9 at this time. I think that's under review, and we have
- 10 discovery to do and to review to decide what that
- 11 methodology should be. As I stated earlier, I have
- 12 concerns about whether or not -- because TECO pursued
- this case as one that would indicate a monopoly
- operation, whether or not cost information should be
- 15 introduced to be the determinant of the ultimate market
- 16 rate.
- 17 Q Do you know what the methodology was for
- 18 determining the cost of coal transportation prior to
- 19 Order 20298 for Tampa Electric?
- 20 A I believe it was based on a cost of service
- 21 methodology.
- 22 Q And didn't the Commission -- in that Order
- 23 20298, didn't the Commission find in that order that a
- 24 cost of service study was hard to do, difficult to do,
- 25 and was contentious?

l A	The	Commission	did	find	that	it	was
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- 2 contentious. But I would think that the Commission may
- 3 in this instance believe that a market pricing
- 4 methodology is perhaps equally contentious.
- 5 Q Has it been contentious for the last 14 years?
- 6 A No.
- 7 Q Is it contentious now only because staff wants
- 8 to bring a new issue into the mix?
- 9 A I hardly think that staff is the only driving
- 10 force behind the concerns that are before the Commission
- 11 today in this docket. I would very much think that
- 12 there are a number of indicators out there of activities
- that happened in 2003 that would have said if staff had
- done nothing, that this issue would have come to the
- 15 fore.
- 16 Q And are you talking about various vendors being
- 17 interested in getting into the coal delivery business,
- and more importantly, the coal sale business to Tampa
- 19 Electric is what's driving this?
- 20 A There would be certainly the vendors. There
- 21 would be various others involved as well. There would
- 22 be, for instance, financial analysts looking at the
- 23 financial status of TECO Energy who would be very
- 24 interested in knowing what was going on with an
- 25 affiliate whose contract is up for renewal at the same

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1 time that there was consideration being made for the
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- 2 sale of that same unit. There would be interest on the
- 3 part of the media if they were aware of and
- 4 knowledgeable of that. There may be interest in any
- 5 number of consumer groups that are aware of and
- 6 concerned about the prices that are paid for coal
- 7 transportation by Tampa Electric.
- 8 Q Are the things that you recommended in your
- 9 October 23rd testimony driven -- were they driven by
- 10 outside influences?
- 11 A Could you be more specific?
- 12 Q Yes. Your whole -- wasn't your approach in
- your October 23rd testimony, on page 14 where you say
- 14 the proper market rate to consider is the rate offered
- by the rail company -- and I assume the rail company
- 16 there is CSX.
- 17 A Yes.
- 18 Q Was that decision by you or that recommendation
- by you driven by outside influences, such as CSX?
- 20 A It is driven only to the extent that they
- 21 provided bids that gave me an opportunity to see what
- 22 options existed for the company.
- 23 Q And having made that recommendation in October
- of 2003, I believe you told me earlier this afternoon
- 25 that you're prepared to abandon that recommendation now.

1	A I'm prepared to certainly make some
2	modifications. I'm not prepared to totally abandon
3	every aspect of this testimony. Again, it's not known
4	that I would be providing testimony.
5	Q But you know that other people are looking to
6	the testimony that you provided back in October as a
7	foundation for their testimony in this proceeding, don't
8	you?
9	A They may be looking to this testimony for some
10	aspects of what they're testifying to. I don't know
1	that there's anybody that's looking at this as a sole
12	source or even a primary source of the testimony that
L3	they have proffered.
14	Q But you can't tell me whether anybody that has
15	filed testimony in this docket has relied upon your
16	proposal on page 14, line 16, that the proper market
17	rate to consider is the rate offered by the rail
18	company?
19	A I'm not familiar enough with the testimony to
20	be able to characterize what's driving their testimony.
21	Q Turn to page 6 of your testimony, please.
22	There you talk about evaluating the TECO RFP
23	for purposes of determining whether it was sufficient to
24	determine the current market price for waterborne coal

transportation. Am I correct that at that point in

- 1 time, you were still trying to determine the current
- 2 market price for waterborne coal transportation?
- 3 A Yes, I was interested in trying to find out
- 4 what that market price was.
- 5 Q Are you still interested in determining what
- 6 the market price is?
- 7 A Yes.
- 8 Q And if you found a market price, you would
- 9 recommend that to the Commission as being the
- 10 appropriate benchmark to measure what Tampa Electric
- should be paying for waterborne transportation of coal?
- 12 A If a market existed. And again, this gets back
- 13 to the way that the RFP was fashioned. The RFP was
- 14 fashioned in such a way that it made the third leg, the
- ocean transport leg, appear to be a monopolistic
- operation. So the Commission may very well want to
- decide that they should go to cost, and that's an option
- 18 that exists for the Commission.
- 19 Q And would that be applicable just to the
- 20 waterborne, the Gulf transportation?
- 21 A Again, I believe that that is the primary
- 22 element that should be considered. But the Commission
- 23 may choose to exercise that same option for the other
- 24 two legs. And again, these sentiments that I have at
- 25 this moment are preliminary based upon further

- 1 information.
- 2 Q Can't you develop a proxy, a market rate
- 3 proxy?
- 4 A Certainly a market rate proxy could be
- 5 determined by the Commission based upon the information
- 6 that will be available to the Commission and has been
- 7 made available to the Commission.
- 8 Q And isn't that what they did in 1988 when they
- 9 approved the stipulation, that instead of going through
- 10 all of this, they came up with a market rate proxy, and
- that was the rail rates to the municipals in Florida for
- 12 the delivery of coal?
- 13 A That's an interesting question, because the
- ocean transport leg is characterized by witness Dibner
- as one that has economies of scale. And witness Dibner
- 16 has made a very strong argument that there is only one
- 17 entity that can provide this at the lowest cost. So the
- question here really is, and something I think the
- 19 Commission needs to address is, is the fact that no one
- 20 can provide the capacity of coal transport as cheaply as
- 21 TECO Transport the basis for determining that we have to
- go back to cost? That's the fundamental question, I
- 23 believe, in this case.
- 24 Q Isn't the fundamental question whether
- 25 Mr. Dibner is correct?

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1 A That's a preliminary basis.
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- 2 O Preliminary, or the only question that need be
- 3 asked?
- 4 A The Commission decided in 1988 that --
- 5 Q If you can answer my question yes or no.
- 6 A Yes, yes.
- 7 Q Okay. Thank you.
- 8 When you did your review of the RFP, you
- g compared the 2003 RFP to TECO's 1997 RFP; is that
- 10 correct?
- 11 A Yes.
- 12 Q You didn't participate in the review of the
- 13 1997 RFP at the time that it was made, did you?
- 14 A No.
- 15 Q So whatever you know about that, you're basing
- that upon looking at the documents; is that correct?
- 17 A That's correct.
- 18 Q And you've read those documents?
- 19 A Yes.
- 20 One of the things that you -- let's turn to
- your Exhibit WBM-2. And one of the things that you are
- critical of in 2003 RFP throughout your analysis is that
- 23 the 2003 RFP stated a preference for integration, and
- therefore the 2003 RFP was not as good as the 1997 RFP,
- 25 which you contend in your Exhibit WBM-2 was silent

- 1 regarding integration. Do you see that?
- 2 A Yes, I see that. But as I discussed earlier,
- 3 that correction I made at the beginning of my deposition
- 4 today would extend to the "Silent regarding integration"
- 5 comment under the column 1997 RFP for Integrated
- 6 Proposal Requirement.
- 7 Q As a matter of fact, the 1997 RFP was not
- 8 silent with regard to integration, was it?
- 9 A No, it wasn't, and that's consistent with my
- 10 earlier correction.
- 11 Q Right, but I want to explore that further.
- 12 What did the 1997 RFP state with regard to integration
- or segmentation?
- 14 A It said that it must be integrated.
- 15 Q Okay. Now, does the 2003 RFP say that it must
- be integrated?
- 17 A No, it does not.
- 18 Q So to that extent, the 2003 RFP is better than
- 19 the 1997 RFP; is that correct?
- 20 A One is worse than another.
- 21 Q Which one is --
- 22 A The 1997 would be worse.
- 23 Q All right. That's what I --
- 24 A But neither one is favorable.
- 25 Q Now, tell me, how many responses did Tampa

- 1 Electric get to the RFP in 1997?
- 2 A I think there was discussion about that in the
- depositions of Dibner and Wehle in the 030001 docket.
- 4 and I think that Joann Wehle had indicated -- excuse me.
- 5 I'm not sure which witness it was, but I believe that
- 6 the comment was that they got more response, but not
- 7 much more.
- 8 Q They got more response to an RFP that you now
- 9 contend was significantly worse than the 2003 RFP; is
- 10 that correct?
- 11 A I don't agree with your characterization of one
- 12 RFP being significantly worse than another RFP. It was
- 13 significantly worse in this specific item.
- 14 Q And don't you throughout your testimony point
- 15 to the integration versus segmentation piece as being
- 16 the element that created disincentives for people to
- 17 bid?
- 18 A That was certainly one of the primary ones, but
- another one that is probably equally important is the
- 20 fact that in the ocean leg, full requirements must be
- 21 delivered by the winning bidder.
- 22 Q Full requirements by whom?
- 23 A Full requirements of each leg have to be
- 24 provided by a single supplier of transport according to
- 25 the RFP. I can point you to the location in the RFP if

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1 you like.
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- Q Where in your testimony do you discuss this?
- 3 A One moment.
- On page 9, the second paragraph, I quote, "One
- 5 other important limiting statement in the RFP, also
- 6 placed prominently in the first paragraph of the first
- 7 page, involved TECO's requirement that proposals should
- 8 represent the entire volume of coal transport service
- 9 stated in the RFP. By discouraging transport companies
- 10 which could have provided a portion of the transport
- 11 needs in any one segment, for instance, river transport,
- 12 TECO further restricted the opportunity for receiving a
- greater number of bids and more market price
- 14 information."
- 15 Q Isn't it true, Mr. McNulty, that despite this,
- 16 that Tampa Electric did get segment bids from vendors.
- 17 Didn't they get a bid for the river transport, the barge
- 18 traffic?
- 19 A Yes, they did get a bid, but they didn't get
- 20 very many bids.
- 21 Q But they got a bid?
- 22 A Yes.
- 23 Q And how many carriers on the Mississippi River
- 24 and Ohio River could handle the volume that Tampa
- 25 Electric needs?

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1 A I believe there were five or six.
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- 2 O And how many of them chose not to bid?
- 3 A Four or five.
- Q And were the reasons because of the requirement
- 5 that they had to carry all of the volume, or was it for
- 6 other reasons that they declined to bid?
- 7 A We know from -- we know that at least one
- 8 declined to bid because they didn't believe in the
- 9 process because of their experience in the 1997 RFP
- 10 process conducted by Tampa Electric.
- 11 The full requirements aspect of this would be
- one element that would have been a disincentive to bid.
- 13 There are others that are described in my testimony.
- 14 O And that's your opinion; isn't that correct?
- 15 A What part of that statement are you asking is
- my opinion, because part of it is actually --
- 17 Q Your opinion that the volume demand is what
- prevented people from bidding. You've given me one, the
- 19 name of one.
- 20 A If you'll give me a moment, I want to look
- 21 something up. (Examining documents.)
- MR. FONS: Why don't we do this. Why don't I
- have this marked as Exhibit Number 3.
- 24 (Deposition Exhibit 3 was marked for
- 25 identification.)

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THE WITNESS: I think I'm in a position to
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- 2 answer your question.
- 3 BY MR. FONS:
- 4 Q Yes, sir. Go ahead.
- 5 A If we're restricting our discussion to the
- 6 river element only, then I would say that there would be
- 7 another entity, and I can identify the entity if you
- 8 like, who may have -- it's uncertain from their letter,
- 9 but they may have made the same decision based upon the
- 10 inability to carry the full requirement.
- 11 Q We're not interested in speculation. That
- 12 would be speculation, wouldn't it, Mr. McNulty? Which
- 13 letter are you referring to?
- 14 A I'm referring to , in which
- 15 they stated, "Unfortunately is not in a position
- 16 to quote on your movements of coal to your facility at
- 17 this time."
- 18 Q Why don't we just work from the exhibit,
- 19 Exhibit Number 3.
- 20 A Oh, okay.
- 21 Q Do you have that in front of you?
- 22 A Yes.
- 23 Q And this is a response to the RFP, is it not?
- 24 A Yes, it is.
- 25 Q And what it says is, "Thank you for your

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1 interest. Unfortunately is not in a position to
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- 2 quote on your movement of coal to your facilities at
- 3 this time. Please continue to keep us on your bid list,
- 4 as our operating patterns and business mix change
- frequently." Is that what it says?
- 6 A Uh-huh.
- 7 (Deposition Exhibit 4 was marked for
- 8 identification.)
- 9 BY MR. FONS:
- 10 O Let me hand you what had been marked as Exhibit
- 11 4, please. Do you recognize this?
- 12 A Yes. I was just looking at this.
- 0 Okay. Is this a response to the Request for
- 14 Waterborne Transportation Services Proposal WB-2004?
- 15 A Yes.
- 16 Q And does this response indicate that they
- weren't interested because they didn't want to carry the
- 18 volume?
- 19 A No, it does not.
- 20 Q It says, "At this time, our availability only
- 21 exists for spot receipt, at , of fuel
- 22 arriving in rail cars, barges or vessels for transfer to
- oceangoing barges at "; is that correct?
- 24 A Yes.
- MR. FONS: Would you mark this as the next

```
1
           exhibit, please.
 2
                 (Deposition Exhibit 5 was marked for
 3
       identification.)
                THE WITNESS: I would caveat that Mr. Dibner
 4
 5
           himself talked about excess capacity on the river.
       BY MR. FONS:
 6
 7
                 Does that letter talk about what you just said,
            0
        excess capacity on the river?
 8
 9
                No, it does not.
           Α
                What does that letter say? Could you please
10
11
       read it?
12
                 Oh, this new letter?
13
                Yes, the one from , what I just handed,
14
       which is Exhibit Number 5. Is that
15
16
                Yes. Would you like me to read the entire
            А
17
       letter?
18
                Yes. It's fairly short.
            Q
                 Okay. "Dear Mr. Duff: The above referenced
19
        requests for proposals addressed separately to
20
21
                                have been received.
                       and
22
                       is an offshore operating division of the
23
                        , which is primarily involved with
24
        transportation of liquid cargoes on the inland river
```

and

system. Both

```
decline to bid to Tampa Electric for the transportation
```

- 2 services described in the referenced documents. Thank
- 3 you for your interest in the and its
- 4 operating divisions."
- 5 Q That's all that's said in the letter?
- 6 A That's all it says.
- 7 MR. FONS: Would you mark this as the next
- 8 exhibit, please.
- 9 (Deposition Exhibit 6 was marked for
- 10 identification.)
- 11 BY MR. FONS:
- 12 Q Do you recognize that letter?
- 13 A Yes.
- 14 Q And who is it from?
- 15 A .
- 16 Q And do they decline to bid?
- 17 A That's correct.
- 18 Q And do they give an explanation why they
- 19 decline to bid?
- 20 A Yes.
- 21 Q And what is that explanation?
- 22 A "This is to advise that we do not wish to bid
- on the above Proposals WB-2004,
- 24 . In view of this, we are no
- longer moving empty barges from New Orleans, LA to

```
Tampa."
 1
                Is that New Orleans, Louisiana?
 3
           Α
                Yes.
                Okay.
                 "Thank you for the opportunity to bid on this
 5
       movement."
 6
                MR. FONS: Would you mark this as the next
            exhibit?
                 (Deposition Exhibit 7 was marked for
 9
10
        identification.)
       BY MR. FONS:
11
                Have you seen this document before?
12
            Q
13
            Α
                Yes.
14
            0
                And what is it?
15
                It is a letter from
16
            Q
                And what does it reference?
17
                 It states, "We are in receipt of your Request
        for Waterborne Transportation Services Proposals WB-2004
18
        and thank you for this invitation. We regret we must
19
        forgo this opportunity to submit a response, but we ask
20
        that you please keep us on your list as future
21
        opportunities arise."
22
                 MR. FONS: This is Number 8.
23
                 (Deposition Exhibit 8 was marked for
24
        identification.)
25
```

```
BY MR. FONS:
1
                I hand you what has been marked Exhibit Number
2
       8. Do you recognize that document?
3
                (Examining document.)
           Α
                Do you recognize that document?
5
                I believe I do. I could check. I believe I
            Α
       remember this.
7
                                                          ?
               Is this a letter from
 9
           А
                        ? And is it in response to the TECO
10
        request for waterborne transportation services proposal?
11
12
            Α
                 Yes.
                 And what do they say in response to the bid?
13
            0
                 They say they have only limited service on the
14
        lower Mississippi and therefore decline to bid.
15
                 They did not decline to bid because they didn't
16
        like the bidding specifications?
17
                 Not according to this letter.
18
                 MR. FONS: Would you mark this as Number 9?
19
                 (Deposition Exhibit 9 was marked for
20
21
        identification.)
        BY MR. FONS:
22
23
                 I'm handing you what has been marked as Exhibit
        Number 9. Have you ever seen this document before?
```

24

25

A

Yes.

```
1 Q And what is this document?
```

- 2 A This document is a letter from
- 3 .
- 4 O And what does this letter say?
- 5 A This letter says, "I can assure you that if
- TECO had proceeded to divest itself of the barge line,
- our response would be different. However, our
- 8 impression from bidding on this business in the past is
- 9 that our response, along with others, does nothing more
- than establish the rate structure at which your in-house
- 11 carrier will continue to move your tonnage."
- 12 O Read the first sentence.
- 13 A "After serious consideration and deliberation,
- 14 has elected not to provide rates in
- response to your Request for Waterborne Transportation
- 16 Services Proposals WB-2004."
- 17 Q Does anything in this letter say that they did
- not give a bid because they did not like the
- 19 specifications in the bid?
- 20 A There's nothing in here that directly says
- 21 that.
- 22 Q Okay. Thank you.
- 23 And I believe we discussed earlier and you
- 24 agreed that Tampa Electric did receive a bid for its
- 25 terminal services at the mouth of the Mississippi; isn't

```
that correct?
1
2
           Α
                Yes.
           Q
                And they got a bid from whom?
           Α
                They got a bid from IMT.
                And IMT is not an affiliate of Tampa Electric
       or TECO?
 6
           Α
                 No.
                It's an arm's length vendor; is that correct?
           Q
8
                Yes.
 9
           Α
                 And wouldn't you agree that having received a
10
       bid from another terminal, that that would constitute a
11
        competitive bid and therefore be a market price for the
1.2
       terminal services?
13
                 Again, I'm going to have to say that more
14
        market information is better, and the more market
15
        information you get, the more likely you are to find and
16
        know the true market price. It's very easy for any one
17
        individual bidder to not bid the market price for any
18
        number of reasons. But it becomes more and more likely
19
        with the more bidders that participate that you will
20
        find that market price.
21
                 How many terminals do you think there are at
```

the mouth of the Mississippi River?

There are at least two with the capacity to do

22

23

24

25

the work.

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1 Q And who are those two?
```

- 2 A Those two are IMT and TECO Bulk Terminal. But
- 3 significantly, only one of those was required to bid.
- And not required to bid, given that both of them could
- 5 have bid, but only one of them had a true motivation to
- 6 bid. The other one didn't have to bid, and that, of
- 7 course, was TECO Bulk Terminal, since they had a right
- 8 of first refusal.
- 9 O CSX provided a response to the RFP, did they
- 10 not?
- 11 A Yes, they did. They actually provided two
- 12 responses.
- 13 O And do you remember the date on which they
- 14 provided the response?
- 15 A I believe they provided the response on a date
- in -- I can check this to be certain if you like, but I
- 17 believe it was sometime in August, the first half in
- 18 August, based upon the fact that they didn't receive the
- 19 RFP until the latter part of July, maybe July 21st comes
- to mind. And I can check these dates. I'm not swearing
- 21 to them. This is just my recollection.
- 22 Q Would you agree subject to check that the date
- on which CSX submitted its bid was July 30, 2003?
- 24 A I would agree with that subject to check.
- 25 Q And isn't that the same date that others, like

```
, submitted theirs, their
1
2
       responses?
                Here, I'll show you. (Tendering document.)
3
                Yes.
           A
 4
                And didn't CSX provide theirs on July the 30th?
5
            0
                Yes, they did.
            A
 6
                 Did any of the vendors complain that they
 7
        didn't have enough time to put together their bids?
 8
                Not that I know of.
 9
            Α
                 And would you agree subject to check that the
10
        CSX bid was some 60 pages long, 70 pages, in detail?
11
                 It appears to be about that length.
12
                 And would you describe the CSX bid as
13
        comprehensive and complete?
14
                 I believe it was comprehensive enough to make
15
        it a valid bid.
16
                 Did you or anyone on your staff have any
17
        conversations with CSX prior to the time that they
18
        submitted their bid in response to the 2003 RFP
19
        submitted by Tampa Electric?
20
                 I know that I did not talk with CSX.
21
                 I would like you, if you would, to clarify.
22
        When you say prior to -- I guess it was August 1st or
23
        July 31st or before, are you talking --
24
               July 30th.
25
            Q
```

1 A Are you talking about the time period in which

- 2 the RFP was pending?
- 3 Q Yes, sir.
- A I had become aware of TECO's concerns about
- 5 staff having contacted the --
- 6 Q My question was, did you or anyone on your
- 7 staff contact CSX prior to the time that they submitted
- 8 their bid in response to the bid proposal?
- 9 A In that window of time that we're talking
- 10 about, I do not believe that anyone did make such a
- 11 contact.
- 12 Q Could someone have made a contact before that
- window of time opened?
- 14 A That's possible.
- 15 Q You don't know one way or the other?
- 16 A I'm not certain.
- 17 Q But it is possible?
- 18 A It is possible.
- 19 Q And who would that have been that would have
- 20 had such a contact with CSX?
- 21 A Again, I don't know whether or not this
- 22 individual that I have in mind did make such a contact,
- but Bernie Windham is someone who's on the docket who
- 24 was looking into the competitive nature of waterborne
- 25 coal transportation within this docket and may have made

- a contact at some time prior to the bid being issued.
- Of course, we didn't know that the RFP was even going to
- 3 be released until after the fact. So if we were going
- 4 to be cognizant of and aware of a distributed bid, we
- 5 would certainly have taken that into account.
- 6 Q Did you instruct Bernie Windham to contact CSX
- 7 prior to the bid window opening?
- 8 A I don't believe I did. I don't recall having
- 9 done that.
- 10 Q Did he ever report to you that he had contacted
- 11 CSX prior to the bid window opening?
- 12 A He may have. I don't recall.
- 2 So you wouldn't recall what he said as to the
- outcome of a contact he may have had with CSX in that
- time period prior to the opening of the bid window?
- 16 A I don't recall.
- 17 Q After the bid window was open, did Mr. Windham
- or anyone else on your staff have contact with CSX about
- 19 submitting a bid?
- 20 A After it was opened and prior to it closing?
- 21 O Yes.
- 22 A I don't believe anyone did.
- 23 Q Let's take the reverse. Did CSX call you or
- 24 anyone on your staff concerning a potential bid?
- 25 A I don't know the answer to that question.

```
1
            Q
                 You were not called?
 2
                 I don't recall receiving a call from CSX.
 3
                 Did you receive a call from any of the other
        people whose letters we just reviewed?
 5
               , did you ever get a call from
         ?
 6
 7
            А
                 I don't recall getting a call from
 8
 9
            Q
                 How about anyone on your staff?
10
                 I don't know the time frame in which it
11
        happened, but I believe the president of
12
        called and talked with Tim Devlin and expressed his
13
        disappointment in the process and essentially was trying
14
        to find out is the Commission going to be pursuing this,
15
        and is this process going to be conducted in a fashion
16
        different than it was in 1997.
17
                 Did anyone on your staff -- did you or anyone
18
        on your staff engage in any phone conversations with any
19
        of the bidders during the time the window was open?
20
                 I'm not aware of any such discussions.
21
            Q
                 Do you recall whether or not anyone on your
22
        staff spoke to anybody with
                                                       concerning
23
        the bid prior to the bid process?
```

Prior to the bid process?

24

25

A

Q

Yes.

- 1 A I think that it's possible that Bernie may
- 2 have.
- 3 Q Do you know who Bernie talked to and when?
- A I don't know the specifics of who he contacted.
- 5 Q Do you know what he talked about with
- 6 ?
- 7 A I think if he were to have had a discussion
- 8 with , the likely discussion would have
- 9 been -- I'm not certain. I'm sorry. I'm not certain.
- 10 That would be speculating on my part, and I just don't
- 11 feel comfortable doing that.
- 12 MR. FONS: Let me have this marked as the next
- 13 exhibit, please.
- 14 (Deposition Exhibit 10 was marked for
- 15 identification.)
- 16 BY MR. FONS:
- 17 Q Mr. McNulty, I've handed you what has been
- marked as Exhibit 10. Can you identify what that is,
- 19 please?
- 20 A Yes. Exhibit 10 is an e-mail from myself to
- 21 Roland Floyd, Joe Jenkins, Bernie Windham, Todd
- Bohrmann, Cochran Keating, Tim Devlin, Jennifer Rodan,
- 23 and Sid Matlock.
- 24 Q Concerning what?
- 25 A Concerning a contact that I had received from

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1 Mark Laux of Tampa Electric on April 29th, 2003. And
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- 2 that e-mail is responded to by Cochran Keating back to
- 3 me with a comment.
- 4 Q All right. In the e-mail from you to Roland
- 5 Floyd, et al., you say the barge line told -- and this
- 6 is . Mr. Ramil at Tampa Electric had gotten a call
- 7 from that they had been contacted by
- 8 Bernie Windham with questions regarding waterborne coal
- 9 and commodity transportation operations and costs
- 10 specific to the Tampa area.
- Now, the call that Mr. Windham made to
- , was that at your insistence?
- A As I stated earlier, I wasn't 100% aware that
- Bernie had done this, had made this call. I didn't
- 15 recall it. And in looking at this, I don't recall
- either telling Bernie Windham to make this call. But I
- would say that we understood that we were in the process
- of trying to determine and educate ourselves about the
- market for waterborne coal transportation. Bernie was
- 20 assigned to that issue. And this was prior to the time
- 21 that an RFP was to be issued, and we were attempting at
- 22 that time to talk with quite a few people. So he didn't
- get specific instruction, I don't believe, to make this
- 24 call, but it wouldn't have been out of the ordinary for
- 25 him to do so.

other waterborne coal transporters?

1	Q	Do	you	expect	that	Mr.	Windham	also	called

3 A I suspect he may have.

- 4 Q Would you expect that Mr. Windham would have done this without your instruction?
- A It's possible that he would have made such a call without specific instruction.
- 8 Q And what was the purpose of Mr. Windham's call?
- 9 A According to this e-mail, Bernie was addressing
- 10 with questions regarding waterborne
- 11 coal and commodity transportation operations and costs
- 12 specific to the Tampa area.
- Q Why would Mr. Windham or your organization be interested in such information back in April of 2003?
- A Well, by that time, April of 2003, we had
- already had a meeting with the company. We had already
- 17 issued some discovery to Tampa Electric relating to the
- 18 continued validity of the benchmark.
- And as we were examining TECO's benchmark for
- 20 waterborne coal transportation, we were looking at a
- 21 broader aspect of the issue, which is, you know, are
- 22 they paying a competitive price. And naturally, to know
- about that, we had to go beyond the confines of our
- offices in order to be able to know that.
- 25 And I say that because it's pretty well known

```
that rate information regarding river traffic on the
```

- 2 Ohio-Mississippi River system is not generally publicly
- 3 available. So to educate ourselves, we would have to
- 4 actually talk to people and find out something about
- 5 what's going on in the market.
- 6 Q Based upon the fact that the person from
- 7 called the president of TECO, would you
- 8 expect that Mr. Windham had talked to
- 9 with regard to Tampa Electric?
- 10 A It's possible that he could have done so.
- 11 Q Well, why would the person
- 12 have called Mr. Ramil otherwise?
- 13 A He could have made a supposition that the
- 14 largest operation in the area was Tampa Electric. It's
- possible. I'm not sure what the reasons were?
- 16 Q is located in the -- they're
- over in Louisiana serving the Mississippi River, aren't
- 18 they?
- 19 A Yes.
- MR. FONS: Do you need a break? We'll take a
- 21 break.
- 22 (Short recess.)
- 23 BY MR. FONS:
- Q Mr. McNulty, we were talking before the break
- 25 about discussions with CSX prior to, subsequent to, or

```
1 while the window was open for the bid. Did you or
```

- 2 anyone on your staff have any discussions with CSX after
- 3 the bid was submitted by CSX and prior to the time that
- 4 you prepared your testimony in October of 2003?
- 5 A Yes.
- 6 Q When did you -- did you have contacts with CSX?
- 7 A Yes, I did.
- 8 Q When did you have your first contact with CSX?
- 9 A My testimony was filed October 23rd, and I
- 10 believe I called Mike Bullock of CSX on or about October
- 11 20th.
- 12 Q For what purpose?
- 13 A I wanted Mr. Bullock to clarify some aspects of
- 14 the rates that were being charged according to the bid
- that he had provided. I wanted him to give me an
- 16 affirmative that my understanding of that CSX Tariff
- 17 8200 and its companion, the supplement, were correct. I
- 18 had a general conversation with him about the rates that
- were there and wanted to clarify my understanding of
- 20 what they were.
- 21 Q You're talking about the rates that they
- offered in Attachment A to their bid?
- 23 A Yes.
- Q And you're talking about the rates for the rail
- 25 options for tons?

```
That's right.
           A
1
                 And what clarification were you seeking
2
       concerning those rates?
3
 5
       that are listed in Attachment A.
 6
                 And what were you told?
 7
                 I was told that those were effective, that
 8
 9
10
11
12
13
14
15
16
17
                 Other than fuel, what is a variable cost?
18
                 The variable cost for rail would likely include
19
        many of the elements that are not considered capital,
20
        the other aspects of things that are not considered
21
        capital. For instance, labor rates may be considered to
22
        be something that are variable.
23
                 But the rates that he quoted, since we're on a
24
```

confidential record, for example, the rate from the

Galatia Mine for , I assume that's per ton?

```
2
                Yes, that's a per ton amount.
 3
 4
 5
 6
        applicable to a January 1 period. It would not be
        applied until April 1.
 8
              And for what time period would it run? For a
       *quarter until July the 1st?
 9
10
      A Yes., As stated, it says quarterly, so I
       presume that would be the quarter following April.
11
                And this variable, would that likely increase
12
        rather than decrease the rate?
13
14
                It depends upon how the indices would move
15
        according to its operation.
                Did you inquire of him what the trend had been
16
17
18
                 No, I hadn't inquired, because I actually had
19
        extent in the Progress Energy Florida case, and so I was
20
21
        somewhat familiar with it.
22
            Q
                And from your familiarity, was the trend up or
23
        down?
                It was generally up.
24
25
                So that that on April the 1st, 2004,
            Q
```

- 1 would go up?
- 2 A Yes, similar to the way the CPI and PPI -- it's
- 3 a escalator of costs over time, and costs tend to
- 4 increase over time.
- 5 Q And so again on July the 1st of 2004, it would
- 6 also go up; is that correct?
- 7 A It's possible it would go up, depending upon
- 8 the items that are included in the indices.
- 9 Q But you said the trend is up.
- 10 A The trend is generally up. You don't know in
- any one period if it's going to be up or down.
- 12 Q But on October 1st, you would be faced with the
- same question of whether the rate was going to go up?
- 14 A Yes.
- O So it's possible that within a year's time, you
- 16 could see the rate that's quoted here go up three times?
- 17 A Yes
- 18 Q Was that the only question you asked him about
- 19
- 20 A No. I had several questions for him, and I
- 21 don't have perfect recall of all of what I talked with
- 22 him about on that. But I was, I'm sure, asking other
- 23 questions about the information shown on this page to
- 24 make sure I understood it.
- 25 Q And did you ask him about the fuel surcharge

```
per Tariff CSXT 8200?
```

- 2 A I believe I did.
- 3 Q And did you ask him whether or not the
- 4 rate included the fuel surcharge?
- 5 A I believe I talked with him about that, and I
- 6 believe that the rate does not include a fuel
- 7 surcharge.
- 8 Q And is that fuel surcharge variable from time
- 9 to time, or is it a set fuel surcharge?
- 10 A The fuel surcharge is variable, depending upon
- 11 the West Texas intermediate crude oil price.
- 12 O Per barrel?
- 13 A I believe that that is -- I believe that is per
- 14 barrel, yes.
- 15 Q So to that , you would have to add
- 16 whatever fuel surcharge there is to figure out what the
- 17 real price per ton would be for the transport of coal
- from the Galatia Mine to Tampa Big Bend?
- 19 A That's correct.
- 20 O Did you ask him about any of the items that are
- 21 shown above where it says shuttle train from Big Bend to
- 22 Polk? Did you ask him about the rates for synfuel?
- 23 A I don't think I asked about that. I don't
- recall specifically, but I think that was kind of clear
- 25 to me.

```
It was clear to you that there would have to be
1
2
                 Yes. That was clear from the description on
 3
           Α
        the face.
                 All right. Did you ask him about the Big Bend
 5
        plant, the shuttle train from Big Bend to Polk?
 6
                 I don't recall.
7
                 Do you know what the TECO Transport and Trade
 8
        rate is for shipments from Big Bend plant to the Polk
 9
        Power Plant, or Power Station, I should say?
10
                 According to this bid?
           Α
11
                 No, just from your knowledge, not from -- this
12
                  , but what is the contract that Tampa Electric
13
        says
14
        has with TECO Transport and Trade for shuttling it from
        Big Bend Power Station to Polk Power Station?
15
16
                 I can check that number. It's a little more
17
               , is my recollection.
                 But it's less than
18
            0
                 Uh-huh, yes.
19
            Α
                 Did you talk to him at all about the demurrage
20
21
        charge or demurrage rate?
                 I would be speculating. I may have asked him
22
        about that, asked him whether or not that was a typical
23
        sort of charge and how often it happened, but I don't
24
```

recall at this time.

```
1 Q Tell me what your understanding of a demurrage
```

- 2 rate is.
- 3 A A demurrage rate is a rate that the buyer pays
- 4 the -- let me specify buyer and supplier here.
- 5 Q How about carrier?
- 6 A Okay. That might work.
- 7 Q Shipper and carrier? Does that work?
- 8 A Uh-huh.
- 9 Q Okay.
- 10 A The demurrage rate is the rate that in this
- 11 instance --
- 12 Q Well, just in general, what is a demurrage
- 13 rate?
- 14 A It's a fee for an excessive period of time for
- 15 unloading. You have a specified period of time in which
- 16 there would be no additional charge for unloading, and
- if it exceeds that period of time, then a charge would
- 18 be placed.
- 19 Q How about for loading? Is there such a thing
- 20 as a demurrage charge for loading?
- 21 A There is in some instances.
- 22 Q And is it your understanding that under this
- 23 bid that there's no demurrage rate for loading, only
- 24 unloading?
- 25 A Yes, that would appear to be the case.

```
1
             And it says it will be classified as a
2
                unload facility. Is there a rate associated
       with that? Is that set forth in the CSXT Tariff 8200?
3
             (Examining documents.)
5
               Maybe what we can do to shorten this, if you'll
       give us a late-filed exhibit --
6
           A I'll be happy to do that.
               And provide us what the CSXT 8200 demurrage
8
9
       rate would be for both the
                                            tons and also
10
       for the
                    tons, because as I see that, that
       says Big Bend will be classified as a unload
11
       facility.
12
13
           A Right.
14
               Okay. If you'll give me your understanding of
       what that amount is?
15
               Sure.
16
           Α
17
                (Late-filed Deposition Exhibit 11 identified.)
18
       BY MR. FONS:
19
           Q
                Now, that unload, is that kind of a
20
       standard credit, that if you get it done in
21
       there's no charge, but if it takes longer than
22
            , there is a charge?
               That's a proper characterization.
23
24
           Q And this is just assuming in one case it's a
```

, and in the other, it's a unload

- facility; is that correct?
- 2 A That's correct.
- 3 Q But if it should go longer than that, then it's
- 4 going to cost Tampa Electric money. They've got to pay
- 5 CSX additional money for the unloading?
- 6 A Yes.
- 7 MR. FONS: Okay. Would you mark this as the
- 8 next exhibit, please.
- 9 (Deposition Exhibit 12 was marked for
- 10 identification.)
- 11 BY MR. FONS:
- 12 Q Mr. McNulty, I'm handing you what has been
- 13 marked Exhibit 12 and asking if you have ever seen this
- 14 document before.
- 15 A Yes, I have.
- 16 Q And is this document titled "Comparison of
- 17 Adjusted Rail Bid Rates and Waterborne Transportation
- 18 Contract Rates"?
- 19 A Yes.
- 20 Q And does this particular exhibit supplement and
- 21 link up to your exhibit to your testimony, Exhibit
- 22 WBM-1?
- 23 A It is related to my exhibit, but this is an
- 24 exhibit by Joann Wehle of Tampa Electric to her
- 25 testimony.

1	Q And what does this Exhibit 12 attempt to do?
2	A It attempts to do two things. It attempts to
3	first indicate what adjustments Ms. Wehle would make to
4	the rail rate that I had determined based upon her view
5	of several factors that she thought were not included in
6	my testimony, to then basically show that the comparison
7	between TECO Transport's average rate for all docks
8	common to TECO Transport and the rail bid would have
9	actually been much closer to each other than I had
10	indicated in my testimony.
11	Q As a matter of fact, 10 cents would be the
12	differential between the two?
13	A That's correct.
14	Q Now, have you examined her revisions or her
15	changes to your exhibit?
16	A Yes, I've looked at these.
17	Q And do you have for example, the bidder's
18	fuel surcharge, do you have any reason to disagree to
19	her adding to the rail bidder rate?
20	A Yes. I disagree with that adjustment.
21	Q And on what basis?
22	A On the basis that fuel surcharges apply to both
23	the TECO/TECO Transport contract, which there is a
24	surcharge in that contract that's based on the

and the adjustments and the

```
1 inflation that would occur based upon that index, and
```

- the suggested -- or the bid by CSX, which included an
- 3 escalator on West Texas intermediate crude on the rates
- 4 that were included in those bids.
- And I disagree with that adjustment because,
- 6 while there was an adjustment necessary in both of these
- 7 arrangements, the fuel adjustment surcharge, in essence,
- 8 cancels each other out. These are adjustments to the
- 9 base expectation, and a base is set in both of these
- 10 indices. And Ms. Wehle's attempt here is to say that a
- fuel index surcharge should be applied to one bidder's
- 12 bid, but not another bidder's bid, and I don't think
- that is a fair and accurate representation of costs. I
- 14 think those two surcharges cancel each other out and
- should not be included in an economic analysis of what
- 16 the rates should be.
- 17 Q But if the cost of the surcharge is included in
- 18 the , then your reason for challenging that
- 19 adjustment is wrong; is that correct?
- 20 A The is the rail bidder rate.
- Q No, that's the TT total, column B. I'm sorry.
- 22 There are two . I'm talking about -- just look at
- 23 the top line, Cook.
- 24 A Oh, I see. Okay.
- 25 Q If the surcharge is already included in that

```
1 rate, then your challenge to Ms. Wehle's adjustment is
```

- 2 incorrect; isn't that right?
- 3 A That would be correct in part, if we are
- 4 talking about January 1, 2004. But my reading of the
- 5 TECO Transport/TECO contract is that an adjustment takes
- 6 place on April 1. And if an adjustment takes place on
- 7 April 1 for the TECO/TECO Transport contract and it
- 8 doesn't take place in the first quarter, then it's not
- 9 fair to compare them on the basis of that one quarter.
- 10 I would argue that you have to maybe go to the second
- 11 quarter and look at what the CSX fuel surcharge is
- 12 versus the TECO Transport surcharge, and if those two
- are operating as an add-on at that point, then you have
- 14 to make your adjustment.
- 15 Q And the calculation is based upon a percentage.
- A For which entity?
- 17 Q For the fuel surcharge. That's a percentage,
- 18 isn't it?
- 19 A For which entity are we talking about?
- 20 Q Certainly for the rail bidder, it's a percent
- 21 charge of the cost of a barrel of fuel.
- 22 A Yes, it's essentially a percent surcharge.
- 23 Q And to your knowledge, how is the TECO
- 24 Transport and Trade fuel surcharge calculated?
- 25 A It is applied to the fuel component of the

```
three-part rate that is charged per the TECO
```

- 2 Transport/TECO contract.
- 3 Q But if that already includes the
- 4 surcharge as of January the 1st, you would not expect
- 5 that charge to go up on April the 1st, would
- 6 you, on a per ton basis?
- 7 A Actually, I looked at a comparison that would
- 8 show that the two fuel surcharges operate at
- 9 approximately the same magnitude, and a document that
- was provided per the public records request provides an
- indication of this. And specifically I'm looking to the
- September 26, 2003 , and that
- price report shows on page 5 that the fuel
- price for Tampa, Florida, at that time was \$75.65 to
- 76.55. And it shows that the New Orleans area had a
- 16 fuel rate of \$73.70 to \$75.05, which
- 17 mirrors in many regards what you would expect to see in
- 18 the --
- 19 Q But this is not
- 20 A It's not , but it's a reflection of
- 21 because it's Gulf Coast.
- 22 Q But it's not .
- 23 A It's not specifically .
- Q Why don't we have this document marked as the
- 25 next exhibit, please. And I see you've stolen that.

```
1 You purloined it from your Resource Center.
```

- 2 A Yes. Just borrowed it.
- Q Can I have a copy made of this?
- 4 A You're most welcome to.
- 5 Q But you're speaking -- this is Exhibit 13, and
- this is dated Monday, September 29, 2003, Volume 81,
- 7 Number 187, ; is that
- 8 correct?
- 9 A Yes.
- 10 Q And you were looking at page 5, is that
- 11 correct, and then ?
- 12 A Yes.
- 13 Q And on page 6 of that same document, for crude
- oil, FOB source, and it doesn't indicate -- it just says
- 15 West Texas International.
- 16 A Intermediate.
- 17 Q Okay. We'll get a copy of that so you can not
- be blamed -- do we need to make a copy before we put the
- 19 exhibit number on it?
- 20 A Sure.
- Q We're going to get a copy now.
- 22 A Sure.
- 23 (Off the record briefly)
- 24 (Deposition Exhibit 13 was marked for
- 25 identification.)

```
1
       BY MR. FONS:
 2
                Let's look at column E of Exhibit 12, the
       demurrage rate. Do you have any problems with that
       adjustment?
 4
                 That demurrage rate I think was based upon a
 5
       study that was conducted on Tampa Electric's behalf, and
 6
       it suggested that the train unloading couldn't take
 7
       place in the designated time frame that was suggested by
                           included in the CSX bid for
 9
       the
10
                tons.
                 And I didn't presume that demurrage was going
11
       to happen to any degree. I had no information that that
12
       demurrage would have to be assessed. And I think my
13
       memory is, I asked about -- I may have -- well, allow me
14
       not to speculate. I'm not sure if I asked about that or
15
       not in talking with Mike Bullock, but I did not include
16
17
        that, because I did not know whether the study was
        correct or not.
18
                 And subsequently, I have been reading discovery
19
        responses by CSX which would indicate that for their
20
        direct rail carrier origins, that they have not been
21
22
        experiencing rail demurrage charges. So in hindsight, I
23
        think that I probably made a good decision in not
```

How many of the connections needed to supply

24

25

including that adjustment.

```
Tampa Electric are direct CSX connections?
1
                Are you asking about the commonality of --
2
3
           0
                 Yes.
           Α
                 Okay.
                 Well, let me ask you this. What has direct
 5
        connection got to do with it? Are you suggesting that
        CSX will have to unload all the cars when they do a
        connection with Illinois Central or Union Pacific?
 8
 9
            Α
                Yes.
                 So they'll have to unload all the cars, and
10
        there will be demurrage associated with that?
11
12
            Α
                 Right.
                 You're not talking about unloading at the
13
        shipper's place, the Big Bend Power Plant?
14
            А
                 That's correct.
15
                 So the only time you'll have demurrage is when
16
        CSX picks up coal that is originating on Illinois
17
        Central?
18
                 I believe that's the case.
19
            Α
                 How about F? That's not a biggie, but would
20
21
22
23
        the CSX bid.
24
            0
                 Where is it included? It says rates for
```

```
1 rate shown above.
```

- 2 A Oh, it's not included in the rate. It's an
- 3 adder to the rate, yes.
- 4 Q Right.
- A And I didn't incorporate that. And as we can see from Ms. Wehle's incorporation, she included it in
- only a single dock. And I think one of the reasons why



- 10 Q How about column G, increased cost to Polk
  11 Station?
- 12 A I didn't agree with that adjustment either.
- 13 The reason I didn't agree with it is that CSX offers two
- 14 options for how to complete the shipment to Polk
- 15 Station, and one of those is a direct rail train direct
- 16 to Polk Station. And that option can be seen in the
- 17 verbiage on the same Attachment A rate page, where it
- says, "If elected for Tampa Electric's options on Polk,
- rail direct deliveries to the Polk Plant will be per
- 20 net ton in addition to the rates outlined above." And
- 21 is certainly superior to the that is now being
- 22 charged for trucking for that purpose.
- 23 So not knowing which option would be selected,
- but looking as though one was clearly superior, if there
- were any adjustment, it would go in the other direction,

```
1 it would appear to me.
```

- 2 Q Did you have any discussions with Mr. Bullock
- 3 or anybody else at CSX after you filed your testimony on
- 4 October 23rd?
- 5 A No.
- 6 Q Do you know whether anyone on your staff had
- any discussions with anyone at CSX after the bids were
- 8 made and before your testimony?
- 9 A I don't know of any contacts. I would say that
- 10 I did hear from -- after talking with Mr. Bullock, I did
- 11 hear from Mr. Schef Wright, who called just to inform me
- that they were intending to intervene in the case.
- 13 Q He called you rather than your attorney?
- 14 A Yes, he did.
- 15 O Did he have --
- 16 A Or I should say he called me. He may have in
- 17 addition called the attorney. I don't know.
- 18 Q Do you as a custom talk to the attorneys for
- 19 parties?
- 20 A I typically don't unless it's in a group
- 21 setting like this, and then I talk with them a lot.
- 22 Q More than you care to.
- 23 A I didn't say that.
- MR. FONS: Let me get this marked as an
- exhibit.

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1 (Deposition Exhibit 14 was marked for
```

- 2 identification.)
- MR. FONS: And go ahead and mark this as the
- 4 next one.
- 5 (Deposition Exhibit 15 was marked for
- 6 identification.)
- 7 BY MR. FONS:
- 8 Q I'm handing you what have been marked as
- 9 Exhibits 14 and 15 and ask you if you know what these
- 10 are. That's 14, and this is 15.
- 11 MR. KEATING: Could I ask which one is 14 and
- 12 which one is 15?
- 13 MR. FONS: It should be --
- MR. KEATING: Thank you. I've got it.
- THE WITNESS: I'm sorry. The question is?
- 16 BY MR. FONS:
- 17 Q Are you --
- 18 A I'm familiar with these documents.
- 19 Q Were these documents prepared by you or at your
- 20 direction and supervision?
- 21 A I believe I prepared this.
- 22 Q And on the first one, on 14, there are
- 23 handwritten notes that say, "In docket file? See MAH,"
- 24 and it's marked "Draft." Who is MAH?
- 25 A I believe that would be Mary Anne Helton.

- 1 Q Is she the one that prepared it or was
- 2 reviewing it?
- 3 A She may have been involved in the review
- 4 process. I'm not sure. I don't believe we ever went
- 5 anywhere with this.
- 6 Q Okay. That was going to be my next question.
- 7 Were these letters ever sent?
- 8 A No. We certainly debated it, but staff was
- 9 very sensitive to the fact that we didn't want to --
- once the RFP process was underway and the RFP was
- issued, we were sensitive about the question of
- 12 contacting potential shippers, even after the closing
- period of July 31st, knowing that negotiations might
- still be going on. And the staff took great care, I
- think even in late September, to check with TECO counsel
- 16 to see if they thought it was acceptable for us to talk
- 17 to shippers, wanting to not become involved in the
- 18 process of disturbing the bid process until the
- 19 selection was made.
- 20 Q Prior to August 12th, did the staff post
- 21 information about Tampa Electric's RFP on its website?
- 22 A I believe we did.
- 23 Q And what kind of information were you posting
- on your website?
- 25 A I believe we posted the time line for the

```
selection process, for the distribution and evaluation
```

- 2 and selection process of the RFP that was provided to us
- 3 in a public meeting.
- 4 Q And was one of the things that was posted on
- 5 the website information that Tampa Electric indicated
- 6 should not be on the website, such as the right of first
- 7 refusal?
- 8 A I believe that that document simply stated that
- 9 it should be clarified whether the right of first
- 10 refusal was operating -- excuse me. Let me reference
- 11 that page so I can get it exactly right.
- 12 Could you assist me by clarifying exactly which
- 13 page it is you were concerned about that was on our
- 14 website?
- Q We believe the whole thing was on the website,
- 16 both pages, and the letter.
- 17 A Okay. There is a minimum clarifications, TECO
- 18 RFP minimum clarifications sheet that staff had
- 19 developed and placed in the docket file which, because
- it was in the docket file, would be posted to the
- 21 website. And item number 7 on that sheet states, "TECO
- 22 Transport: TECO Transport can/cannot (circle one) match
- the lowest bid with all non-price factors considered."
- I don't think that that in any way declares whether a
- 25 right of first refusal exists or not.

1

21

22

23

24

25

Did you believe that putting materials on the

```
website was a way of communicating with shippers?
2
3
           Α
                 No.
                Was it staff's intention to put matters such as
           0
        this on the website in order to communicate with
5
 6
        shippers?
                 I don't believe that that was the intention. I
 7
 8
        think that that was placed in the docket file by our
 9
        legal staff, or at least there was some recognition
        between the two divisions, the Division of Economic
10
        Regulation and the Division of Legal Services or General
11
12
        Counsel that -- there was some discussion about whether
        or not it should be put in the docket file. But I don't
13
        think it was a tacit way to signal to the shippers that,
14
15
        hey, look here, we're going to get the information out
16
        to you this way rather than an up-front method. I don't
17
        think there was any intent to do that.
18
                 But at the time that the RFP was being issued,
19
        staff and Tampa Electric were in a controversy over what
        should be included in the RFP; is that correct?
20
```

here is whether or not an item like this, which represents communications and is something that is certainly quite integral to the case, whether it would be appropriate to leave it out of the docket file.

Yes, that's correct. And I guess the issue

```
1 Something like that was I think also perhaps considered.
```

- 2 Q Just so we're clear on this, there's no
- 3 requirement in Order No. 20298 that Tampa Electric
- 4 solicit bids or put out RFPs; is that correct?
- 5 A I agreed with that earlier, and I continue to
- 6 agree with that.
- 7 Q And therefore, there is nothing in that order
- 8 that provides staff with any authority to tell Tampa
- 9 Electric what to include in the bid, is there?
- 10 A No, there's not.
- 11 Q Is there anything in any Commission order or
- 12 rule that directs staff to tell a utility what to put in
- 13 an RFP of this kind?
- 14 A I think we do have a rule regarding need
- determination that would indicate that there is a
- meeting process that takes place where there is
- interplay between the parties and staff as to what
- 18 constitutes an acceptable RFP.
- 19 Q But that's for need determination; isn't that
- 20 correct?
- 21 A That's correct, that's for need determinations,
- 22 but --
- 23 Q Prior to the RFP being issued, did you or
- 24 anyone on your staff have any discussions with Drummond
- 25 coal?

1

2

17

```
it likely would have been Bernie Windham.
 3
                 But you've not had any -- or have you had any
        discussions with Bernie Windham concerning any contacts
 5
 6
        he may have had with Drummond Coal prior to the issuance
        of the RFP?
 7
                 You know, my recollection of these many
 8
        contacts is admittedly somewhat hazy, but I believe he
 9
        did contact them and try to find out information about
10
        Drummond Coal in terms of, you know, what the operation
11
        of the facility was and --
12
                 Operation of what facility?
13
                 A prospective new coal terminal in the Tampa
14
            Α
15
        Bay area.
                 And why would a prospective new coal terminal
16
```

If there was someone from the staff that would

have contacted Drummond Coal or been contacted by them,

connection with the bid, the RFP that Tampa Electric was preparing to issue?

A Well, I believe this was an issue that was

in the Tampa Bay area be of interest to the staff in

discussed at our July 1 meeting, where we were
discussing our clarifications. We were concerned that
it appeared as though this was a bid for domestic
waterborne coal, and we were concerned at the time that
it may be cheaper to ship coal directly from foreign

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locations directly to Tampa Bay, and we wanted to
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- 2 understand more about that process and whether or not
- 3 there were options for receiving coal in the Tampa Bay
- 4 area that could be used for the Polk facility.
- 5 There was I think a good bid of information
- 6 that staff had received from Tampa Electric at that time
- 7 which would have indicated that there was limited
- 8 capability for storage and blending at Big Bend, so that
- 9 there was a natural question about what are the economic
- 10 benefits of receiving coal in different ways and in
- different locations in the immediate Tampa area in order
- 12 to be able to preclude having to pay both the
- 13 terminaling fee in Davant as well as the Gulf transit
- 14 fee.
- 15 Q The article that you're reading from, what's
- 16 the date of that article?
- 17 A November 17, 2003.
- 18 Q So that was well before the bid process began,
- or after the bid process. It was after it was
- 20 completed, wasn't it?
- 21 A Yes.
- 22 Q I thought indicated that the contacts with
- 23 Drummond were before the RFP was issued and that the
- 24 contacts were to find out about --
- 25 A They were. I believe that there were some

- 1 contacts before the RFP was issued.
- 2 Q Right, but that information didn't come out
- 3 until after the RFP had been completed.
- 4 A Well, I don't know that. This is information
- 5 that is new to this publication.
- 6 Q But how did you know about it before July 1st?
- 7 A I'm only trying to put into context what you
- 8 were saying with the Drummond Coal location. You wanted
- 9 to --
- 10 Q Well, I wanted to know why you would have been
- interested in a new terminal by Drummond, because that
- 12 was the reason you expressed for why you had contacted
- 13 Drummond, and that article didn't come out until well
- 14 after the time that you would have had such contacts;
- isn't that correct?
- 16 A That's correct, to the extent that a contact
- was made. And I'm not 100% certain a contact was made.
- 18 But this is just referencing the fact that there would
- 19 be a new Drummond Coal facility available late this
- 20 year. And it doesn't mean that this was the first time
- 21 this was introduced. This information could have been
- 22 provided in any number of ways, and Bernie could have
- 23 discovered it in any number of ways.
- 24 Q Did you have any contacts with Drummond Coal
- 25 during the time that the bid window was open? Did you

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or anyone on your staff have any such contacts?
```

- 2 A I think a similar question was asked earlier,
- 3 whether or not we had engaged in the behavior of
- 4 contacting potential bidders. And as far as I know,
- 5 there was no contact during that bid window.
- 6 Q Was Drummond Coal a potential bidder?
- 7 A Drummond Coal would be considered a potential
- 8 bidder if you were to construe the RFP very broadly.
- 9 Q Is Drummond Coal a waterborne coal
- 10 transportation company?
- 11 A It's a terminaling facility, and I believe they
- 12 also have a -- some coal provisioning. I believe that
- 13 Drummond Coal responded to the -- could have responded
- 14 to the RFP.
- 15 Q But they did not, did they?
- 16 A Within the window that was established?
- 17 Q Yes.
- 18 A I don't believe they did.
- 19 Q Did they submit a bid after the window was
- 20 closed?
- 21 A I'm not certain.
- 22 Q Did staff ever urge Drummond to submit a bid?
- 23 A Not to my knowledge.
- 24 Q But it could have? Someone on your staff could
- 25 have urged them to submit a bid?

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1 A I don't have complete control over the actions
```

- of everyone that is on the staff at all times. I don't
- 3 think there's any manager or supervisor who does. But I
- 4 can tell you that I did have a discussion with Bernie
- 5 Windham when some concern came up about potential
- 6 contact with shippers, and I asked Bernie Windham
- directly, "Have you had any contact with shippers since
- 8 the bid period has opened?" And he indicated no, and I
- gave him further direction at that point to not make any
- 10 such contacts.
- 11 Q Define shipper for me. You mean a carrier?
- 12 A Excuse me. I misspoke. I asked him if he had
- 13 -- we were talking about the bid window being open.
- 14 No, I was correct. I was correct. Excuse me.
- 15 Go on with your question.
- 16 Q You were correct on your terminology of
- 17 shipper?
- 18 A I was correct with the fact that I had given
- 19 that direction during the period of the bid window being
- 20 open.
- 21 O I'm confused now. , is that a
- 22 shipper or a carrier?
- 23 A They're a carrier. They provide transport.
- 24 Q But you had indicated earlier that you had
- given instructions to Bernie Windham not to speak with

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1 shippers during the time the window was open.
```

- 2 A To be more complete, I gave him instructions
- 3 not to talk to anyone who could bid.
- 4 Q And who is the shipper? Wouldn't Tampa
- 5 Electric be the shipper? Aren't they the one that is
- 6 shipping coal from the mine to the power plant?
- 7 A Yes.
- 8 Q Now, Drummond Coal is a coal producer, are they
- 9 not?
- 10 A I believe so.
- 11 Q And they produce coal both domestically and
- foreign; is that correct?
- 13 A I believe so.
- 14 Q But they're not a waterborne coal
- 15 transportation company, are they?
- 16 A I think they contract for that service, and
- they established a terminal in Tampa. But they are a
- provider of coal, and they contract for the shipping.
- 19 Q They're in the same boat that Tampa Electric is
- as far as getting coal from one point to another. They
- 21 are dependent upon some carrier to do that; is that
- 22 correct?
- 23 A Yes, I believe so.
- Q And do you know whether or not the carriers
- 25 that Drummond uses are affiliates of Drummond?

```
1 A I don't know.
```

- 3 to transport its domestic coal to points in Florida?
- 4 A No.
- 5 O Do you know what kind of vessels Drummond uses
- 6 to transport coal from foreign locations into Florida?
- 7 A No.
- g O Do you know whether Drummond is transporting
- 9 any foreign coal into Florida at this time?
- 10 A I'm not certain.
- 11 Q What are the limitations of delivering coal
- into the Tampa Port Authority?
- 13 A I'm not certain about all locations for the
- 14 Tampa Port Authority, but according to the Tampa Port
- Authority, Tampa Port Authority Berth 30 at Port Sutton,
- Pendola Point, has a draft of 43 feet, but it's limited
- by the approach channel to 39 feet plus tide to a max of
- 18 41 feet.
- 19 O So that would limit the availability of a
- 20 Panamax vessel. Panamax vessels, would you agree, have
- a draft of up to 43 feet?
- MR. FONS: Let's just -- why don't you mark
- this as the next exhibit.
- 24 A That's a good question. I'm not certain that
- I can necessarily agree with that, because there is the

```
possibility of loading Panamax vessels --
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- MR. FONS: Whoa, whoa. She's got to mark
- 3 it.
- 4 (Deposition Exhibit 16 was marked for
- 5 identification.)
- 6 BY MR. FONS:
- 7 Q You have in front of you what has been marked
- 8 Exhibit Number 16, which is a -- can you tell me what
- 9 that is?
- 10 A Yes. Exhibit Number 16 is a response from Lisa
- 11 Hall of Tampa Port Authority to Todd Bohrmann on March
- 12 11, 2004, responding to certain queries that were
- 13 relayed to her by Mr. Bohner.
- 14 (Discussion off the record.)
- 15 BY MR. FONS:
- 16 Q Look at Item 1 under, "Pursuant to Mr. Bohner's
- 17 direction, following are responses to your queries of
- 18 February 10." Would you just read that?
- 19 A "Panamax vessels can have a draft of up to 43
- 20 feet. Big Bend Channel has a 34 foot draft.
- 21 Bayside/Gannon has an approach channel that has an
- 22 operational draft of 39 feet plus two foot of tide to a
- 23 max of 41 feet, but the berthing area is only 34 feet.
- Q So that would make it difficult for a Panamax
- vessel to enter the Big Bend Channel; is that correct?

```
1 A That's probably what it would indicate, but --
```

- yes, that's probably what it would indicate.
- 3 Q And likewise, under point number 2, Tampa Port
- 4 Authority Berth 30 at Port Sutton, Pendola Point, has a
- 5 draft of 43 feet but is limited by the approach channel
- 6 to 39 feet plus tide to a max of 41 feet; is that
- 7 correct?
- 8 A Is it correct that a Panamax vessel would have
- 9 a hard time --
- 10 Q Yes.
- 11 A -- in approaching the dock?
- 12 Q Yes.
- 13 A It's possible, yes. I mean, it's self-evident
- 14 from this.
- 15 Q And doesn't this e-mail from Lisa Hall indicate
- that there are not only draft problems, but also
- 17 permitting problems for the offloading and storage and
- handling of coal in the Tampa Port Authority?
- 19 A Well, when you say a problem, I think what it's
- 20 saying here is that they're limited because of
- 21 permitting. I don't know if permits were --
- 22 Q But you would agree a permit is not currently
- 23 in effect, and a permit must be obtained from the FDEP
- 24 to store, process, or blend coal, whether it is for an
- 25 open storage pile system or a silo storage system?

1	Isn't	that wha	t this	e-mail	says?	1	
2	А	Yes.					
3		MR. F	ONS:	Can we	go off	the	record?
4		(Disc	ussion	off th	ne reco	ord.)	
5		(Depo	sition	recess	sed at	4:22	p.m.)
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1	
2	CERTIFICATE OF OATH
3	
4	
5	STATE OF FLORIDA)
6	COUNTY OF LEON )
7	
8	
9	I, MARY ALLEN NEEL, Notary Public in and for
10	the State of Florida at Large:
11	DO HEREBY CERTIFY that on the date and place
12	indicated on the title page of the foregoing transcript,
13	an oath was duly administered by me to the designated
14	witness before testimony was taken.
15	WITNESS my hand and official seal this 5th day
16	of April, 2004.
17	
18	
19	
20	MARY ALLEN NEEL, RPR
21	2894-A Remington Green Lane Tallahassee, Florida 32308
22	
23	
24	
25	

1	
2	CERTIFICATE OF REPORTER
3	
4	STATE OF FLORIDA)
5	COUNTY OF LEON )
6	
7	I, MARY ALLEN NEEL, do hereby certify that the
8	foregoing proceedings were taken before me at the time
9	and place therein designated; that my shorthand notes
10	were thereafter transcribed under my supervision; and
11	that the foregoing pages numbered 1 through 133 are
12	a true and correct transcription of my stenographic
13	notes.
14	I FURTHER CERTIFY that I am not a relative,
15	employee, attorney or counsel of any of the parties, or
16	relative or employee of such attorney or counsel, or
17	financially interested in the action.
18	DATED THIS 5th day of April, 2004.
19	
20	
21	
22	MARY ALLEN NEEL, RPR
23	2894-A Remington Green Lane Tallahassee, Florida 32308
24	(850) 878-2221

# BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 030133-EI

In re: Review of Tampa Electric Company's waterborne transportation contract with TECO Transport and associated benchmark.

DEPOSITION OF:

WILLIAM B. MCNULTY

TAKEN AT THE INSTANCE OF: Tampa Electric Company

DATE:

Monday, April 5, 2004

TIME:

Recommenced at 10:35 a.m. Concluded at 12:09 p.m.

227 South Calhoun Street

LOCATION:

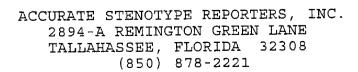
Tallahassee, Florida

REPORTED BY:

MARY ALLEN NEEL, RPR Notary Public, State

of Florida at Large

VOLUME 2 Pages 136 - 186



#### APPEARANCES:

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# ALSO PRESENT:

CARLOS ALDAZABAL DEIDRE A. BROWN EARL POUCHER

138 INDEX PAGE WITNESS WILLIAM B. McNULTY Continued Direct Examination by Mr. Fons 139 Cross-Examination by Mr. Vandiver Cross-Examination by Mr. Twomey Cross-Examination by Mr. Keating 162 168 174 CERTIFICATE OF OATH 185 186 CERTIFICATE OF REPORTER

1 Thereupon,

## WILLIAM B. McNULTY

continued his direct testimony under oath from Volume 1 as follows:

### CONTINUED DIRECT EXAMINATION

#### BY MR. FONS:

- Q Good morning, Mr. McNulty.
- A Good morning, Mr. Fons.
- Q You're still under oath, you realize?
- A I understand that.
  - Q It didn't wear off over the weekend.
  - A No, it didn't.

If I could actually start by saying there's a couple of items that I would like to correct or amend from Friday's deposition. A few things I said were not correct or were incomplete, and I would like to go ahead and make them complete or correct them at this time.

Q You will certainly have an opportunity,
Mr. McNulty. After I finish cross-examining you, your
attorney may redirect any questions to you. I think
that would be more appropriate, since I don't have an
idea where you're going with this, and I think it would
be more appropriate if questions were asked and answers
were given.

A That's fine. I only offered that to offer you

the opportunity to say something and follow up on those things.

Q Well, do want to tell me what the areas are before --

A Certainly. I guess I can basically tell you that one was, there was a line of questioning on Friday that asked me the time frames during which staff contacted shippers.

Q Yes.

A I should say carriers, the time they contacted carriers. That's one area.

And then the other area is, you asked me what the definition of competition was, and I believe I gave you a somewhat incomplete definition on that.

Q All right. Let me just begin by asking you, over the weekend have you had an opportunity to review the testimony filed by the intervenors in this proceeding?

A No, I have not.

Q So anything that you will testify today was not colored by anything that you learned over the weekend from testimony from other witnesses in this proceeding?

A No.

MR. FONS: Let's go back to Exhibit 12, if we may. Cochran, I've given you a set of documents

1.0

1	there.
2	MR. KEATING: Do these include the exhibits
3	from Friday?
4	MR. FONS: Yes, that's the packet from Friday.
5	BY MR. FONS:
6	Q We talked on Friday about Exhibit 12, and what
7	I want to know is, on column C, the rail bidder rate,
8	the amount shown in each one of those lines, Cook,
9	Hamilton, et cetera, is the rail bid from CSX; is that
10	correct?
11	A Yes, that's the CSX bid, their I believe it
12	was their Attachment A.
13	Q Now, that rate is the rate from wherever they
14	would pick up the coal; is that correct?
15	A Yes.
16	Q And would they be picking up and I believe
17	that the locations indicated are river docks.
18	A Yes.
19	Q Like the first line is Cook. That's a river
20	dock; is that correct?
21	A That's correct.
22	Q To your knowledge, would CSX be picking up the
23	coal at Cook?
24	A The way that I determined how these rates would
25	apply was to see for each river dock the short answer

to the question is that the locations that were listed
in the RFP are river docks, but the locations that are
listed in CSX's the bidder's rates are not associated
with river docks, but are associated with what is in
their tariff, and they don't base their tariff upon
river docks. So what I attempted to do was to match up
the location of where the river docks were with the
locations that are in the CSX tariff.

- Q And have you looked at -- again, you might want to look at -- do you have a copy of the CSX bid?
  - A Yes.
  - Q Why don't you turn to page 41?
  - A Is this the page you're referring to?
- Q Yes, Attachment A. Yours has got a little different number. It's got an extra 1 on there.

It shows the mine and rate district, and it says on the first line the Galatia Mine, and there's a rate for . Is that the same as the Cook river dock on Exhibit 12?

A It could be -- according to information I have in front of me, it could be the Cook river dock, or Mound City is also listed. I guess it could be either one of those. I would have to actually look this information up on a map in order to be able to determine how I originally determined that these were equivalent

1 areas.

- Q And this Exhibit 12 is, of course, built upon your Exhibit Number 1, is it not?
  - A Right.
- Q And in your Exhibit 1, you used -- you did not use what's set forth -- I'm sorry. You're not --
- A I'm trying to retrieve my testimony, since you were referencing it.

Okay. I have it now.

- Q And you didn't use Attachment A -- well, how did you use Attachment A in the development of your Exhibit WBM-1?
- A I used Attachment A to determine the mine and rate district that was listed, and it included Galatia Mine, and Galatia Mine has a specific geographic location which I determined on maps. From that, I determined if that particular mine was essentially between the pool areas that were listed by Tampa Electric in its RFP. The RFP had a two-page addendum that showed the various docks that were being included in soliciting a bid for those locations. So I was able to determine for each of the locations that were listed on Attachment A of the CSX bid where they existed in relation to the pool areas described on the RFP. And from that, I could determine whether or not they were in

the approximate location of, say, in this instance, or in any one of these designated pool areas, whether or not the specific mine was proximate to it.

Q Now, to your knowledge, coal coming from the Galatia Mine, how would it be delivered for purposes of waterborne transport from the Galatia Mine to the dock, the Cook dock?

A I don't know specifically how that transport happened or happens for TECO Transport and for Tampa Electric in the delivery of those goods. It could be by truck. It could be by rail. I'm not certain of those specific delivery mechanisms.

Q Are you familiar with how the coal gets from Galatia Mine to the railhead under the CSX proposal?

A I would presume it would be by truck, but it could also be by rail. Those methods for moving the coal from the mine to the river or the mine to the railhead I'm not certain about.

- Q Okay. Is there any charge in the CSX proposal for the transport from the mine to the railhead?
  - A No, there's not.
- Q Is the coal generally delivered to the dock under a term called FOB or free on board?
  - A Yes, it is.
  - Q And what does that mean?

1.4

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- A Free on board means that the commodity price will include not only the price of the coal, but also the transport of the coal to the river dock.
  - Q Now, do you know whether the railhead and the river dock are collocated?
  - A I would say in most instances they are not collocated.
  - Q And if the railhead was a longer distance from the mine, then the transportation cost would be -- if the railhead is further from the mine than the dock is from the mine, then the cost of that transportation to the railhead would be more than the transportation to the dock; isn't that correct?
  - A In most cases that would be correct. It would depend upon the individual arrangements having been made.
  - Q And in that case, then the cost of the coal, the commodity, would be higher if it was being shipped by rail rather than waterborne?
    - A Yes.

2.4

Q And ultimately, Tampa Electric, if they were the purchaser of the coal, would have to pay more for the coal in that situation if it were shipped by rail than it would pay for the coal if it were shipped by waterborne?

A Yes.

Q I believe that the CSX bid also presumes some additional capital costs that will have to be incurred by Tampa Electric in the event it were to take coal by rail; isn't that correct?

A Yes.

Q And does your analysis in WBM-1 take into account the additional capital costs that Tampa Electric would have to incur in order to take coal from CSX?

A No, it doesn't specifically make any account for capital costs. However, I should tell you that in the CSX bid, there was an offer for capital improvements and capital to be -- capital improvements were included in each of the bids that were proffered by CSX for the purpose of preparing Tampa Electric's generating stations for the receipt of coal.

- Q And do you have a copy of the CSX bid there?
- A Yes, I do.
- Q Would you turn to page 47? That's my 47.

  That's probably not -- there's no other page numbers on this bid that I'm aware of, but it's right behind Exhibit 2. It's the first page behind Exhibit 2.
  - A (Exhibiting document.)
- Q Yes. And at the bottom of this page, it's indicated that these capital improvements at Big Bend

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1	are anticipated not to exceed Do you see
2	that?
3	A It actually says . I think there was a
4	later adjustment to include a million based upon a
5	discussion.
6	Q An interlineation?
7	A Yes.
8	Q Okay. Do you have that page?
9	A I have that one.
10	Q All right. I was assuming it was . And
11	then it goes on to say that a system to load a 35
12	shuttle train to the northeast end of the property is
13	anticipated not to exceed , which I assume stands
14	for million; is that correct?
15	A Yes.
16	Q Have you done any analysis to determine whether
17	or not the proposed capital improvements that would be
18	required at Big Bend would in fact cost only
19	?
20	A No, I have not.
21	Q And if it cost more than the that
22	CSX has indicated that they would fund, then Tampa
23	Electric it would have bear that expense; isn't that
24	correct?
25	A Well there's two things I don't agree with

## CONFIDENTIAL

your statement on. The first is the being
the number to look at, because they talk about a
location in the northeast end of the property for the
, so you would have to add those two to get the
total. And then that's not the ultimate total, because
two paragraphs later, the discussion appears, "We are
confident in our estimates" this is a quote. "We are
confident in our estimates and would be willing to
invest up to of these estimates for each scenario
described above." So I perceive them as actually being
willing to invest at the Big Bend location plus
times , whatever that number is, in order to
determine what they would be investing at the Big Bend
location.

- Q Have you made any determination of whether the amounts proffered by CSX for the capital improvements can indeed be performed at plus times ?
  - A No, I haven't.

- Q So you have no opinion as to whether or not Tampa Electric would in fact have to incur additional capital costs in order to make the improvements necessary to accept coal by rail at their Big Bend Power Station?
- A I have no opinion on that at this time. Again, my -- excuse me, at the time that I prepared this. And

at this time, I am still not with an opinion on that 1 matter, as testimony has been filed that would address 2 this issue. 3

- Testimony by whom?
- CSX. Α

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- Are you aware that there is testimony filed by Q CSX that addresses this issue?
  - I am aware of that, yes. Α
  - Whose testimony? Q
  - I believe that is addressed -- I'm not certain. Α
- Have you reviewed the testimony filed by Tampa 0 Electric which addresses the issue of the capital costs?
  - Α Yes.
- And does Tampa Electric agree that the 0 improvements that would have to be made at the Big Bend Power Station could be performed for --
- No, they don't agree that it could be performed Α at that amount.
  - Did they say it could be less or more?
- Α More.
  - Substantially more? Q
- Α Yes. 22
  - Who is likely to have better information Q concerning what Tampa Electric needs at its Big Bend Power Station for purposes of excepting coal deliveries,

Tampa Electric or CSX?

1.2

- A I'm not certain.
- Q You don't think that Tampa Electric, who operates the power station, has better information about what its needs are and what its requirements would be than CSX?

A The trouble I have in making a determination as to who is the better determinant for what that would cost is, on the one hand, you have CSX, which is a railroad company, and they deal with railroad installations. They're the largest shipper of coal east of the Mississippi. They deal with installations everywhere. The one thing they may be lacking to some extent is site-specific information, but they know the business of transporting coal by rail, and so they would know a lot about the subject.

On the other hand, there's TECO that has all the site-specific information. I understand that TECO hired Sargent & Lundy to review this, and I understand that that's a consulting firm. I can't speak to the abilities of the consulting firm nor the people who are engineers on the staff of Tampa Electric who reviewed the Sargent & Lundy study.

So I really am not in a position at this time to be able to say who is the better entity to determine

a realistic level of capital expenditures for the 1 receipt of coal at Big Bend or Polk Station. 2 Isn't this more than just the receipt and 3 delivery? Isn't this also involved in the storage and blending of coal? 5 Yes, it also involves those aspects as well. 6 And does CSX as a practical matter involve 7 0 itself in the blending of coal? 8 I don't know. Α 9 And hasn't CSX even in its bid admitted that it 10 has developed these costs with very limited access to 11 these plants? 12 Yes, it did. 13 If the capital costs exceed the amount that CSX 14 thinks it will cost, then, of course, Tampa Electric has 15 to bear that expense or those costs; isn't that correct? 1.6 That's correct. Α 17 And those additional capital requirements, 18 doesn't that impact any decision that a prudent utility 19 would make, decisions it would make regarding the 20 acceptance of coal by one means or another? 21 Д Yes. 22

23

24

25

Α

make these improvements in order to accept coal by rail?

I don't have an opinion on that.

Is it your opinion that Tampa Electric should

1	Q In your testimony that you filed back in
2	October, you did have an opinion on that, didn't you?
3	A No.
4	Q Wasn't it your opinion that Tampa Electric
5	that the proper market rate to consider is the rail rate
6	offered by the rail company?
7	A I did say that that was the proper rate to
8	consider.
9	Q And do you still believe it's the proper rate
10	to consider for the market rate?
11	A No. As I said, I no longer believe that this
12	may necessarily be the best analysis, given the new
13	information that's provided in Docket 031033-EI.
14	Q And you don't think rail is a viable market
15	rate any longer?
16	A I said I was uncertain as to whether it was,
17	and I think I said that it may be on some routes. I
18	have not made a firm decision or opinion on that.
19	Q So are we now in the situation where a market
20	rate is going to be determined on a route-by-route
21	basis?
22	A I don't know.
23	Q What further information do you need to have to
24	know?
25	A I would have to fully evaluate and review the

testimonies that have been filed.

- Q And do you believe that the testimonies will give you a route-by-route specific market rate?
  - A I don't know.
- Q I believe you testified the other day on deposition that there are three approaches to determining the appropriate rate that Tampa Electric should be paying its affiliate for waterborne transport; is that correct?
  - A Yes.
- Q And those three are cost of service, cost allocation, and market rate; is that correct?
  - A Yes.
- Q And you're familiar enough with the Commission's order back in 1988, Order No. 20298, to know that the Commission has discussed each one of these approaches?
  - A Yes.
- Q Okay. Can you tell me what your definition of cost of service is and what it includes?
- A Cost of service is a method of determining the total cost of providing a specified service, and in regulated utilities, that normally includes a process whereby costs are functionalized into different areas, and those costs are then allocated. And it's a process

of determining costs on an account-by-account basis, adding up those specific accounts into their functional areas, and then allocating them to rate classes. And I believe it as well includes analysis of the cost of capital. And it's a fairly extensive process. It's what the Commission does to determine rates in a rate proceeding.

- Q It's tantamount to a rate case, is it not?
- A Yes.

- Q And what did the Commission think of cost of service studies in its decision back in 1988?
- A Excuse me just a moment while I get that information.

The Commission determined in Order No. 20298 that cost of service methodologies should be avoided if possible.

Q Didn't they also find that irrespective of whether any imprudence or unreasonable expenses are found and disallowances made, we agree with the parties to this case that a change from cost plus pricing is warranted?

MR. KEATING: If it speeds things up, I think we could agree to what's in the order.

MR. FONS: All right.

BY MR. FONS:

Q We're probably working from different versions. The paragraph that I was quoting from begins with "Irrespective." It's the page right before the proposed stipulation agreement. Do you see that?

A I see it. I see the language.

Q And would you also agree with me that two paragraphs down, cost of service regulation for public utilities is necessitated by their monopoly status?

A Yes.

Q And wouldn't you also agree with me that if there's any competition, that cost of service is not necessitated?

A No. I mean, I'm just reading from the order here. It says, "Cost of service regulation for public utilities is necessitated by their monopoly status and the attendant lack of significant competition." And the way you stated it, it sounded like you said any competition, and I think there's an important distinction to be drawn there.

Q Well, you have to read on. It says "if any further end product." We're not talking about an end product, are we? We're talking about the waterborne transportation of coal.

A Well, that's true.

Q Would you also agree that the Commission found

at the end of that paragraph, "Cost of service regulation of some type is essential when there is no competitive market for the product or service being purchased. It is superfluous when such a competitive market exists"?

- A I agree that that was what this order said at that time.
- Q Has the Commission issued any order since that time that takes a different position?
- A Nothing that specifically rebuts this except for the order that we discussed the other day that said that the Commission directs the parties and staff to review Tampa Electric's waterborne coal benchmark.
- Q That's to review the benchmark; is that correct?
  - A That's right.
- Q Not whether or not the waterborne transportation is competitive; isn't that correct?
  - A I think these areas are highly related.
- Q Is it your position, Mr. McNulty, that there is no competition for waterborne coal transportation on the inland waters?
- A No, I believe there is competition in the inland waters.
  - Q So a cost of service study is not required?

A Typically you would try to avoid a cost of service study in an instance where there is significant competition, so I would think it would be appropriate to avoid a cost of service study for that location.

Q And that would be in keeping with the Commission's determination that it is superfluous to do a cost of service study when such a competitive market exists?

A Yes.

Q How about on the terminal aspect? Isn't there competition there?

A There is a degree of competition there. It's less than what occurs on the river.

- Q You cannot say there is no competitive market; isn't that correct?
  - A That's correct.
  - Q How about on the Gulf portion?

A I think it's in question as to whether or not there exists competition in the Gulf. There appears to be economies of scale, and there also appears to be economies of scope in the instance of TECO Transport, that would indicate that there may be a lack of competition for large scale transport of dry bulk goods in the Gulf.

Q Can you say categorically that there is no

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competition for waterborne transportation in the Gulf?

But I would add that Tampa Electric's Α witness Dibner in this proceeding has indicated that there's no one with the ability to compete with TECO Transport at the capacity level that Tampa Electric requires for dry bulk goods at Tampa Bay.

Is that a good thing or a bad thing?

For our purposes, as individuals involved in Α the regulation of electric utilities, we would prefer there to be a competitive market, because that makes the job of determining the rate that much simpler. essence, if it is a monopoly that is being operated by TECO Transport, then that's unfortunate, because that would indicate that there would be more regulatory costs.

- Who says it's a monopoly? Q
- I suspect that it's a monopoly. Α
- And on what basis do you suspect that it's a Q monopoly?

I suspect that it's a monopoly based upon a combination of the RFP that was issued in this case and Tampa Electric's supplemental testimony filed by witness Dibner.

In the RFP, there is a stated requirement that 5.5 million tons be available for shipment by a single

carrier from Davant, Louisiana, to Tampa Bay. That is an amount that can only be transported by a single entity, as is shown on page 59 of 78 of witness Dibner's testimony, attachment to his testimony. A simple addition of the tonnages that are available from all other entities that he has been able to identify in this case cannot singly provide that level of transportation.

- Q Can CSX provide that level of transportation?
- A CSX could provide that level of transportation.
- Q And they have issued a bid?
- A And they have issued a bid.
  - Q So they could deliver that amount of coal?
  - A They could deliver that amount of coal.
  - Q And isn't therefore CSX a competitor of TECO
    Transport and Trade on the waterborne portion?
    - A Not necessarily.
      - Q Well, they are a competitor, aren't they?
  - A Not necessarily, because of the fact that what we're talking about is intermodal competition, and it's not clear that rail can compete with waterborne out of Tampa Bay.
    - Q Can't compete pricewise?
- 23 A Exactly.

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- Q So therefore, waterborne is cheaper than rail?
- 25 A It's possible. It has not been determined in

this case whether or not rail and water are competitive alternatives to each other.

- Q They're competitive, aren't they? Isn't it just a question of price?
- A It's a question of price, and you have to base it on a specific geographic location as well as the tonnages that are required and other factors.
- Q But you've already indicated that CSX could transport that amount of coal.
  - A They can provide that amount of coal.
- Q So all we're talking about now is the price, not the fact that CSX is a competitor of TECO Transport and Trade?
- A It could be a competitor. We won't know if it's a true competitor or not until we complete an analysis of what the ultimate rates are for coal transportation for one potential competitor, CSX, to the incumbent provider.
- Q Are you saying that the rates that CSX has bid are not the rates that Tampa Electric will ultimately pay for the delivery of coal by CSX?
- A I'm saying that we looked at a series of rates that were offered by the railroad company in this case, and those rates, in my estimation, compared favorably to those that were produced by the results of the Dibner

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- Q I only see one set of rates. Where is the series of rates that come from CSX?
  - A Those are the CSX rates.
- Q I know, but you said there was a series of CSX rates?
- A I'm sorry. I consider that a series because those are different locations. That's the rate.
  - O Those are the rates for those locations?
  - A For those locations.
  - O But there's not a series of --
- A No, no.
  - Q There's just one bid.
  - A Yes. And I guess what I'm saying is that there was a result from the Dibner study that compares the --well, they're just study results. Those rates are just study results that were accepted by TECO Transport. And for procuring coal for Tampa Electric, I'm not convinced that that is the lowest rate or represents what would be a -- I'm not prepared to say that that's the lowest rate that TECO Transport would be willing to accept to make the delivery of that quantity of coal.
  - Q Are you saying that the prices that TECO
    Transport and Trade is charging for the service from
    Davant, Louisiana, to Tampa, Florida, is so low that

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1	nobody can compete with it?
2	A I'm saying that's possible.
3	MR. FONS: Could we have a few minutes,
4	please?
5	(Short recess.)
6	MR. FONS: Thank you, Mr. McNulty. That's all
7	the questions I have.
8	THE WITNESS: Thank you.
9	MR. FONS: Do you have any redirect?
10	MR. KEATING: I do have some, but you can go
11	ahead.
12	MR. VANDIVER: I have just a couple.
13	CROSS-EXAMINATION
14	BY MR. VANDIVER:
15	Q Good morning, Mr. McNulty.
16	A Good morning.
17	Q Mr. McNulty, you were asked some questions
18	about the benchmark. Do you recall those questions?
19	A Can you refresh my memory?
20	Q Yes. You were asked some questions about the
21	Commission benchmark, and the benchmark I believe is an
22	average of publicly available rail rates; is that
23	correct?
24	A Right.
25	Q Do you have an opinion as to whether or not
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publicly available rail rates might be lower or higher 1 than other rail rates? And by that I mean the CSX rail 2 rates which have been bid here, as I understand, have 3 been requested to be confidential; is that correct? 4 Α Yes. 5 And the publicly available rail rates that the 0 6 benchmark is based on, I think they're to 7 municipalities. 8 9

Д Yes.

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- And those are publicly available, are they not?
- I think in most instances they are. I've heard Α of some difficulty with people getting that information at different times, but for the most part, that's publicly available information.
- And do you have an opinion as to whether or not the publicly available rail rates might be lower or higher than those rates that might not be disclosed to the public? In other words, I'm --

I object to the form of the MR. FONS: question. Which question are you asking? BY MR. VANDIVER:

- Do you have an opinion whether the publicly available rail rates are higher?
  - MR. FONS: Object to the form, but you can answer.

A The publicly available rail rates as compared to the rates that have been filed, the rails rates in this case, that's the comparison?

O Yes.

A The publicly available rail rates are higher than what we see filed in this case by the rail company.

Q So in that sense, the benchmark might be higher than those nondisclosed rail rates; is that correct?

A As I stated earlier, the publicly available rail rates are higher than the rates that have been proffered by the rail company in this instance.

However, there is a bit of a disjoinder in time, in the sense that the rail rates that appear in this case are rail rates that are projected through -- that are being offered for 2004 with escalation adjustments to be added to them.

On the other hand, the publicly available rail rates that we have looked at are historical figures that are about a year old, so they're not directly comparable in time. However, they are significantly different.

Q Mr. Fons asked you about the rail cost adjustment factor, I believe. And the rail cost adjustment factor, as I understand it, is kind of an inflation factor adjustment; is that correct?

A Yes.

1	Q Okay. And Mr. Fons asked the question that
2	this was an inflation adjustment, and he posed the
3	question to you that this factor could go up with
4	inflation; is that correct?
5	A Yes.
6	Q Could that factor go down as well?
7	A Yes, it's possible.
8	Q So it's not just going up, but it could go down
9	as well?
_0	A It could go in either direction, depending upon
_1	the items that are included in that factor.
L2	Q And it wasn't clear from Mr. Fons's questions,
L3	and I'm sure it was unintentional, but is there a
14	similar adjustment factor for the barge rates?
15	A Yes, there's a variable escalator in the barge
16	rates.
17	MR. FONS: You must have been asleep when we
18	had that discussion.
19	MR. VANDIVER: I must have been.
20	BY MR. VANDIVER:
21	Q And that barge rate factor, would that track
22	the rail rates in the real world if we were let me
23	ask you a hypothetical question. If the rail rates or
2.4	the barge rates were in effect for consumers, would they

both track up with inflation more or less? I mean, with

the barge rates or the rail rates in effect, would they both track the inflation factors when they were in effect?

A They're both inflation factors. They may not represent the same goods and services. PPI and CPI aren't going to be exactly the same thing as the rail cost adjustment factor, but in general they are indices that are trackers of inflation.

Q And so those would be comparable, in essence, that would go up with -- I appreciate they're different inflation numbers, but they're basically designed to do the same thing, track the inflation that's represented by both industries, and they would go up in both cases for the bottom line for consumers, and they would go up with inflation in both cases, for the barge and rail costs, wouldn't they?

MR. FONS: I'm going to object to the form of the question. The attorney is testifying.

## BY MR. VANDIVER:

Q Okay. What would happen to each of the prices, Mr. McNulty?

A The rail rate adjustment factor, as I understand it, is developed based more upon the costs that impact the rail industry, and so it may be an indices that is more closely tied to a specific industry

than the variable cost adjuster that is being used by the incumbent provider in this case. The incumbent provider seems to be using an escalator that is more indicative of a combination of that which takes place both within the general economy, which would be the CPI in terms of the household impact, as well as the PPI, which is a producer indices. So they're a little bit different, and their tracking may be -- there may be a little bit of difference in the indices and the way they operate.

- Q What's the barge indices designed to do?
- A The barge indices is designed to allow the base price that is reflected in the tariff to be adjusted, the variable component to be adjusted for the inflation effects in the economy.
- Q Okay. Mr. Fons asked you some questions I think about the staff placing things on the website for the RFP and so forth. What was the staff's motive in doing those things?
  - A Which specific document are you referring to?
- Q I have it right here. I think it's an exhibit. If you'll give me just a minute, I think Mr. Fons placed it into evidence.

Yes. Exhibit -- well, what was staff's motive in questioning the RFP and requesting that Tampa

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Electric make changes to the RFP?

A Our motive in questioning the RFP and suggesting changes to it when we saw the RFP was simply to make sure that bid process would be conducted in a way that would generate the best market information.

MR. VANDIVER: That's all the questions I have. Thank you.

## CROSS-EXAMINATION

## BY MR. TWOMEY:

- Q I have a couple. Good morning.
- A Good morning.
- Q Staff was apparently concerned about the level of waterborne transportation rates paid to TECO Transport and passed through to the customers for a period of years; is that correct? That is your concern, and you had the concern for some period of time; correct?
  - A Can you specify what period of time?
- Q Well, I'm asking you. Let me ask you first, was the staff concerned about the level of waterborne rates TECO was paying for the transportation and passing on to its customers?
- A We were concerned about the rate. On or around January of 2003, we were really starting to focus some analysis in that area.

Q And was that in anticipation of the existing contract expiring?

A We were knowledgeable of the contract expiring around that time frame, yes.

Q Were there other reasons that caused you concern at that time aside from the contract expiration?

A In the spring of 2003, we had some knowledge of the fact that TECO Transport may be sold by Tampa Electric, and with that information, we were concerned about what price may result from the sale of the unit. Excuse me. By price, I'm talking about contract prices for the delivery of coal that would be reflected in the new contract.

Q Did the staff at that point have an opinion on whether TECO Transport would bring a higher sales price if it had a five-year contract with the utility?

A Yes, we had wondered about that, and we were concerned that we involve ourselves as carefully as possible in the RFP process to address a host of issues, and that was one of them.

Q And was it the staff's opinion that TECO

Transport would have a higher value for sale if it had a five-year contract in hand?

A We didn't have a definitive opinion on it. It was discussed in different ways by staff, but it was

certainly conjectured as a possibility that if the unit is going to be sold, that it may be sold at a higher price.

- Q Now, it's true, isn't it, Mr. McNulty, that the staff through various communications encouraged Tampa Electric to issue the RFP?
  - A Yes, that's true.
- Q And again, why did the staff undertake to encourage Tampa Electric Company to issue an RFP for its waterborne or coal transportation services?
- A The reasons that we encouraged them to pursue issuing an RFP is because we thought that that was the source of the best market information available.
- Q Okay. Isn't it true that Tampa Electric expressed some reluctance initially to issue an RFP?

A They didn't really express reluctance as much as, "We're studying this issue and trying to determine whether or not to issue an RFP. We are studying it." And basically the people that I was talking to with the company, and I think others on the staff were talking to, were not the decision-makers. And so the people that I was talking to and others were talking to were getting secondhand information from the company representatives saying, "We don't know yet. We're waiting for management to make a decision on that

subject."

Q And when the RFP was finally let or issued, did the staff or you personally have an opinion on whether it was relatively late in time vis-a-vis the expiration of the contract?

A I had the opinion that it was late in time, and I expressed that in my testimony.

Q Okay. I want to ask about your staff's procedures. Did you say you have four or five subordinates that answer to you?

A Five.

Q And do they typically, or do all of them have broad experience in terms of years in this area?

A What is this area?

Q Fuel, fuel procurement, fuel pricing.

A Of the five individuals that work in the Cost
Recovery Section under my direction, I would say that
there's significant experience with four of the five.
Four of the five have significant experience in the area
of fuel procurement.

O And who are they?

A It would be Todd Bohrmann, Bernie Windham, Sid Matlock, and Jim Breman.

Q Okay. Now, did either the staff or you personally see this docket and this issue potentially

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involving more than just the prudence of the coal transportation costs? That is to say, did you also see a potential that the transportation methodology could possibly drive imprudent coal prices as well?

A We understood that those two areas were linked.

A We understood that those two areas were linked. We were trying to focus mostly on the transportation issue. It's very difficult to do that without also thinking about the sources as well.

Q Was that due in part to the fact that if they were going to utilize the affiliate transportation, that the coal, perhaps of necessity, would have to be accessible by the water?

A I wouldn't say it was just by water. I think it's by specific route, and that would seem to be restrictive in that arrangement.

Q Okay. Now, Mr. Fons asked you yesterday if you thought of yourself as a -- I think he said a hands-on leader or hands-on supervisor. Do you recall those questions?

A Yes.

Q Okay. Do you think of yourself as a supervisor of somebody that has to micromanage every aspect of the performance of your subordinates?

A No.

Q Would you think that micromanagement, to

include approving each and every phone call by a subordinate to an outside agency, would be efficient or inefficient?

A It would probably be inefficient to supervise every phone call by a subordinate. However, I would think it would be important for me to have clear direction given to my staff to let them know what is acceptable and not acceptable.

Q Okay. I believe I took from the questioning yesterday in your previous testimony that staff and yourself recognized that there were three legs or components of the waterborne transportation methodology currently undertaken by TECO; correct?

A Yes.

Q That is, the river aspect, the terminaling, and the coastal or Gulf leg; correct?

A Yes, on Friday.

Q Now, was it staff's concern to find out independent of the company submission whether or not there were alternative means of obtaining those services or competition? Is that one of your goals?

A Could you restate the question?

Q Yes. Did staff decide to undertake its own analysis, for whatever reason, of whether there were competitors, competitive offerings for each one of those

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components independent of the information you might 1 receive from third parties, like from the Public Counsel 2 or from the utility itself? 3 Α Yes. And you considered that to be reasonable, I Q 5 6 assume. Α Yes. 7 And did you direct your staff to that end? Q Α Yes. 9 And did you give them some latitude in terms of 10 Q 11 contacting purchase purveyors or vendors in those fields to make inquiries? 12 13 Yes. MR. TWOMEY: That's all I have. Thank. 14 15 CROSS-EXAMINATION BY MR. KEATING: 16 I think those last few questions would be a 17 18 good segue into my first question on redirect. 19 Mr. McNulty, you were asked yesterday by Mr. Fons some questions about staff contacts with 20 participants in the market, shippers or carriers, 21 whatever term you want to use. 22 I'm sorry. I said yesterday. On Friday. 23 Since Friday, have you recalled any additional contacts 24

that you may not have discussed or may not have brought

up on Friday?

A Yes. I think that there were contacts that staff made to carriers, and that may be river barges on the Mississippi-Ohio system, terminal operators, and the like, and Gulf transit companies, both prior to -- or I should say prior to the RFP being issued, during the time that the RFP was issued, and after the close of the time that the RFP was due to be -- RFP responses were due to be received to the Commission. And the point in time when staff definitively did not make any further contacts with shippers was sometime in early September, based upon a specific directive by management to cease any such contacts.

And I think there was a point later at which, as I discussed on Friday, there was a contact made by -there were discussions that were taking place by the attorneys in this case, both for the Commission and for the utility, in which it was agreed that it was no longer necessary for staff to cease its contacts with carriers and the like, and that communication took place either sometime in late September or early October.

- Q Now, which contacts of those that you discussed generally today are additional to the contacts that you addressed on Friday?
  - A I think on Friday I stated that there weren't

any -- to my knowledge, I didn't believe there were any contacts that were taking place at the time that the RFP had been issued.

- Q Do you know the extent to which staff contacted any shippers or carriers after the RFP was issued?
- A I believe any contacts that took place after -the time frame for this would be August 1. I believe
  the time frame when likely staff contacts would have
  taken place would have been in the first week of August,
  during that period.
  - Q When did the RFP require bids to be submitted?
- A Bids had to be submitted no later than 12 p.m. on August 1, 2003.
- Q I believe you stated in your previous response that you were aware of contacts between staff and shippers or carriers in the time frame of the first week of August, roughly. Do you know what the purpose of those contacts was? And let me step back. Do you know who would have made those contacts?
- A Yes. Any contacts made during that period would have been by Bernie Windham.
- Q And do you know what the purpose of those contacts would have been?
- A The purpose of those contacts would have been to ask the carriers in that instance whether or not they

had responded to the RFP that was issued by TECO, Tampa Electric, related to waterborne coal transportation.

- Q Do you know if there was any other purpose for those contacts?
- A Yes. I believe Mr. Windham was continuing to solicit information about the competitive nature of the waterborne coal transportation industry.
- Q Let me ask you also, moving on to a different topic, you were asked for a definition of competition on Friday. Do you recall that?
  - A Yes.
- Q Given the opportunity, would you like to clarify your definition of competition that was provided on Friday?
- A Certainly. And I guess I would just clarify that to say that there are different levels of competition, and it's important to know which level is being discussed, and so I perhaps should have asked for some clarification on that.

But I would say that most people when they talk about competition are talking about either pure competition or monopolistic competition. Generally things that are purely competitive are those types of goods and services for which many buyers and sellers participate within a market and for which there are --

it is considered to be a homogeneous product or service, that are essentially -- there are large barriers to entry and exit into -- excuse me, there are no barriers to entry or exit into that market, and there is perfect information that's shared between participants in the market, especially on the subject of price. And that's perhaps a definition of pure competition that would have sufficed for the answer.

Also, I think I responded to the question that competition can be identified by when there is a reduction in price -- excuse me, when there's an increase in price, there will be a reduction in demand. And that's really the demand side part of the equation. The supply side needs to be looked at as well.

Essentially, in a purely competitive market, you would have a price that would be flat across all levels of output, and the long run average cost would -- the low points on that curve would essentially equal the marginal cost of the service, and that would be the market efficient price and the price by which every participant in that market would have to operate. And in that sense, they are price takers rather than price makers. By that I mean that they accept what the price is for that good or service. They cannot adjust that price. They can't have any influence over that price.

That's a fairly long answer to that question, but I wasn't sure exactly -- I think I tried to answer the question without fully understanding the nature of the question.

- Q I don't think it was marked as an exhibit, and I don't have access to it. I believe it's in one of your binders, Mr. McNulty. But Friday there was reference to a letter from Tim Devlin to, I believe, Joann Wehle dated sometime in July of 2003.
  - A Yes, I have it.
- Q I believe that letter references a meeting held July 1, 2003.
  - A Yes.

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- Q Who was that meeting with?
- A That meeting involved staff, Tampa Electric
  Company, and intervenors, I believe the Office of Public
  Counsel and perhaps Florida Industrial Power Users
  Group.
- Q It was a meeting conducted in a particular docket?
  - A Yes.
  - O And that was the fuel docket?
- 23 A That's right.
- Q Now, why did staff want to conduct a meeting with Tampa Electric Company at that time?

Staff wanted to -- originally why they wanted Α 1 to conduct that meeting? 2 3 0 Yes. They originally wanted to conduct that meeting 4 in order to be able to discuss what should be in an RFP 5 or request for proposal to be submitted by the utility, 6 or to be distributed by the utility. 7 What was discussed at the July 1st meeting, to 0 8 the extent that you can recall that? 9 What was discussed during the July 1st meeting Ά 10 was clarifications to an RFP that had already been 11 issued, and it was staff's clarification, things that we 12 would like to see changed in the RFP. 13 At that meeting, was there any suggestion made 14 that staff put its concerns in writing and allow Tampa 15 Electric to respond? 16 Specifically, the company requested that 17 Α we put in writing whatever our clarifications would be, 18 to specify those in writing and submit them to them. 19 Was that what the July 11th letter was intended 20 21 to do? Α Yes. 22 And what was the intent of the clarifications 23 0 that staff included with that letter? 24

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The intent of the clarifications was for Tampa

Electric Company to distribute these clarifications to all potential bidders and to also notify trade publications and newspapers that they had previously contacted for the purpose of making these clarifications known.

- Q I want to refer you to what were marked as Exhibits 14 and 15 on Friday. I believe they're right here. Those are two draft letters?
  - A Yes.
- Q And you indicated on Friday that those letters were not sent to shippers; is that correct?
  - A That's correct.
  - Q Why did staff not send those letters?
- A Staff didn't send these letters because there was at some level some feedback from Tampa Electric Company that staff's dialogue that it may be having with carriers, both those who had bid and those who had not bid, was disruptive of their RFP process. And in an abundance of caution, because the company had stated that, we determined to cease -- determined to not distribute this letter.
- Q Now, that letter is dated August 12th, and you stated earlier that the closing date for the bids was -- was it July 31st or August 1st?
  - A August 1st at 12 p.m.

Q You had also stated earlier, I believe, that there was some directive in the time frame of late August or early September to staff to not make any contacts with shipper or carriers pending the completion of any negotiations; is that correct?

A That's correct.

Q Now, this letter was dated August 12th, at least three weeks before late August. Did staff make any contacts with shippers or carriers in the time frame that this letter was drafted until late August?

A I don't believe that they did.

Q If I could get you to look at just a few more of the exhibits that were marked yesterday. They were Exhibits 3 through 9. I believe a full set is there.

If you could take just a minute and look through each of those letters. They're not very lengthy.

A Okay.

Q What's the -- if you could put it in general terms, what's the gist of each of those letters? What does each of those letters tell Tampa Electric Company?

MR. FONS: Object to the form of the question. Calls for speculation.

MR. KEATING: I'm only asking him -- I can go letter by letter what the letter says.

The letter speaks for itself. MR. FONS: 1 MR. KEATING: Okay. Fair enough. 2 MR. TWOMEY: He can still answer the question. 3 I believe these answers basically say that the Α 4 carrier involved has determined not to bid for the 5 Waterborne Transportation Services Proposals WB-2004, 6 and they're basically declining to bid. I think that's 7 the one common idea in each one of these letters. 8 And I won't ask you any more questions on those 9 Q letters, because I do agree that the letters speak for 10 themselves. 11 Does your staff always agree with your opinion? 12 No. 13 Α Do your supervisors always agree with your 14 0 opinion? 15 16  $\Delta$ No. As a manager, do you discourage any of your 17 staff from disagreeing with your opinion or questioning 18 your opinion? 19 20 Α No. Thank you. That's all the MR. KEATING: 21 questions I have. 22 23 MR. FONS: Thank you, Mr. McNulty. Based on the stipulation, we'll get the 24 transcript, and we'll identify that which we'll be 25

claiming confidentiality about, and we'll forward on. I assume you want the witness to read. MR. KEATING: Yes. One thing I wanted to mention to you, there were some characterizations as to CSX rates in comparison to public rates, and I think that may be something we need to watch out for in terms of ensuring that it's redacted. 

Another thing, I'm going to check on -- I
haven't been able to get it answered since Friday
as I had hoped to -- is to determine whether any
employee disciplinary matters that were discussed on
Friday are confidential in any way. I don't know
the answer to that.

MR. FONS: Okay.

(Deposition concluded at 12:09 p.m.)

#### CERTIFICATE OF OATH

STATE OF FLORIDA) COUNTY OF LEON )

I, MARY ALLEN NEEL, Notary Public in and for the State of Florida at Large:

DO HEREBY CERTIFY that on the date and place indicated on the title page of the foregoing transcript, an oath was duly administered by me to the designated witness before testimony was taken.

WITNESS my hand and official seal this 7th day of April, 2004.

MARY ALLEM NEEL, RPR 2894-A Remington Green Lane Tallahassee, Florida 32308



#### CERTIFICATE OF REPORTER

4 STATE OF FLORIDA)

5 | COUNTY OF LEON )

1.5

I, MARY ALLEN NEEL, do hereby certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were thereafter transcribed under my supervision; and that the foregoing pages numbered 136 through 184 are a true and correct transcription of my stenographic notes.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, or relative or employee of such attorney or counsel, or financially interested in the action.

DATED THIS 7th day of April, 2004.

MARY ALLEN NEEL, RPR

2894-A Rémington Green Lane Tallahassee, Florida 32308

(850) 878-2221

#### STATE OF FLORIDA

COMMISSIONERS
BRAULIO L. BAEZ, CHAIRMAN
J. TERRY DEASON
LILA A. JABER
RUDOLPH "RUDY" BRADLEY
CHARLES M. DAVIDSON

1



OFFICE OF THE GENERAL COUNSEL RICHARD D. MELSON GENERAL COUNSEL (850) 413-6199

# Hublic Service Commission

May 4, 2004

James Beasley, Esquire Ausley & McMullen P.O. Box 391 Tallahassee, Florida 32302

Re: Docket No. 031033-El - Review of Tampa Electric Company's 2004-2008

waterborne transportation contract with TECO Transport and associated

benchmark.

Dear Mr. Beasley:

Please find enclosed an original signed errata sheet and supplement to Late-filed Exhibit No. 11 to the deposition of William B. McNulty, taken April 2 and 5, 2004, in the above-referenced docket.

Sincerely,

Wm. Cochran Keating, IV

Un Soch Keals

Senior Attorney

WCK/dm

Enclosure

cc: All parties of record (with enclosures)

1			ERRATA SHEET
2	D		OO NOT WRITE ON TRANSCRIPT - ENTER CHANGES HERE
3	IN RE:		DOCKET NO. 031033-EI
4	NAME:		WILLIAM B. McNulty
5	DATE:		APRIL 2 AND 5, 2004
6			
7	PAGE	LINE	CHANGE
8	43	25	Add "in my testimony" after "what ended up"
9	48	13	Replace "question" with "consider"
10	48	15-17	Replace "rate to be charged in this proceeding as a possible way of proceeding
11			in this proceeding" with "recoverable rate for TECO's waterborne coal
12			transportation service in this proceeding."
13	48	22	Replace "in the contract" with "referenced in the RFP"
14	49	3	Replace "contracts that were" with "contract that was"
15	69	4	Replace "truly competitive figures" with "a truly competitive price"
16	80	5,6	Place quotations around "1997 RFP" and "Integrated Proposal Requirement"
17	101	17	Replace "were" with "was"
18	103	11	Replace "following" with "beginning with"
19	106	4	Replace "face" with "page"
20	116	15	Replace "That's correct." with "Yes, I am talking about the Big Bend Power
21			Plant."
22	116	19	Replace sentence with "The demurrage provisions of Tariff CSXT 8200, as
23			referenced in CSXT's Bid A, would apply to all tonnage received at Big Bend
24			Power Station, regardless of where the coal originates or the identity of
25			railroads involved, assuming CSXT ultimately delivers the coal to the plant."

1	147	25	Replace "things I don't agree with" with "aspects of your statement"
2	148	1	Replace "your statement on" with "that I believe are incorrect"
3	149	1	Replace "am still not with" with "have not formed"
4	150	8	Replace "determinant" with "judge"
5	155	21	Replace "further" with ", for their"
6	155	24	Replace sentence with "I believe the order may be broadly interpreted to apply
7			to not only commodity but also transportation of that commodity."
8	156	6,7	Replace "said at that time" with "says"
9	160	17	Insert "compared" after "CSX,"
10	161	23	Replace "prices" with "costs"*
11	161	24	Replace "is charging" with "incurs"*
12			*I understood the question to ask about costs rather than price, and answered in
13			that context.
14	Under	penalti	ies of perjury. I declare that I have read my deposition and that it is true and
15	correc	t subjec	ct to any changes in form or substance entered here.
16	5/	3/04	William E. M. Mull
17	DATI	Ξ	WILLIAM B. McNULTY
18			
19			
20			
21			
22			
23			
24			
25			

,

Late Filed Exhibit No. 11 Supplement Docket No. 031033-EI Deposition of William B. McNulty, April 2 and 5, 2004

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Upon review of the deposition transcript, it became clear that the original response to the requested exhibit may be considered to be incomplete in that the response does not affirmatively identify the rates in the tariff, but rather provides the tariff pages which contains the rates. Thus, the following statements identifies the applicable rates.

The rate for the 2.0 to 5.5 MM tons bid is the four-hour free time demurrage rate, which is \$300 for each chargeable hour, or fraction thereof, in excess of four hours free time, per trainload/unit train until all cars in the train consignment are released. However, see the terms and conditions included in Pages 9 and 10 of the tariff for possible impacts to this price.

The rate for the 1.0 to 2.0 MM tons bid is the twenty-four hour free time demurrage rate, which is \$20 per car per day, or fraction thereof, until empty cars are released to the carrier. However, see the terms and conditions included in Page 10 and 11 of the tariff for possible impacts to this price.

Page 11 of the CSXT Transportation Tariff 8200-G (Supplement 6) was also omitted from the original response and is thus attached to this supplemental response. While it does not identify the specific rates requested in the deposition, it does contain some of the terms and conditions which can impact the ultimate rate paid for demurrage for the 1.0 to 2.0 MM tons bid.



**SECTION 5** 

#### SECTION 5 - TRAINLOAD/UNIT TRAIN SERVICE

#### [2] (ITEM 5190A) - TRAINLOAD/UNIT TRAIN DETENTION AT DESTINATION (Concluded)

- Note 5 The consignee must certify in writing, within a period of five (5) days from date of disability, to the destination carrier, when he is unable to unload and release cars of a consignment due to any disability listed in Note 1, including the nature of the disability and the actual time said disability commenced and terminated.
- Note 6 When at the time of actual or constructive placement lading is frozen so as to require heating, thawing or loosening to unload, and a freeze conditioning agent has been properly applied, the twenty-four (24) hours free time for unloading will be extended an additional twenty-four (24) hours, provided the consignee shall, prior to the expiration of five (5) days after the date on which car or cars were released, send or give the railroad's agent a written statement certifying by car initial and number, the day or days during which any time was expended in heating, thawing or loosening the lading to unload the car, or cars.

#### Note 7 - Four (4) hour unloading facilities follow:

Gaston, AL (Gaston Plant)
West Jefferson, AL (Miller Plant)
Bostwick, FL (Palatka Plant)
Gay, FL (FL Crushed Stone Facility)
Hague, FL (Deerhaven Plant)
Indiantown, FL (U. S. Generating Plant)
Park, FL (McIntosh Plant)
Power Park, FL (St. Johns River Power Plant)
Red Level Junction, FL (Crystal River Plant)
Harllee, GA (Harllee Branch Plant)
Jacmac, GA (McDonough Plant)
Rincon, GA (McIntosh Plant)
Stilesboro, GA (Bowen Plant)

Abee, IN (Brown Plant)
Merom, IN (Merom Plant)
Wilson Station, KY (D. B. Wilson Plant)
Terrell, NC (Marshall Plant)
(AA) Shippingport, PA (Mansfield Plant)
Cross, SC (Cross Plant)
Middleton, SC (Williams Plant)
North Wateree, SC (Wateree Plant)
Pennyroyal, SC (Winyah Plant)
Pinopolis Junction, SC (Jefferies Plant)
Edgemoor, TN (Bullrun Plant)
Harriman, TN (Kingston Steam Plant)

# STATI OF FLORIDA

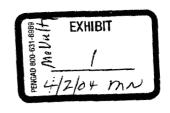


# PUBLIC SERVICE COMMISSION

2540 Shumard Oak Boulevard CAPITAL CIRCLE OFFICE CENTER TALLAHASSEE, FLORIDA 32399-0850

# FACSIMILE TRANSMITTAL COVER SHEET

DATE:	7/31/2003	TIME SUBMITTED: 4:00 P.m.	
TO:	Louis Han	TITLE:	
OF	FICE/BUSINESS: The St. I	Detersburg Times	
TE	LEPHONE NO: (313) 226-340	04 FAX NO: (89) 226-338/	
FROM:	Bill McNuHy		
OF	FICE/DIVISION: <u>Flectic Rela</u>	inbility and lost Recovery / Economic Regular	4,0
TE	LEPHONE NO: (850) 413-64	743 FAX NO: (850) 413-6444	
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#### STATE OF FLORIDA



# PUBLIC SERVICE COMMISSION

2540 Shumard Oak Boulevard CAPITAL CIRCLE OFFICE CENTER TALLAHASSEE, FLORIDA 32399-0850

# FACSIMILE TRANSMITTAL COVER SHEET

DATE: 8, 03	TIME SUBMITTED::m.
TO: Jours Phu TITLE	·
OFFICE/BUSINESS: 51 Pt.	Times
TELEPHONE NO: 8/3/226.3404	FAX NO: 813) 226 · 3 381
FROM: BI McN, 149  OFFICE/DIVISION: Electric Relabily  TELEPHONE NO: (850) 4/3.6443	
OFFICE/DIVISION: Electric Relabely	ad of heaveny Emonic Re.
TELEPHONE NO: (850)4/3.6443	FAX NO: (850) 4/3 - 6444
COMMENTS:	
NUMBER OF PAGES, INCLUDING THIS COVER	SHEET: <u>5</u>



DOCKET NO. 020001-EI STAFF'S 3<sup>RD</sup> SET OF INTERROGATORIES INTERROGATORY NO. 52 PAGE 1 OF 1

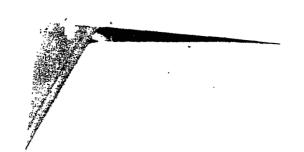
FILED: OCTOBER 21, 2002

52. Please explain why "offshore coal" has been received at Electro-Coal rather than Tampa Electric's Big Bend facility.

A. Offshore coal is used at Gannon and Polk generating stations after being blended with other coal. TECO Bulk Terminal (TBT), formerly called Electro-Coal, unloads, blends and then stores the coal for shipment to Tampa. The coal is not received at Big Bend Station because that station does not use offshore coal. In addition, large, efficiently sized vessels used for transporting offshore coal are often too large to be received at Big Bend Station since the station can only receive vessels with a 34-foot or smaller draft. Finally, Big Bend does not have facilities to blend coal that will be stored and shipped to another station.

TAMPA ELECTRIC COMPANY DOCKET NO. 020001-EI STAFF'S 3<sup>RD</sup> SET OF INTERROGATORIES INTERROGATORY NO. 53 PAGE 1 OF 1 FILED: OCTOBER 21, 2002

- How is the formula for the transportation benchmark calculated when applying it to "offshore coal"? If the formula for the transportation benchmark does not address offshore coal, should it be modified to address "offshore coal"? Please explain your response.
- A. The transportation benchmark is applied to offshore coal purchases. It is calculated from the point of purchase, i.e. TECO Bulk Terminal.



TAMPA ELECTRIC COMPANT DOCKET NO. 020001-EI STAFF'S 3<sup>RD</sup> SET OF INTERROGATORIES INTERROGATORY NO. 57 PAGE 1 OF 1 FILED: OCTOBER 21, 2002

57. Please explain how coal transportation for the Polk power plant is handled and how it is accounted for, including whether it is provided under the TECO Transit contract.

A. Transportation for coal delivered to Polk Power Station is provided under the TECO Transport contract. The contract includes river transit, bulk transfer at TECO Bulk Terminal and ocean shipping. When the fuel arrives in Tampa it is stored at Big Bend Station until transfer to Polk Power Station. CTL Distribution provides coal transportation from Big Bend Station to Polk Power Station via truck. CTL Distribution is not affiliated with TECO Energy.

TAMPA ELECTRIC COMPANY DOCKET NO. 020001-EI STAFF'S 3<sup>RD</sup> SET OF INTERROGATORIES INTERROGATORY NO. 51 PAGE 1 OF 1 FILED: OCTOBER 21, 2002

- 51. For "offshore coal" purchased by Tampa Electric, is the transportation cost to the receiving port treated as if it were part of the commodity cost? In your response, please explain how the transportation cost for such coal is derived.
- A. Yes, for Tampa Electric's purchases of offshore coal the transportation cost is bundled with the commodity cost. Since all offshore coal is purchased on a delivered basis that includes the cost of transportation, the transportation component is not identified.

EXHIBITS 3 THROUGH 10 AND 12 ARE OMITTED AS THEY ARE CONFIDENTIAL

Late Filed Exhibit 11

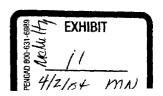
Docket No. 031033-EI

Deposition of William B. McNulty, April 2 and 5, 2004

Exhibit 11

CSX Tariff Reference for Train Demurrage

Applicable CSXT Train demurrage rates and charges can be found in CSX Transportation Tariff CSXT 8200-G (Supplement 6) issued April 30, 2003 and effective May 1, 2003, in Section 5 (Pages 9-10). This includes the paragraph on Page 9 which describes the charges for four (4) hour free time, and the "exception" paragraph following it, and Notes 1, 2, and 3 on Page 10. See attached.





#### SECTION 5 - TRAINLOAD/UNIT TRAIN SERVICE

#### [2] (ITEM 5190A) – TRAINLOAD/UNIT TRAIN DETENTION AT DESTINATION

1. Applicable only at Destination shown in Note 7 and only in connection with prices applying on trainload or unit train shipments (which are subject to a minimum of not less than 6500 net tons or more) or multiple car shipments (which are subject to a minimum of not less than 4500 net tons or more), which shipments are hereinafter referred to as "trainload".

Four (4) hours free time will be allowed at destination for unloading (see Notes 1, 2 and 3) and releasing or returning empty cars of the trainload/unit train consignment to the carrier. When carrier crews are utilized during the unloading process, time is to be computed from the time of actual or constructive placement of the first loaded car in position of unloading, at the unloading facility, until the release of empty cars to carrier. When carrier crews are not utilized during the unloading process, time is to be computed from the time of actual or constructive placement on consignee's tracks or other designated tracks. Constructive placement occurs when actual placement is prevented due to a cause attributable to consignee. Cars held in excess of four (4) hours will be charged \$300.00 for each chargeable hour, or fraction thereof, per trainload/unit train until all cars in the train consignment are released.

#### **EXCEPTION:**

In the event unloading of a minimum 8100-ton train requires more than one (1) separation of the train, free time will be computed from arrival of the first loaded car at the first switch to the unloading facility, until all empty cars are reassembled and released to the carrier. Cars in this disposition held in excess of four (4) hours will be charged \$400.00 for each chargeable hour or fraction thereof per trainload shipment until all cars in the trainload shipment are released to the carrier.

(Continued on Next Page)



#### SECTION 5 - TRAINLOAD/UNIT TRAIN SERVICE

#### [2] (ITEM 5190A) - TRAINLOAD/UNIT TRAIN DETENTION AT DESTINATION (Continued)

2. Applicable only at Destinations that are not shown in Note 7, and only in connection with prices applying on trainload or unit train shipments (which are subject to minimum of not less than 6500 net tons or more) or multiple car shipments (which are subject to a minimum of not less than 4500 net tons or more), which shipments are hereinafter referred to as "trainload".

Twenty-four (24) hours free time will be allowed for unloading (see Notes 1 and 6), and releasing or returning cars included in the trainload consignment. Time will be computed from time of actual placement until release of empty cars to carrier. Actual placement is made when cars are placed in an accessible area for unloading, on consignee's tracks or other designated tracks. If the carrier is prevented from placing cars due to any cause attributable to the consignee, cars will be considered constructively placed. Each car held in excess of twenty-four (24) hours will be charged twenty dollars (\$20.00) per car per day or fraction thereof until empty cars are released to carrier.

#### **EXPLANATION OF NOTES**

- Note 1 (a) If by reason of an act of God consignee cannot unload and release within the free time allowed in this item all cars of consignment, no detention charges will be assessed (Note 5).
  - or (b) If by reason of (1) strikes, lockouts, labor disputes or work stoppages in the consignee's receiving facilities (2) a mechanical breakdown (Note 4) or fire (Note 4) in consignee's receiving facilities, consignee cannot release all cars of a consignment, detention will be charged for all cars at ten dollars (\$10.00) per car per day or fraction thereof without free time allowance (Note 5).
- Note 2 When at the time of actual or constructive placement lading is frozen so as to require heating, thawing or loosening to unload, and a freeze agent has been properly applied, the four (4) hours free time for unloading will be extended an additional twelve (12) hours, provided the consignee shall, prior to the expiration of five (5) days after the date on which car or cars were released, send or give the railroad's agent a written statement certifying by car initial and number, the day or days during which any time was expended in heating, thawing or loosening the lading to unload the car or cars.
- Note 3 On car(s) not arriving with trainload/unit train consignment, due to any cause attributable to carrier, twenty-four (24) hours will be allowed, with time to be computed from the time of actual or constructive placement. Car(s) held in excess of twenty-four (24) hours will be subject to a detention charge of \$20.00 per car for each twenty-four (24) hour period or fraction thereof, until car(s) are released to carrier
- Note 4 Breakdown in facilities of consignee will include only the mechanical breakdown in equipment vital to the coal unloading operation. Fire in facilities of consignee will include only fire incapacitating the equipment vital to the unloading operation.

(Continued on Next Page)

# Turner, Mason & Company Feeder Crudes: Sep 19 - 25, 2003

Winter	Cracking	Coking		Cracking	Coking		Cusiana	33.68	34.16	1.91	31.77	32.25	27.05
	Yield	Yield	Freigh	t Netback	Netback	Spot	Forcados	32.76	N.A.	2.81	29.95	N.A.	26.63
US Gulf						op	LLS	32.94	33.61	0.78	32.16	32.83	27.71
	20.07	20.06	2.65	26.42	26.41	22.00	Maya	N.A.	30.58	1.64	N.A.	28.94	21.45
Arab Berri Arab Heavy	29.07 26.70	29.06 27.40	2.65 2.84	26.42 23.86	26.41 24.56	23.89 21.34	Mesa Mixed Lt Sr	31.35 31.59	32.81	2.07	29.28	30.74	24.64
Arab Light	28.06	28.25	2.71	25.35	25,54	22.99	Olmeca	32.86	32.77 33.40	1.84 1.65	29.75 31.21	30.93	23.23
Arab Medium	27.18	27,77	2.77	24.41	25.00	22.04	Mixed Lt Swt	33.29	33.91	1.66	31.63	31.75 32.25	25.97 26.56
BCF 17	25.32	26,51	1.17	24.15	25.34	N.A.	WTI	33.27	33.60	0.43	32.84	33.17	20.30
BCF 22	26.70	27,79	1.12	25.58	26.66	N.A.	WTS	31.94	33.30	0.65	31.29	32.65	24.46
BCF 24	27.10	28.19	1.12	25,98	27.08	N.A.					2	52.05	27.70
Basrah Light	27.96	28.39	1.46	26.50	26.93	24.18	<u>Caribbean</u>						
Bonny Light	30.23	N.A.	1.58	28.65	N.A.	26.72	BCF 17	26.45	27.68	0.31	26.14	27.37	N.A.
Brass River	29.74	N.A.	1.42	28.32	N.A.	26.70	BCF 22	28.01	28.88	0.29	27.72	28.59	N.A.
Brent	29.44	29.60	1.23	28.21	28.37	26.26	BCF 24	28.54	29.33	0.29	28.25	29.04	N.A.
Cabinda	28.80	29.61	1.85	26.95	27.75	25.75	Basrah Light	29.42	29.37	1.19	28.23	28.18	24.18
Cano Limon	28,97	29.48	0.88	28.09	28.60	25.13	Bonny Light Brass River	31.50 30.91	N.A. N.A.	1.13	30.37 29.47	N.A.	26.72
Cusiana	29.96 27.08	30.04 28.71	0.84 2,23	29.12	29.20- 26.48	27.05	Brent	30.99	30.21	1.44 0.90	30.09	N.A. 29.31	26,70
Escalante Forcados	30.05	N.A.	1.52	24.85 28.53	N.A.	21.58 26.63	Cabinda	30.93	31.19	1.15	29.78	30,04	26,26 25.75
Isthmus	28.77	28.95	0.52	28.25	28.43	25.02	Cano Limon	30.17	30.78	0.33	29.84	30.45	25.73
Kuwait	27.44	27.98	2.82	24.62	25.16	24.71	Cusiana	31.33	31,16	0.31	31.02	30.85	27.05
LLS	29.78	29.96	0.65	29.13	29.31	27.71	Escalante	28.56	30.20	1.84	26.72	28.36	21.58
Mars	27.54	28,52	0.63	26.91	27.89	24.19	Forcados	27.46	N.A.	1.65	25.81	N.A.	26,63
Maya	25.95	26.30	0,55	25.40	25.75	21.45	Isthmus	30.23	29.90	0.45	29.78	29 <i>.</i> 45	25.02
Mesa	28.48	29.04	1.07	27.41	27.96	24.64	Kuwait	28.65	29.23	2.35	26.30	26.88	24,71
Merey	25.50	26.76	1.17	24.33	25.59	N.A.	Maya	26.49	27.36	0.47	26.02	26.89	21.45
Olmeca	29.36	29.32	0.53	28.83	28.79	25.97	Merey	26.46	27.92	0.31	26.15	27.61	N.A.
Rabi	29.68	30,07	1.57	28.11	28.50	26.30	Mesa	30.17	29.77	0.28	29.89	29.49	24.64
Soyo/Palanca	29.90	29.94	1.56	28.34	28.39	26.41	Olmeca	30.58	29.99	0.46	30.12	29.53	25.97
Statfjord	29.75	29.91	1.23	28,52	28.68	26.43	Rabi Soyo/Palanca	31.40 30.88	32.22 31.28	1.12 1.15	30.28	31.10	26.30
Troll WTI	30.05 29.67	30.48 29.81	1.31 0.94	28.74 28.73	29.17 28.87	26.34 27.39	Statfjord	31.13	30.69	0.90	29.73 30.23	30.13 29.79	26.41
		27.01	0.54	20.75	20.07	21.39	Troll	31.40	31.76	1.01	30.39	30.75	26,43 26,34
<u>US Atlant</u>							_	_					2.11. 7-
Arab Heavy	28.81	30.17	2.70	26.11	27.47	21.34	,	racking		<b>.</b>	Cracking		_
Arab Light	30.27	31.06	2.58	27.69	28.48	22.99	G.	Yield	Yield	rreight	Netback	Netback	Spot
Arab Medium	29.29 28.71	30.49 29.72	2.63 1.08	26.66	27.86	22.04	<u>Singapore</u>						
BCF 22 Bonny Light	32.90	N.A.	1.61	27.63 31.29	29.72 N.A.	N.A. 26.72	Arab Heavy	25.91	25.10	1.22	24,69	23.89	24.61
Brass River	33.26	N.A.	1.44	31.82	N.A.	26.72	Arab Light	26.71	25.65	1.16	25.55	24.49	25.46
Brent	32.08	32.71	0.92	31.16	31.79	26.26	Arab Medium	26.14	25.14	1.18	24.96	23.96	24,91
Cabinda	31.78	32.91	1.65	30.13	31.27	25.75	Attaka	27.92	27.50	1.05	26.87	26.45	27.67
Cusiana	33.03	33.34	0,94	32.09	32.40	27.05	Dubai Dun	27.03	25.72	1.11	25.92	24.60	24.56
Ekofisk	32.20	32.72	0.96	31.24	31.76	26.44		26.13	24.65	0.64	25.49	24.01	23.76
т 1					21.70		K 17337071	26.28	75 70			22.04	
Forcados	32.36	N.A.	1.54	30.82	N.A.	26.63	Kuwait Minas	26.28 26.87	25,20 25,21	1.26	25.02 26.28	23.94	24.71
Gullfaks	32.87	N.A. 33.62	1.54 0.96	30.82 31.91	N.A. 32.66	26.63 26.49	Minas	26.87	25.21	0.59	26.28	24.62	25.68
Gullfaks Hibernia	32.87 31.81	N.A. 33.62 32.84	1.54 0.96 0.76	30.82 31.91 31.05	N.A. 32.66 32.08	26.63 26.49 26.40					26.28 26.19	24.62 24.92	25.68 25.75
Gullfaks Hibernia Mesa	32.87 31.81 30.53	N.A. 33.62 32.84 31.60	1.54 0.96 0.76 1.03	30.82 31.91 31.05 29.50	N.A. 32.66 32.08 30.57	26.63 26.49 26.40 24.64	Minas Murban	26.87 27.30	25.21 26.03	0.59 1.11	26.28	24.62	25.68 25.75 25.16
Gullfaks Hibernia Mesa Oriente	32.87 31.81 30.53 29.48	N.A. 33.62 32.84 31.60 31.05	1.54 0.96 0.76 1.03 1.66	30.82 31.91 31.05 29.50 27.82	N.A. 32.66 32.08 30.57 29.39	26.63 26.49 26.40 24.64 21.90	Minas Murban Oman	26.87 27.30 26.95 27.19 27.21	25.21 26.03 26.02	0.59 1.11 1.05	26.28 26.19 25.90	24.62 24.92 24.97	25.68 25.75 25.16 26.01
Gullfaks Hibernia Mesa Oriente Rabi	32.87 31.81 30.53 29.48 32.74	N.A. 33.62 32.84 31.60 31.05 33.83	1.54 0.96 0.76 1.03 1.66 1.60	30.82 31.91 31.05 29.50 27.82 31.14	N.A. 32.66 32.08 30.57 29.39 32.24	26.63 26.49 26.40 24.64 21.90 26.30	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis	26.87 27.30 26.95 27.19 27.21 27.82	25.21 26.03 26.02 26.11 25.90 26.81	0.59 1.11 1.05 1.19 1.18 0.54	26.28 26.19 25.90 26.00	24.62 24.92 24.97 24.92	25.68 25.75 25.16
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca	32.87 31.81 30.53 29.48 32.74 32.81	N.A. 33.62 32.84 31.60 31.05 33.83 33.15	1.54 0.96 0.76 1.03 1.66 1.60 1.59	30.82 31.91 31.05 29.50 27.82 31.14 31.22	N.A. 32.66 32.08 30.57 29.39 32.24 31.56	26.63 26.49 26.40 24.64 21.90 26.30 26.41	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif	26.87 27.30 26.95 27.19 27.21 27.82 26.91	25.21 26.03 26.02 26.11 25.90 26.81 25.66	0.59 1.11 1.05 1.19 1.18 0.54 1.11	26.28 26.19 25.90 26.00 26.03 27.28 25.80	24.62 24.92 24.97 24.92 24.72 26.27 24.54	25.68 25.75 25.16 26.01 25.41
Gullfaks Hibernia Mesa Oriente Rabi	32.87 31.81 30.53 29.48 32.74	N.A. 33.62 32.84 31.60 31.05 33.83	1.54 0.96 0.76 1.03 1.66 1.60	30.82 31.91 31.05 29.50 27.82 31.14	N.A. 32.66 32.08 30.57 29.39 32.24	26.63 26.49 26.40 24.64 21.90 26.30	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)	26.87 27.30 26.95 27.19 27.21 27.82 26.91	25.21 26.03 26.02 26.11 25.90 26.81	0.59 1.11 1.05 1.19 1.18 0.54	26.28 26.19 25.90 26.00 26.03 27.28	24.62 24.92 24.97 24.92 24.72 26.27	25.68 25.75 25.16 26.01 25.41 28.51
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)	26.87 27.30 26.95 27.19 27.21 27.82 26.91	25.21 26.03 26.02 26.11 25.90 26.81 25.66	0.59 1.11 1.05 1.19 1.18 0.54 1.11	26.28 26.19 25.90 26.00 26.03 27.28 25.80	24.62 24.92 24.97 24.92 24.72 26.27 24.54	25.68 25.75 25.16 26.01 25.41 28.51 25.50
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troll  US West (	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif	26.87 27.30 26.95 27.19 27.21 27.82 26.91	25.21 26.03 26.02 26.11 25.90 26.81 25.66	0.59 1.11 1.05 1.19 1.18 0.54 1.11	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troil US West ( ANS	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 20ast 28.94	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21	0.59 1.11 1.05 1.19 1.18 0.54 1.11	26.28 26.19 25.90 26.00 26.03 27.28 25.80	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 Coast 28.94 28.03	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 20.25 28.94 28.03 28.47	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Laght Arab Heavy Azeri Light Es Sider	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13	24.62 24.92 24.97 24.97 24.72 26.27 24.54 25.09	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 Coast 28.94 28.03	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kern River	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 20.25 28.94 28.03 28.47 27.46	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11	24.62 24.92 24.97 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.80	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.72 25.72
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troli US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Onente	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 29.11	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.90	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 25.16 28.11 27.59 26.18 26.64 26.14	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45	24.62 24.92 24.97 24.72 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.80 24.56	25.68 25.75 25.16 26.01 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.72 24.60
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troli US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Onente Mixed Lt Swt	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 20.03 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 31.71	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.35 24.36 25.60	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.79 25.22 25.72 24.60 26.32
Gullfaks Hibernia Mesa Onente Rabı Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Onente	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 29.11	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.90	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.80 24.56 25.60 24.16	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.72 24.60 26.32 24.01
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troil  US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Oriente Mixed Lt Swt THUMS	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 <b>Coast</b> 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 31.71	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.56 25.60 24.16 24.13	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05
Gullfaks Hibernia Messa Oriente Rabi Soyo/Palanca Statfjord Troli  US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Midco	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 <b>Coast</b> 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 27.28 29.11 31.71 29.09	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 22.75 24.93 29.16 28.18	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 21.45 21.45 21.45 21.45 21.90 26.56 22.75	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Urals Zuetina	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03 26.00 26.48 27.64	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 26.21 25.24 25.93 26.21	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 0.46 0.46 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.80 24.56 25.60 24.16	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.72 24.60 26.32 24.01
Gullfaks Hibernia Messa Oriente Rabi Soyo/Palanca Statfjord Troll  US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Midco BCF 24	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 28.18	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotter	25.21 26.02 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.27	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp	26.28 26.19 25.90 26.00 26.03 27.28 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.53 24.35 24.80 24.56 25.60 24.16 24.13 25.74	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 24.01 25.05 25.91
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 entinent N.A 30.86	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 31.71 29.09 31.72 32.75	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03 26.00 26.48 27.64 	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 26.27 24.62 25.03 26.27	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.97 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.36 24.56 25.60 24.16 24.13 25.74	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.93 25.79 25.72 24.60 26.32 24.01 25.05 25.91
Gullfaks Hibernia Mesa Onente Rabu Soyo/Palanca Statfjord Troil  US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Onente Mixed Lt Swt THUMS  US Midco BCF 24	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 <i>ontinent</i> N.A 30.86 33.10	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03 26.00 26.48 27.64 	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.03 26.27 dam-A 24.67 25.93	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 0.46 0.46 0.55 0.53 0.69 0.46 0.46 0.46 0.46 0.46 0.46 0.46 0.46	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.97 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.36 24.56 25.60 24.16 24.13 25.74	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.72 24.60 26.32 24.01 25.05 25.91
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troli US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Onente Mixed Lt Swt THUMS  US Midco BCF 24 Basrah Light Bonny Light	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 Partinent N.A 30.86 33.10 N.A. 31.07	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A.	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.07 29.82 29.09 29.62 30.19 N.A.	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotters 26.44 27.60 26.94	25.21 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.97 25.97 25.97 25.97	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.35 24.36 25.60 24.16 24.13 25.74 22.14 23.51 22.69	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05 25.91 22.89 23.89 23.89 23.34
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll  US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Midco BCF 24 Basrah Light Bonny Light Bow River	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 Partinent N.A 30.86 33.10 N.A.	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A.	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A.	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09 29.62 30.19 N.A. 29.39	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 21.58 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Laght Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Heavy Arab Light	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rottera 26.44 27.60 26.94 29.38	25.21 26.02 26.03 26.01 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.93 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.21	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03	26.28 26.19 25.90 26.00 26.03 27.28 25.85 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.80 24.56 25.60 24.16 24.13 25.74 22.14 23.51 22.69 26.23	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.79 26.32 24.60 25.05 25.91 22.89 23.89 23.89 23.89 24.01 25.91
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Onente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 entinent N.A 30.86 33.10 N.A. 31.85	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotters 26.44 27.60 26.94	25.21 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.97 25.97 25.97 25.97	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.35 24.36 25.60 24.16 24.13 25.74 22.14 23.51 22.69	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 24.01 25.05 25.91 22.89 23.89 23.89 23.89 23.89 24.01 25.05 25.91
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Onente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 entinent N.A 30.86 33.10 N.A. 31.85	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13	Minas Murban Oman Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Arab Heavy Arab Light Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Brass River Brent	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03 26.00 26.48 27.64 -Rottern 26.44 27.60 26.94 29.38 27.68 29.50 28.80	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 dam-A 25.93 25.16 27.27 25.78 NA. 27.11	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 0.46 0.53 mtwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.25 28.25 28.35	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.53 24.35 24.36 24.56 25.60 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.79 26.32 24.60 25.05 25.91 22.89 23.89 23.89 23.89 24.01 25.91
Gullfaks Hibernia Mesa Onente Rabi Soyo/Palanca Statfjord Troll US West ( ANS Basrah Light Escalante Kem River Line 63 Maya Onente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 entinent N.A 30.86 33.10 N.A. 31.07 31.85	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13	Minas Murban Oman Oman Qatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Medium Azen Light Basrah Light Basrah Light Brass River Brent Ekofisk	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.03 26.00 26.48 27.64 27.64 27.64 27.64 27.64 27.68 28.86 28.86	25.21 26.03 26.03 26.01 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.67 25.03 26.67 25.98 25.31 26.72 25.78 N.A. 27.01	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 0.69 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45	26.28 26.19 25.90 26.00 26.03 27.28 25.85 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.35 28.35 28.48	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.36 24.56 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 25.79 25.22 25.79 25.22 25.79 25.91 22.89 23.89 23.89 24.60 26.32 24.01 25.05 25.91 22.89 23.89 24.80 26.26 26.26 26.26 26.26 26.26 26.26 26.26 26.26 26.26 26.26
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 28.18 24.00 27.88 31.05	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A, 28.14 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13	Minas Murban Oman Oman Oatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Laght Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Brass River Brent Ekofisk Flotta	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 27.60 26.44 27.60 26.94 29.38 27.68 29.50 28.86 28.16	25.21 26.03 26.03 26.01 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.98 25.36 25.27 25.78 N.A. 27.11 27.01 26.11	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.38	26.28 26.19 25.90 26.00 26.03 27.28 25.85 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.25 28.48 27.71	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.80 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.79 25.22 24.60 26.32 24.01 25.05 25.91 22.89 23.89 23.89 23.89 24.01 25.05 25.91 22.89 23.89 24.01 25.05 25.91
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll  US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Mideo BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26  28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18  Indianal N.A. 30.86 33.10 N.A. 31.07 31.85  Veckly 25.61 26.21	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.14 29.91 SCSSI	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09 29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.45 21.90 26.56 22.75 N.A. 24.18 25.75 25.75 25.75 25.75 25.75	Minas Murban Oman Oatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Basrah Light Brass River Brent Ekofisk Flotta Forties	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 27.60 26.94 29.38 27.68 29.50 28.80 28.80 28.86 29.07	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.93 25.16 27.27 25.78 N.A. 27.11 27.01 26.11 27.25	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45	26.28 26.19 25.90 26.00 26.03 27.28 25.85 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.45 26.75 28.25 28.25 28.25 28.48 27.71 28.62	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.53 24.35 24.36 25.56 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05 25.91 22.89 23.89 23.89 23.38 24.18 26.70 26.26 26.44 26.64 26.46 26.47
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli US West C ANS Basrah Light Escalante Kem River Line 63 Maya Oriente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bonny Light Bow River Cabinda Cano Limon  V Amna Brega Cinta*	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 entinent N.A 30.86 33.10 N.A. 31.07 31.85 Veckly 25.61 26.21 25.33	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07 CTUG	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A, 28.14 29.91 SESSI 25.34 29.51 Ti	N.A. 32.66 32.06 32.07 39.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13  Tents  Tents	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.45 21.90 26.56 22.75 N.A. 24.18 25.75 25.13	Minas Murban Oman Oatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Basrah Light Brass River Brent Ekofisk Flotta Forties Gullfaks	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 26.14 27.03 26.00 26.48 27.64 27.60 26.94 29.38 27.68 29.50 28.86 28.16 29.07 29.29	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.24 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.93 25.16 27.27 25.78 N.A. 27.11 27.01 26.11 27.25 27.44	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.38 0.45 0.45 0.45 0.45	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.25 28.35 28.48 27.71 28.62 28.87	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.43 25.53 24.35 24.36 24.56 24.16 24.13 25.74 22.14 23.51 22.69 26.67 26.67 26.67 26.67 26.68 27.02	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05 25.91 22.89 23.34 27.03 24.18 26.70 26.26 26.44 25.05 26.44 25.05 26.44 25.05 26.44 26.47 26.49
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troll  US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Mideo BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26  28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18  Indianal N.A. 30.86 33.10 N.A. 31.07 31.85  Veckly 25.61 26.21	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.14 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13  TENIS arzaitine a Juana Ltemba	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13	Minas Murban Oman Oman Qatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Basrah Light Basrah Light Brass River Brent Ekofisk Flotta Forties Gullfaks Iran Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotter 26.44 27.60 26.94 29.38 27.68 29.50 28.80 28.86 28.16 29.07 29.29 27.55	25.21 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.78 N.A. 27.27 25.78 N.A. 27.21 27.24 27.44 25.64	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45 0.45 0.45 0.45 0.42 0.96	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.35 28.48 27.71 28.35 28.48 27.71 28.35 28.45 28.35 28.48 27.71 28.45	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.36 24.56 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80 27.02 24.68	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05 25.91 22.89 23.89 23.89 24.01 25.05 26.26 26.32 24.01 25.05 26.32 24.01 25.05 26.32 26.40 26.32 26.40 26.32 26.40 26.32 26.40 26.32 26.40 26.32 26.32 26.40 26.32 26.40 26.32 26.40 26.32 26.40 26.32
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Li Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon  V Amna Brega Cinta* Daqing*	32.87 31.81 30.53 29.48 32.74 32.81 32.64 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 0ntinent N.A. 31.07 31.85 Veekly 25.61 26.21 25.33 25.95	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07 CTU(Gippsla Kole Sarir Sirtica	1.54 0.96 0.76 1.03 1.66 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.14 29.91 25.34 29.91 25.34 25.34 25.34 25.34 25.34 25.36 66	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13  Tents  Tents  Tents	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13 24.01 26.47 25.13 26.37 25.86	Minas Murban Oman Oman Oatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower) Italy Arab Laght Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Bassah Light Bassah Light Brass River Brent Ekofisk Flotta Forties Gullfaks Iran Heavy Iran Light	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotter 26.44 27.03 26.90 26.94 29.38 27.68 29.38 27.68 29.38 29.07 29.29 27.55 28.14	25.21 26.02 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 26.24 24.62 25.03 26.25 25.03 26.27 24.67 25.98 N.A. 27.11 27.01 26.11 27.25 27.44 26.00	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 0.69 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45 0.45 0.45 0.45 0.45 0.49 0.96	26.28 26.19 25.90 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.25 28.25 28.25 28.48 27.71 28.62 28.87 26.59 27.18	24.62 24.92 24.97 24.97 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.35 24.36 24.56 25.60 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80 27.02 24.68 25.05	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 25.79 26.32 24.01 25.05 25.91 22.89 23.89 23.89 24.01 25.05 25.91 22.89 23.89 24.01 25.05 25.91
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli US West C ANS Basrah Light Escalante Kem River Line 63 Maya Oriente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bonny Light Bow River Cabinda Cano Limon  V Amna Brega Cinta*	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 28.18 24.00 27.88 31.05 28.18 28.18 29.18 20	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07 CTUG Gippsla Kole Sarir Strica \$\$/bbl ass	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.14 29.91 25.34 27.55 28.14 29.91 28.13 Signor Control Co	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58 30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09 29.62 30.19 N.A. 29.39 30.63 31.13	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.34 26.28 24.18 21.58 22.48 25.66 21.45 21.45 21.90 26.56 22.75 N.A. 24.18 26.27 25.13 26.37 25.13 26.37 25.13 26.37 25.13	Minas Murban Oman Oman Qatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Basrah Light Basrah Light Brass River Brent Ekofisk Flotta Forties Gullfaks Iran Heavy	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotter 26.44 27.60 26.94 29.38 27.68 29.50 28.80 28.86 28.16 29.07 29.29 27.55	25.21 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 26.14 25.99 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.78 N.A. 27.27 25.78 N.A. 27.21 27.24 27.44 25.64	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45 0.45 0.45 0.45 0.42 0.96	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.35 28.48 27.71 28.35 28.48 27.71 28.35 28.45 28.35 28.48 27.71 28.45	24.62 24.92 24.92 24.72 26.27 24.54 25.09 22.80 21.34 25.53 24.35 24.36 25.53 24.35 24.36 25.50 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80 27.02 24.68 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.65 26.80 27.02 24.68 25.65 26.80 27.02 24.68 25.65 26.80 27.02 26.80 27.02 26.80 27.02 26.80 27.02 2	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 27.03 25.79 25.22 25.72 24.01 25.05 25.91 22.89 23.89 23.89 23.89 24.01 25.05 25.91 22.89 23.89 23.89 24.01 25.05 25.91
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli  US West ( ANS Basrah Light Escalante Kern River Line 63 Maya Oriente Mixed Lt Swt THUMS  US Midco BCF 24 Basrah Light Bonny Light Bow River Cabinda Cano Limon  V Amna Brega Cinta* Dacing* This table pre	32.87 31.81 30.53 29.48 32.74 32.81 32.64 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18 mtinent N.A 30.86 33.10 N.A. 31.07 31.85 Veckly	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07 CTUG Gippsla Kole Sarir Sirtica	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.14 29.91 SESSI 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 25.34 26.90 27.82 28.13 28.14 29.91	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13  Tents  Tent	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13 26.37 25.13 26.37 25.86 evicus ver des with (*	Minas Murban Oman Qatar Dukhan Qatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Basrah Light Brass River Brent Ekofisk Flotta Forties Gullfaks Iran Heavy Iran Light Kuwait Murban Statfjord	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 -Rotter 26.94 29.38 27.60 26.94 29.38 27.66 28.80 28.80 28.80 28.86 29.10 29.29 27.55 28.14 27.07 28.68 29.14	25.21 26.02 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 24.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.98 25.16 27.27 25.78 N.A. 27.11 27.01	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.4	26.28 26.19 25.90 26.00 26.03 27.28 25.85 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.35 26.75 28.25 28.35 28.45 27.71 28.62 28.87 26.59 27.18 24.54	24.62 24.92 24.97 24.97 24.72 26.27 24.54 25.09 22.80 21.34 25.40 25.53 24.35 24.35 24.36 24.56 25.60 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80 27.02 24.68 25.05	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 25.79 26.32 24.01 25.05 25.91 22.89 23.89 23.89 24.01 25.05 25.91 22.89 23.89 24.01 25.05 25.91
Gullfaks Hibernia Mesa Oriente Rabi Soyo/Palanca Statfjord Troli US West C ANS Basrah Light Escalante Kem River Line 63 Maya Oriente Mixed Lt Swt THUMS US Midco BCF 24 Basrah Light Bonny Light Bonny Light Bonny Light Cano Limon  V Amna Brega Cano Limon  V This table proston of the Fe	32.87 31.81 30.53 29.48 32.74 32.81 32.64 32.26  Coast 28.94 28.03 28.47 27.46 28.62 24.00 27.88 31.05 28.18  Intinent  N.A 30.86 33.10 N.A. 31.07 31.85  Veckly  25.61 26.21 25.33 25.95  Ovides weeklyeder Crudes five-day aveeling of the continuous of the continuou	N.A. 33.62 32.84 31.60 31.05 33.83 33.15 33.26 33.57 30.40 29.89 29.96 29.14 30.54 27.28 29.11 31.71 29.09 31.72 32.75 N.A. 31.23 33.55 33.07 CTUC Gippsla Kole Sarir Surica of \$/bbl assuble that trage of get and trage of get an	1.54 0.96 0.76 1.03 1.66 1.60 1.59 1.04 0.99 N.A. 2.59 1.57 1.65 0.11 1.25 2.95 1.89 N.A. 2.10 2.56 3.01 1.84 2.93 1.94	30.82 31.91 31.05 29.50 27.82 31.14 31.22 31.60 31.27 28.94 25.44 26.90 25.81 28.51 22.75 24.93 29.16 28.18 N.A 28.30 30.09 N.A. 28.44 29.91 SESSI 29.91 SESSI 25.34 29.91 SESSI 25.34 25.51 Ti 25.76 No Grothose cruther was the current vessed daily.	N.A. 32.66 32.08 30.57 29.39 32.24 31.56 32.23 32.58  30.40 27.30 28.39 27.49 30.43 26.03 26.17 29.82 29.09  29.62 30.19 N.A. 29.39 30.63 31.13  Tents  Tent	26.63 26.49 26.40 24.64 21.90 26.30 26.41 26.43 26.28 24.18 21.58 22.48 25.66 21.45 21.90 26.56 22.75 N.A. 24.18 26.72 19.08 25.75 25.13 26.37 25.13 26.37 25.86 evicus ver des with (*	Minas Murban Oman Oman Oatar Dukhan Qatar Marine Tapis Umm Shaif Zakum (Lower)  Italy Arab Light Arab Heavy Azeri Light Es Sider Iran Heavy Iran Light Kirkuk Saharan Blend Suez Blend Urals Zuetina Amsterdam Arab Heavy Arab Light Arab Medium Azeri Light Basrah Light Brass River Brent Ekofisk Flotta Forties Gullfaks Iran Heavy Iran Light Kuwait Murban	26.87 27.30 26.95 27.19 27.21 27.82 26.91 26.96 26.10 25.16 28.11 27.59 26.18 26.64 27.03 26.00 26.48 27.64 27.60 26.94 29.38 27.68 29.50 28.80 28.80 28.86 29.07 29.29 27.55 28.14 27.07 28.68	25.21 26.03 26.02 26.11 25.90 26.81 25.66 26.21 25.24 23.89 25.33 25.24 26.06 24.62 25.03 26.27 24.67 25.93 25.15 N.A. 27.11 27.01 26.11 27.25 27.44 26.06 26.00 27.27 27.44 26.06 27.27 27.11 27.05 27.11 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11 27.05 27.11	0.59 1.11 1.05 1.19 1.18 0.54 1.11 1.11 2.44 2.56 0.74 0.46 0.55 0.53 0.69 0.46 N.A. 0.53 ntwerp 2.54 2.42 2.47 1.03 0.93 1.25 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.4	26.28 26.19 25.90 26.00 26.03 27.28 25.80 25.85 23.66 22.60 27.37 27.13 25.63 26.11 25.45 26.57 25.54 25.58 27.11 23.90 25.18 24.47 28.47 28.47 28.47 28.47 28.47 28.47 28.47 28.47 28.48 27.11 28.62 28.87 26.59 27.18 24.54 26.55	24.62 24.92 24.97 24.97 24.72 26.27 24.54 25.09 22.80 21.34 25.53 24.35 24.36 24.56 25.60 24.16 24.13 25.74 22.14 23.51 22.69 26.23 24.85 N.A. 26.67 26.64 25.65 26.80 27.02 24.68 27.02 24.68 25.05 27.02 24.68 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 27.02 24.68 25.05 26.05 27.02 26.05 27.02 27.02 27.02 27.02 27.02 27.02 27.02 27.03 2	25.68 25.75 25.16 26.01 25.41 28.51 25.50 25.75 23.89 22.89 27.03 25.79 25.22 25.72 24.60 26.32 24.01 25.05 25.91 22.89 23.89 23.38 24.18 26.70 26.26 26.47 26.49 25.22 25.72 24.60 25.75

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/Bbl		+33.90-33.95+			MOP	MOP	MOP
	Mogas 92 Unl	+31.95-32.0			Singapore	Arab Gulf	Japan
	Mogas 95 Unl	+32.90-33.0		Jet	-0.00- 0.20	0.90- 1.00	
	Mogas 97 Unl	+33.90-34.0		Gasoil 0.25%S	-0.90-1.05-	1.55- 1.70	
/MT	MTBE	+340.00-350		Gasoil Reg 0.5%		1.05- 1.20	
		265.75-267.2527.90-28.	00	380 CST	2.00- 3.00	-3.50—2.50	0.50 0.50
		268.25-268.50-		Naphtha	0.20- 0.40		-0.50- 0.50
	Naphtha 45-60 -	266.75-267.25-		LSWR	+1.20-1.30+		
		265.75-266.00-	40 04.00 04.05	<del></del>			~
/Bbl	Jet Kerosene	-32.95-33.0031.35-31.4	4034.00-34.05-		South China Fo	DB South Chin	a,C&F Hong Kong
	Gasoil "Cracked"	-31.15-31.20-		\$/MT		_	
	Gasoil "Pure"	-31.65-31.70- -31.60-31.7	7034.40-34.50-	Unl 90 RON	+255.00-259.0		
	Gasoil 0.05%S Gasoil 0.5% C&F	-31,60-31, -31,15-31,2		Unl 93 RON	+263.50-267.5		~
	Gasoil 0.25%S	-30.90-31.0		Jet Kerosene		-255.25-25	
	Gasoil 0.5%S	-30.40-30.		Gasoil 0.2%		-231.70-23	
	Gasoil 1.0%S	-30,30-30.4		Gasoil L/P 0.5%S	•	-230.20-23	4.20- 57. <b>00-+</b> 172.00-174.00+
	Gasoil LoPr	-30,40-30.		Fuel Oil 180 cst Fuel Oil 380 cst		-163,25-16	
	LSWR Mixed/Crac			Marine Diesel		-103,23-10	
	Naphtha Pap.(OCT		50-	Manne Diesei			233.00-235.0
	Naphtha Pap.(NOV	27,15-27,		Gas Liquids (e	c/Gal) Mont P	Belvieu Conwa	ay Other Hub
	Kerosene Pap.(OC)	Γ) -31.25-31.		Ethane/Propane	-35,000-3		
	Kerosene Pap.(NO	V) -30.90-31.		Ethane Purity	-33.000-3 -34.750-3		33.230
	Gasoil Pap.(OCT)	-30,00-30.0		Propane	-50,500-5		50.000
	Gasoil Pap.(NOV)			Propane TET	-50,750-5		39.000
/MT	FO 180 cst 2%	-166,00-166		Normal Butane	61.750-6		61.000
		-169.25-169.50157.75-1;	58.75-	Butane TET	61.750-6		01.000
	180cst Disc/Premiu			Isobutane	-63.250-6		67-500
	HSFO 380cst	-154.75-155	5.00-	Isobutane TET	64.000-6		0,000
	HSFO 180cst Pap.(	OCT)	-158,00-158.25-	Natural Gasoline	(A.000-C	70.750-	71.250
	HSFO 180cst Pap.(	NOV )	-155.75-156.25-	Natural Gasoline	TET -65.000-6		7.12.30
				<ul> <li>Natural Non-Dyn</li> </ul>			
∖rab	Gulf, FOB			Natural Dynegy	-65.000-6		
S/MT		\$/Bbl		Bushton Propane			59.250-59.500
Naphth	ıa +235.35-2		-29.20-29.25-	Hattiesburg Propa			- <b>53</b> .7 <b>5</b> 0-54.250-
Naphth	a LR2 +239.50-2			River Natural Gas	soline		-65.000-65.500-
HSFO	180 est -146.50-		%S -29.35-29.40-				
	380 cst -143.00-		%S -28.65-28.70-	T A	EOD a/z:		
95 RO	N Unleaded +30.80-1		-28.15-28.20-	Latin America.	, rub <u>\$/B</u> bi		
		Gasoil LR2	-28,50-28.60-	Argentina		Ecuador	
arib	bean Cargoes, FC	OB <b>\$/M</b> T	c/Gal		27.25-27.45+	FO 1.5%S	-19.80-19.90-
/W10	Naphtha	+246.30-24			30.75-30.85+	FO 1.7%S	-19.40-19.60-
	Napnuna Jet Keroso		8.11+ +67.83-68.35+ 2.78+ +74.45-74,70+		21.90-22.40-	Peru	04 44
	Gasoil		5.22+ +72.40-72.65+	Brazil	24.00.25.40	Naphtha FO 0 00 C	+26.65-26.75+
\$/Bbl	No.6 2.09				24.90-25.40-	FO 0,9%S	-21.50-21.55-
الحال ار	No.6 2.89	%S -20,70-20		Colombia	20,90-20,95-	FO 1.4%S	-21.45-21.50-
	510 2.07			FO 1.5%S -	ZU.7U-ZU.73-	avalent salah Sala	
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			THE PRIE	<u>क्रांद्रवयय</u>	FOLDER		
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Brent(	OCT)-27.02-27.06-	Dubai(NOV) -25.27-25 Dubai(DEC) -25.06-25	29- Dubai(OCT)* -2			78- 0.82 93- 0.97 MOG0	
Brent(	OCT)-27.02-27.06- NOV)-26.73-26.75-	Dubai(DEC) -25.06-25.	10- Dubat(NOV)* -2	24,78-24.82- MOC	5 Diff(OCT)* 0.	93- 0.97 MOG(	OCT)* -26.01-26.05-
Brent() Brent() Brent()	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44-	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24.	<ul><li>10- Dubat(NOV)* -2</li><li>82- Dubat(DEC)* -2</li></ul>	24,78-24.82- MOC 24,50-24.54- MOC	G Diff(OCT)* 0. G Diff(NOV)* 0.	93- 0,97 MOG(0 96- 1.00 MOG(1	OCT)* -26.01-26.05- NOV)* -25.76-25,80-
Brent() Brent() Brent() Brent()	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12-	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA-	<ul> <li>10- Dubai(NOV)* -2</li> <li>82- Dubai(DEC)* -2</li> <li>NA BRENT/WTI 1st</li> </ul>	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1	93- 0,97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57-
Brent() Brent() Brent() Brent()	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44-	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-0	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WII 1st 0,12 BRENT/WII 2nd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC 	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25,80- DEC)* -25.53-25,57- MOG(NOV)+0.10-0.14+
Brent() Brent() Brent() Brent()	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12-	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA-	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WII 1st 0,12 BRENT/WII 2nd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC 1—1.47—1 43- Omai —1.46—1.42- Omai	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25	93- 0,97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25,80- Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26
Brent() Brent() Brent() Brent()	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12-	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-0	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0.12 BRENT/WTI 2nd- BRENT/WTI 3rd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC 1—1.47—1 43- Omai —1.46—1.42- Omai	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25	93- 0,97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25,80- Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26- MOG(JAN) 0.09- 0.13
Brent() Brent() Brent() Brent() NS Bas	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-	Dubai(DEC) -25.06-25. Duba(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-( Spread vs DTD Bre	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0.12 BRENT/WTI 2nd- BRENT/WTI 3rd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC 1—1.47—1 43- Omai —1.46—1.42- Omai Omai	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25	93- 0,97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25,80- Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26
Brent() Brent() Brent() Brent() NS Bas	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-	Dubai(DEC) -25.06-25. Duba(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-( Spread vs DTD Bre	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0.12 BRENT/WTI 2nd- BRENT/WTI 3rd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC I—1.47—1 43- Omai —1.46—1.42- Omai Spread vs DTI	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent	93- 0,97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25,80- Oman N	OCT)* -26,01-26,05- NOV)* -25,76-25,80- DEC)* -25,53-25,57- MOG(NOV)+0,10-0,14- MOG(DEC) +0,20-0,26 MOG(JAN) 0,09- 0,13 <u>Spread vs DTD</u>
Brent() Brent() Brent() Brent() NS Bar Brent	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-	Dubai(DEC) -25.06-25. Duba(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-( Spread vs DTD Bre	10- Dubat(NOV)* -2 Dubat(DEC)* -2 NA BRENT/WT1 1st 0.12 BRENT/WT1 2nd- 0.11 BRENT/WT1 3rd-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC I—1.47—1 43- Omai —1.46—1.42- Omai Spread vs DTI	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.12 Spread vs DTD
Brent() Brent() Brent() Brent() Brent() Brent() NS Bar Brent	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-6 Brent EFP(DEC) 0.09-6  Spread vs DTD Bre  96- 28- 0.29-0.32	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0,12 BRENT/WTI 2nd- 0,11 BRENT/WTI 3rd- 0.11 WAF DTD Strip-26 Brass River -27.6	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC 1-1.47-1 43- Omai 0mai Spread vs DTI	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I  Ural (R	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .37-25.40- Oman N DTD Strip-26.94-26. .dam) -25.72-25.8	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD .95- 01.22—1.15
Brent() Brent() Brent() Brent() Brent() Brent() NS Bar Brent NS D7 Forties Ekofis	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9 -27.23-27.26	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  26- 28- 0.29-0.32 26- 0.26-0.30	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0.12 BRENT/WTI 2nd- 0.11 BRENT/WTI 3rd-  WAF DTD Strip-26 Brass River -27.6 Forcados -26.9	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC —1.47—1 43- Omai —1.46—1.42- Omai Spread vs DTI 6.77-26.78- 06-27.12- 0.29 -0.34	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Utal (R Utal (R	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .37-25.40- Oman N DTD Strip-26.94-26. .dam) -25.72-25.8	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26- MOG(JAN) 0.09- 0.13- Spread vs DTD .95- 01.22—1.15 -1.10—1.05
Brent() Brent() Brent() Brent() Brent() NS Base Brent NS DT Forties Ekofis Statfjo	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  96- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29	10-	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC NA-NA MOC Na-1.47—1 43- Omai Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (A) Ural F Ural F	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N. .76-25.80- Oman N. OTD Strip-26.94-26. ddam) -25.72-25.8 ded) -25.84-25.9 DB Ven -24.92-24.9 DB Novo-25.07-25.	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 01.10—1.05 18- —2.02—1.97- 13- —1.87-1.82-
Brent() Brent() Brent() Brent() Brent() NS Base Brent NS DT Forties Ekofis Statfjo	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-( Spread vs DTD Bre 96- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34	10-	24.78-24.82- 24.50-24.54- MA-NA MOC NA-NA —1.47—1 43- —1.46—1.42- Omai  Spread vs DTI  6.77-26.78- 06-27.12- 0.29 -0.34 99-27.05- 0.22 -0.27 98-27.04- 0.21 -0.26	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (A) Ural F Ural F	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .37-25.40- Oman N DTD Strip-26.94-26. idam) -25.72-25.8 ded) -25.84-25.9 B Ven -24.92-24.9	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 01.10—1.05 18- —2.02—1.97- 13- —1.87-1.82-
Brent() Brent() Brent() Brent() NS Bar Brent NS D7 Forties Ekofis Statfjo	OCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-( Spread vs DTD Bre 96- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34	10-   Dubat(NOV)* -2	24.78-24.82- MOC 24.50-24.54- MOC NA-NA MOC NA-NA MOC Na-1.47—1 43- Omai Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (N UralFC Ural F Ural S I Iran Lt	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05 MOG(1 .88-25.92 Oman N .37-25.40 Oman N	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  .9501.22—1.15 01.10—1.05 -8- —2.02—1.97- 13- —1.87—1.82- 1700.49—0.45
Brent() Brent() Brent() Brent() NS Base Brent NS D7 Forties Ekofis Statfjo Osebe	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23- TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  26- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap	10- Dubat(NOV)* -2 82- Dubat(DEC)* -2 NA BRENT/WTI 1st 0,12 BRENT/WTI 2nd- 0,11 BRENT/WTI 3rd-  WAF DTD Strip-26 Brass River -27.6 Forcados -26.9 Qua Ibo -27.6 Bonny Light -27.6 Cabinda -26.2	24.78-24.82- 24.50-24.54- MA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 32-26.39- 0.48—0.4	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC Urals ( 3 Iran Lt Iran H	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .76-25.80- Oman N .37-25.40- Oman N .3	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  .95- 01.22—1.15 01.10—1.05 8- —2.02—1.97- 13- —1.87—1.82- 17- 100.49—0.45 00.99—0.95
Brent() Brent() Brent() Brent() NS Base Brent NS D7 Forties Ekofis Statfjo Osebe Flotta Londo	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9  -27.23-27.2  -27.24-27.2  -25.74-25.9  In Brent CF NOV) 0.27-0.2	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  96- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap 29-0.27.04	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 32-26.39- 0.48—0.4	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* -1 IN (NOV) -25 IN (DEC) -25 IN (JAN) -25. D Brent  MED I  Ural (N  UralFC  Ural F  Urals (  3 Iran Lt  Iran H  Es Side	93- 0.97 MOG(0 96- 1.00 MOG(1 01-1.05- MOG(1 88-25.92- Oman N .37-25.40- Oman N  OTD Strip-26.94-26. iddam) -25.72-25.8 fed) -25.84-25.9 DB Ven -24.92-24.9 DB Novo-25.07-25. RCMB) -25.97-26.0 (Sidi) -26.45-26.5 vy(Sidi) -25.95-26.0 etr -26.42-26.4	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 -1.10—1.05 182.02—1.97- 131.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48
Brent() Brent() Brent() Brent() Brent() NS Bar  Brent NS D7 Forues Ekofis Statfjo Osebe Flotta Londo 1wk()	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 -25.74-25.3 nn Brent CF NOV) 0.27-0.29	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-(	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MOC 24.50-24.54- MOC NA-NA MOC —1.47—1 43- —1.46—1.42- Omai Spread vs DTI 6.77-26.78- 06-27.12- 0.29 -0.34 99-27.05- 0.22 -0.27 98-27.04- 0.21 -0.26 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 32-26.39- 0.48—0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (N Ural FC Ural FC Ural S 3 Iran Lt Iran H ES Side Siberia	93- 0.97 MOG(0 96- 1.00 MOG(1 01-1.05- MOG(1 88-25.92- Oman N .37-25.40- Oman N  DTD Strip-26.94-26. ddam) -25.72-25.8 ded) -25.84-25.9 DB Ven -24.92-24.9 DB Novo-25.07-25. RCMB) -25.97-26.0 (Sidi) -26.45-26.5 vy(Sidi) -26.42-26.4 m Lt -26.92-26.9	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 101.22—1.15 -1.10—1.05 18- —2.02—1.97- 13- —1.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 -0.02-0.03-
Brent() Brent() Brent() Brent() Brent() Brent() NS Bar Brent NS D7 Forties Ekofis Statfjo Osebe Flotta Londo 1wk() 2wk()	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.2 rg -27.24-27.3 -25.74-25.1 nn Brent CF NOV) 0.27-0.2 NOV) 0.16-0.20	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-(	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA MOC -1.47-—1 431.46-—1.42- Mary Spread vs DTI 6.77-26.78- 06-27.12- 0.29 -0.34 99-27.05- 0.22 -0.27 98-27.04- 0.21 -0.26 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. F Diff(DEC)* -1 In(NOV) -25 In(DEC) -25 In(JAN) -25 In	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .37-25.40- Oman N .37-26.00- Oman N .3	OCT)* -26.01-26.05- NOV)* -25.76-25.80- PCC)* -25.76-25.80- PCC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13
Brent() Brent() Brent() Brent() Brent() NS Bar  Brent NS D7 Forues Ekofis Statfjo Osebe Flotta Londo 1wk()	CD Strip -26.94-26.9  **Comparison of Comparison of Compar	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-(	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC Ural F( Ural F( G Ural Siberia Sahara Azeri I	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .76-25.80- Oman N .37-25.40- Oman N .3	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  -1.22—1.15 01.22—1.15 01.10—1.05 -1.81.87—1.8217100.49—0.45 -0.99—0.95 -170.52—0.48 -0.02-0.030.44-0.09 -0.74-0.79
Brent() Brent() Brent() Brent() NS Bar  Brent NS D7 Forties Ekofis Statfjoo Osebe Flotta Londo 1wk() 2wk() 3wk() 4wk()	CT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 NOV) 0.27-0.29 NOV) 0.27-0.29 NOV) 0.16-0.20 NOV) 0.05-0.10	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(COT) NA- Brent EFP(NOV) 0.11-6 Brent EFP(DEC) 0.09-6  Spread vs DTD Bre  96- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15 D Dated Swap 19 27.00-27.04 9+ 27.00-27.04 9+ 26.89-26.95 0- 26.78-26.85	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA MOC -1.47-—1 431.46-—1.42- Mary Spread vs DTI 6.77-26.78- 06-27.12- 0.29 -0.34 99-27.05- 0.22 -0.27 98-27.04- 0.21 -0.26 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36 08-27.14- 0.31 -0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC Ural F( Ural F( G Ural Siberia Sahara Azeri I	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .37-25.40- Oman N .37-26.00- Oman N .3	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  -1.22—1.15 01.22—1.15 01.10—1.05 -1.81.87—1.8217100.49—0.45 -0.99—0.95 -170.52—0.48 -0.02-0.030.44-0.09 -0.74-0.79
Brent() Brent() Brent() Brent() Brent() NS Base Brent NS D7 Forties Ekofis Starfjo Osebe Clawk() 23wk() 4wk() 4wk() 5wk()	CDCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  CD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 -25.74-25.8  Brent CF NOV) 0.27-0.29 NOV) 0.16-0.20 NOV) 0.05-0.16 NOV) 0.05-0.10 NOV) -0.02-0.03	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  26- 28- 26- 26- 26- 26- 26- 26- 26- 30- 25- 0.27-0.29  30- 0.30-0.34  811.20—1.15  D Dated Swap  27.00-27.04  24- 27.00-27.04  24- 27.00-27.04  26.89-26.95  20- 26.78-26.85  22- 26.71-26.77	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC Ural F( Ural F( G Ural Siberia Sahara Azeri I	93- 0.97 MOG(96-1.05 MOG(1) MO	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  -1.22—1.15 01.10—1.05 8- —2.02—1.97- 13- —1.87—1.82- 17- 100.49—0.45 000.99—0.95 170.52—0.48 -0.02-0.03- 04- 0.09 14- 0.74- 0.79 19- +0.09-0.14+
Brent() Brent() Brent() Brent() Brent() Brent() NS Bar Brent NS D7 Forties Ekofis SCHOOL OOSsebe Flotta Londc 1wk() 4wk() 4wk() 5wk() 6wk()	CT)-27.02-27.06-NOV)-26.73-26.75-DEC)-26.40-26.44-DTD)-27.07-27.12-sket-27.18-27.23-  CD Strip -26.94-26.9  CD Strip -26.94-26.9  CD Strip -27.23-27.2  cd -27.20-27.2  rd -27.21-27.3  rg -27.24-27.3  rg -27	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  26- 28- 26- 26- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap 19 27.00-27.04 27.00-27.04 27.00-27.04 26.89-26.95 0- 26.78-26.85 2- 26.71-26.77 04- 26.65-26.71	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC UralFC Urals ( 3 Iran Lt Iran H Es Side Siberia Sahara Azeri I S+ Azeri I	93- 0.97 MOG(0 96- 1.00 MOG(1 96- 1.05 MOG(1 01-1.05- MOG(1 88-25.92- Oman N .37-25.40- Oman N .37-25.4025.84-25.9 .38-24.92-24.9 .39 Novo-25.07-258CMB) -25.97-26.0 .8Gidi) -25.95-26.0 .9cr	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14+ MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 101.10-1.05 82.02-1.97- 131.87-1.82- 17- 100.49-0.45 100.99-0.95 170.52-0.48 -0.02-0.03- 14- 0.04-0.09 19- +0.09-0.14+ -2.25-2.20
Brent() Brent(	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 -25.74-25.3  NOV) 0.27-0.29 NOV) 0.16-0.20 NOV) -0.08-0.0 NOV) -0.08-0.0 NOV) -0.08-0.0 NOV) -0.17-0.2	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA Brent EFP(DEC) 0.09-(	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV) -25. In(NOV) -25. In(DEC) -25. In(DE	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .76-25.40- Oman N .77-25.40- Oman N .78-25.40- Oman N .7	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 01.10—1.05 182.02—1.97- 131.87—1.82- 17- 100.49—0.45 000.99—0.95 170.52—0.48 -0.02-0.03- 0.04-0.09 14- 0.74-0.79 19- +0.09-0.14+ 152.25—2.20 1-1.66—1.61
Brent(I) Bre	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 -25.74-25.3  NOV) 0.27-0.29 NOV) 0.16-0.20 NOV) -0.08-0.0 NOV) -0.08-0.0 NOV) -0.08-0.0 NOV) -0.17-0.2	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA Brent EFP(DEC) 0.09-(	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. In(NOV) -25. In(DEC) -25. In(JAN) -25. In(JAN	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .01-1.05- MOG(1 .76- 25.80- Oman M .37-25.40- Oman M .37	OCT)* -26.01-26.05- NOV)* -25.76-25.80- POEC)* -25.76-25.80- POG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 101.22—1.15 01.10—1.05 182.02—1.97- 131.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 180.02-0.03- 14- 0.74- 0.79 19- +0.09-0.14+ 152.25—2.20 141.66—1.61 170.03-0.02
Brent() Brent(	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 (NOV) 0.27-0.29 (NOV) 0.27-0.29 (NOV) 0.05-0.10 (NOV) -0.08-0.0 (NOV) -0.08-0.0 (NOV) -0.17-0.8 (NOV) -0.25-0.0 (NOV) -0.25-0.0	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA Brent EFP(DEC) 0.09-(	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36 08-27.64- 0.31-0.36	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R Ural R Ural F Urals G Iran Lt Iran H Es Side Siberia Sahara Azeri I Suez B Kirkuk Kumk Kumk	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  -1.22—1.15 01.10—1.05 -2.02—1.97- 13- —1.87—1.82- 17- 000.49—0.45 -0.99—0.95 170.52—0.48 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.49—0.45 -0.04-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.14-0.09 -0.19-0.24
Brent() Brent() Brent() Brent() Brent() Brent() NS Ba: Brent NS DT Forties Ekofis Statfjo Osebe Flotta Londc 1wk() 2wk() 4wk() 6wk() 7wk() 8wk() Asia S	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9 -27.23-27.2 k -27.20-27.2 rd -27.21-27.3 rg -27.24-27.3 -25.74-25.8  Brent CF SOV) 0.27-0.29 SOV) 0.16-0.20 SOV) 0.05-0.10 SOV) -0.08-0.0 SOV) -0.08-0.0 SOV) -0.17-0.3 SOV) -0.25-0.1 SOV) -0.25-0.1 SOV) -0.25-0.1	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-0 Brent EFP(DEC) 0.09-0  Spread vs DTD Bre  26- 28- 26- 26- 26- 26- 26- 26- 30- 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap 99 27.00-27.04 24- 27.00-27.04 24- 27.00-27.04 26.89-26.95 2- 26.71-26.77 26.65-26.71 212 26.56-26.63 20 26.48-26.55	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.45- 0.32-26.39- 0.48-0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(DEC)* -1 n(NOV) -25 n(DEC) -25 n(JAN) -25. D Brent  MED I Ural (R Ural (R UralFC UralFC Urals ( 3 Iran Lt Iran H Es Side Siberia Sahara Azeri I Suez B Kirkuk Kumka Zarzai Syrian	93- 0.97 MOG(0 96- 1.00 MOG(1 0.01-1.05-	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  -1.22—1.15 01.22—1.50 01.10—1.05 -8- —2.02—1.971.87—1.8217100.49—0.45 -0.99—0.95 -170.52—0.48 -0.02-0.030.44 0.09-0.14+ -0.04-0.09 -0.74-0.79 -0.99-0.14+ -2.25—2.20 -1.66—1.61 -0.03-0.02 -9- 0.19-0.24 -3.00—2.95-
Brent() Brent(	DCT)-27.02-27.06- NOV)-26.73-26.75- DEC)-26.40-26.44- DTD)-27.07-27.12- sket-27.18-27.23-  TD Strip -26.94-26.9  -27.23-27.2  k -27.20-27.2  rd -27.21-27.3  rg -27.24-27.3  rg -27.27-27.3  rg -27.27-27.3  rg -27.27-27.3	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA- Brent EFP(NOV) 0.11-( Brent EFP(DEC) 0.09-(  Spread vs DTD Bre  96- 28- 26- 26- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap 29- 27.00-27.04 27.00-27.04 27.00-27.04 26.89-26.95 26.78-26.85 2- 26.71-26.77 24- 26.65-26.63 20 26.48-26.55	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.45- 0.32-26.39- 0.48-0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV) -25. In(NOV) -25. In(DEC) -25. In(DE	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .76-25.40- Oman N .77-25.40- Oman N .77-25.40- Oman N .78-25.40- Oman N .78-26.42-26.40 .78-25.40- Oman N .78-	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 101.22—1.15 -1.10—1.05 18- —2.02—1.97- 13- —1.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 —0.02-0.03- 14- 0.04-0.09 14- 0.74-0.79 152.25—2.20 141.66—1.61 170.03-0.02 19- 0.19-0.24 103.00—2.950.70—0.65-
Brent() Brent(	CDCT)-27.02-27.06-NOV)-26.73-26.75-DEC)-26.40-26.44-DTD)-27.07-27.12-sket-27.18-27.23-  CD Strip	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(OCT) NA Brent EFP(NOV) 0.11-1 Brent EFP(DEC) 0.09-1  Spread vs DTD Bre  96- 28- 26- 26- 28- 0.29-0.32 26- 0.26-0.30 25- 0.27-0.29 30- 0.30-0.34 811.20—1.15  D Dated Swap 29- 27.00-27.04 27.00-27.04 27.00-27.04 26.65-26.95 2- 26.71-26.77 24- 26.65-26.63 20 26.48-26.55	10-   Dubat(NOV)* -2	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.45- 0.32-26.39- 0.48-0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV) -25. In(NOV) -25. In(DEC) -25. In(DEC) -25. In(JAN) -25. In(JA	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1	OCT)* -26.01-26.05- NOV)* -25.76-25.80- NOV)* -25.76-25.80- NOC)* -25.76-25.80- NOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 01.10—1.05 182.02—1.97- 131.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 180.02-0.03- 14- 0.74- 0.79 19- +0.09-0.14+ 152.25—2.20 141.66—1.61 170.03-0.02 19- 0.19-0.24 103.00—2.95- 1000.70—0.65- 1000.70—0.65- 1000.35—0.30
Brentt Brentt Brentt Brentt Brentt Brentt Brentt Brentt Brentt NS Barent Brentt NS D3 Forties Ekofis Startjo Osebe Flotta Londc 1wk(N 3wk(N 4wk(N 5wk(N 6wk(N 7 wk(N 8wk(N 18 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	CDCT)-27.02-27.06-NOV)-26.73-26.75-DEC)-26.40-26.44-DTD)-27.07-27.12-sket-27.18-27.23-  CD Strip	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(COT) NA- Brent EFP(NOV) 0.11-6 Brent EFP(DEC) 0.09-6  Spread vs DTD Bre  26- 28- 26- 26- 28- 26- 26- 25- 26- 27- 29- 30- 20- 30- 20- 30- 30- 30- 30- 34- 811.201.15  D Dated Swap 29- 27.00-27.04 29- 27.00-27.04 29- 27.00-27.04 20- 26.89-26.95 20- 26.78-26.85 20- 26.71-26.77 26.56-26.63 20- 26.48-26.55	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.45- 0.32-26.39- 0.48-0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV) -25. In(NOV) -25. In(DEC) -25. In(DEC) -25. In(JAN) -25. In(JA	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1 .88-25.92- Oman N .76-25.80- Oman N .76-25.40- Oman N .77-25.40- Oman N .77-25.40- Oman N .78-25.40- Oman N .78-26.42-26.40 .78-25.40- Oman N .78-	OCT)* -26.01-26.05- NOV)* -25.76-25.80- NOV)* -25.76-25.80- NOC)* -25.76-25.80- NOG(NOV)+0.10-0.14- MOG(DEC) +0.20-0.26 MOG(JAN) 0.09- 0.13 Spread vs DTD  95- 01.22—1.15 01.10—1.05 182.02—1.97- 131.87—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 180.02-0.03- 14- 0.74- 0.79 19- +0.09-0.14+ 152.25—2.20 141.66—1.61 170.03-0.02 19- 0.19-0.24 103.00—2.95- 1000.70—0.65- 1000.70—0.65- 1000.35—0.30
Brent() Brent(	CDCT)-27.02-27.06-NOV)-26.73-26.75-DEC)-26.40-26.44-DTD)-27.07-27.12-sket-27.18-27.23-  CD Strip	Dubai(DEC) -25.06-25. Dubai(JAN) -24.78-24. Brent EFP(COT) NA- Brent EFP(NOV) 0.11-6 Brent EFP(DEC) 0.09-6  Spread vs DTD Bre  26- 28- 26- 26- 28- 26- 26- 25- 26- 27- 29- 30- 20- 30- 20- 30- 30- 30- 30- 34- 811.201.15  D Dated Swap 29- 27.00-27.04 29- 27.00-27.04 29- 27.00-27.04 20- 26.89-26.95 20- 26.78-26.85 20- 26.71-26.77 26.56-26.63 20- 26.48-26.55	10- 10- 10- 10- 10- 10- 10- 10- 10- 10-	24.78-24.82- 24.50-24.54- MOC NA-NA MOC NA-NA —1.46—1.42- Oman Spread vs DTI 6.77-26.78- 06-27.12- 0.29-0.34 99-27.05- 0.22-0.27 98-27.04- 0.21-0.26 08-27.14- 0.31-0.36 08-27.14- 0.31-0.36 08-27.45- 0.32-26.39- 0.48-0.41	G Diff(OCT)* 0. G Diff(NOV)* 0. G Diff(NOV)* 0. G Diff(NOV) -25. In(NOV) -25. In(DEC) -25. In(DEC) -25. In(JAN) -25. In(JA	93- 0.97 MOG(0 96- 1.00 MOG(1 .01-1.05- MOG(1	OCT)* -26.01-26.05- NOV)* -25.76-25.80- DEC)* -25.53-25.57- MOG(NOV)+0.10-0.14 MOG(DEC) +0.20-0.2 MOG(JAN) 0.09- 0.1 Spread vs DTD  95- 01.22—1.15 01.10—1.05 18- —2.02—1.97- 113- —1.87-—1.82- 17- 100.49—0.45 100.99—0.95 170.52—0.48 -0.02-0.03- 14- 0.04-0.09 14- 0.74- 0.79 19- +0.09-0.14+ 152.25—2.20 141.66—1.61 170.03-0.02 19- 0.19-0.24 -3.00—2.95 100.70—0.650.35—0.30

Section   Sect		Five-L	Day Rolling	g Averages*	*Five Days end in	g Sep 26
Imagenore   27.28—27.35   64.95**e5.12   76.66   19.00   19.	Naohtha	\$/Bbl	c/Gal	Carib 2.8%	20.51—20.76	131.26**132.86
SAMT				Crude Oil, FOB Source	\$/Bb1	
Tan Outfile		\$/MT	c/Gal			
IF NWE Physical   245.00—246.00   63.1**e6.49   Brent (DTD)   26.60—26.65   Considered and page   241.00—242.00   63.7**e6.49   Brent (DTD)   26.60—26.65   Considered and page   241.00—241.00   63.62**e6.28   Brent (DTD)   26.60—26.65   Considered and page   241.00—241.00   63.62**e6.28   Brent (DTD)   26.60—26.65   Considered and page   241.00—241.00   63.62**e6.28   Considered and page   25.40—25.25   Considered and page   241.00—241.00   241.00—241.00   Considered and page   25.40—25.25   Considered and page   25.40—25.25   Considered and page   25.50—25.67   75.94**e7.17   Considered and page   25.50—25.67   75.94**e7.17   Considered and page   25.50—25.67   75.94**e7.17   Considered and page   25.50—25.40   75.94**e7.17   Considered and page   25.40—25.20   Considered and page   25.40—25.40   Consider	Japan C/F					
A	Arab Gulf					
OB Med						
TF Genoa		228.00-242.00				
Table   Cargo   Californ   Cali	CIF Genoa					
Semplificating   Simplificating   Simplificating   Simplificating   Simplificating   Simplificating   Simplificating   Simplification   Simp	US Gulf W	243.07**245.55	68.47—69.17			
Simpage	Carib Cargo					
Control   Cont	let Kerosene					
OB Med   223,18-244,15   73,68**73,54   1.A. LS Diesel   32,11**32,34   76,45-770,55   32,68**73,54   32,68**						
S. Gulf Water   242,19**242.99   72.95-73.19   S.F. LS Diesel   32.61**32.84   77.65-78.26   S.Gulf Pipe   242,19**24.99   72.95-73.19   S.MT   C/Gal   Surpic Cargo   237.41-238.19   73.59**73.44   C/Gal   245.95**24.65   47.45-74.83   C/Gal   245.95**24.65   47.45-74.83   C/Gal   245.95**24.65   47.45-74.83   C/Gal   245.95**24.50   77.75-78.15   C/Gal   245.95**24.50   77.75-78.15   C/Gal   245.95**24.50   77.75-78.15   C/Gal   245.95**24.50   77.75-78.15   C/Gal   245.95**24.50   C/Gal   245.95**24.5						
S. Gulf Pipe						
Cargo   27,41—238,19   73,59**73,49   C2 CFF ARA   230,50—231,30   73,58**73,94   C37, Cargo   245,95**246,94   74,53—74,83   C37,57—78,15   C38,07—79,07—78,07—	US Gulf Pine			511 1 2D 2 15551		
Y Cargo				0.2 CIF ARA	230.30—231.30	73.58**73.90
	NY Cargo	245.95**246.94	74.5374.83	EN590 CIF ARA		76.52**76.84
Track   Trac	LA Pipeline					70.73**71.17
EMPS   Company	Group 3					70.61**70.93
Simpapore LSWR Mixed/Cracked   23.94—24.08   160.40**161.34   NY Cargo   224.66**225.35   71.32—17.55						
Target   T						
Signature   Sign						
Group 3	CIF ARA 1%	24.69**24.88	160.50—161.70	US Gulf Water		70.5370.74
Total   Cargo   Section   Sect	Pot Bar 1%	24 13**23 94	154 40155 60			70.0370.24
Acad FOB 1 %   23.56 ***23.38   \$50.80 - 152.00   \$15 Cargo 3 % HP   27.65 - 27.90   \$182.66 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$190.15 ***191.82   \$159.94 ***157.95	NWE FOB 1%					75.58—75.88
NY Cargo 3% IP  2.03—2.8.63  100.13**19182  (CFARA Prem Uni  74.84**75.41  262.70—264.71  27.03—27.84  18.04**15.075  R dam Barge Prem Uni  74.03**15.41  262.70—264.72  26.80—26.80  26.80**23.97  16.417—105.3  40.40—14.95  17.20—27.30  18.42—22.22  10.467—10.82  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.30  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27.20—22.31  27	Med FOB 1%	23.56**23.38				
V Cargo 77% Max   24.54—24.79   159.51**161.14   CIF ARA Prem Uni   74.84**75.41   262.70—264.71   262.70—262.70—264.71   262.70—264.71   262.70—264.71   262.70—264.71   26	NY Cargo .3% HP					
No.	NY Cargo .3% LP	28.38 —28.63				
IS Gulf 1%   23.44—23.85   148.14**150.73   FOB NWE Prem Un    72.59**73.16   254,80—256.8	NY Cargo 1% Max					
FOB Med   0.15   74.36**74.64   261.00   262.00   263.91**24.02   155.40   155.40   155.40   155.40   155.40   155.40   157.40						
Singapore   80   23,91**24,02   155,40—156,10   Casoline, U.S. Market   Unleaded   Premium   Singapore   80   23,86**23,97   152,70—153,40   NY Cargo   88,57—90,72   104,17—105,31   104,10						261.00-262.00
Singapor 380				Gasoline, U.S. Market	Unleaded	
Nrab Gulf 180	Singapore 380			NY Cargo		104.17—105.32
NWE FOB 3.5%   21.00**21.02   132.30—133.50   US Gulf Pipe	Arab Gulf 180					104.67—105.82
Med FOB 3.5%   21.37**21.37   134.60—135.70   Group 3   81.42—82.22   87.27—88.12	CIF ARA 3.5%					82.07—82.87
TF Med 3.5%   22.65**22.65   142.70-143.80   LA Pipeline   75.85-76.55   83.8584.55   NY Cargo 2.29   22.21-22.46   142.14**143.74   SF Pipeline   77.70-78.40   85.70-86.40   NY Cargo 3.0%   22.06-22.31   141.18**142.78   Chicago   82.80-83.26   89.80-90.26   SG Ulf 3%   22.17-22.52   141.89**144.13   NYMEX Unl   82.76   Scarab 2.0%   20.66-20.91   132.22**133.82   Scarab 2.0%   Secarab 2.					/4.02—/4.72 81.42 82.22	
Section   Cargo   Ca					01.42—02.22 75.85—76.55	
NY Cargo 3.0% 22.06—22.31 141.18**142.78 Chicago 82.80—83.26 89.80—90.26		22.21—22.46				
Property	NY Cargo 3.0%	22.06—22.31				89.80—90.26
European Bulk Cargoes FOB Med Med Basis CIF NWE FOB FOB FOB Basis Italy Genoa/Lavera Basis ARA Rotterdam NWE    Prem 0.15 G/L	US Gulf 3%			NYMĚX Unl	82.76	
Cargoes   FOB Med   Basis Italy   Genoa/Lavera   Basis ARA   Rotterdam   NWE	Carib 2.0%	20.6620.91	132.22**133.82			
Cargoes   FOB Med   Basis Italy   Genoa/Lavera   Basis ARA   Rotterdam   NWE						
Cargoes   FOB Med   Basis Italy   Genoa/Lavera   Basis ARA   Rotterdam   NWE		es and the second	THE PARES	#Kaaaasamank		
FOB Med Basis Italy Genoa/Lavera Basis ARA Rotterdam NWE  Prem 0.15 G/L268.50-269.50-  98 RON Unl262.50-263.50274.00-275.00- 266.50-268.50269.00-270.00- 259.00-261.00  Reg Unl262.50-263.50274.00-275.00- 266.50-266.50269.00-270.00- 256.00-258.00  Barge diff [10ppm/50ppm2.50-2.002.502.002.502.002.502.002.502.002.502.002.502.002.502.002.5	European Bulk	Cargoes	Cargoes CIF	Cargoes	Barges	Cargoes
Basis Italy   Genoa/Lavera   Basis ARA   Rotterdam   NWE		FOB Med	Med Basis	CIF NWE		FOB
Prem 0.15 G/L						
98 RON Unl	\$/MT Prem 0.15 G/L	268.50-269.50				
Prem Unl	98 RON Unl				299.00-300.00	
Barge diff 10ppm/50ppm	Prem Unl	262.50-263.50	274.00-275.00	266.50-268.50	269.00-270.00	259.00-261.00
MTBE	Reg Unl			264.50-266.50,	269.00-270.00	256.00-258.00
Naphtha Physical	Barge din 10ppm/50pj MTRF	рш				••••••••••
Naphtha Swaps	Naphtha Physical	+230,50-231.50+	+243.00-244.00	)++247.50-248.50+	+243,50-244.50+	
Jet Kerosene      260.25-260.75-      257.25-258.25-      249.25-249.75-         Jet Av. Fuel      248.00-249.00-      243.25-244.25-      251.25-252.25-       .+246.25-247.25+       .+249.25-249.75-       .+237.25-238.25-         ULSD       .+248.25-249.25+      249.25-249.75-       .+239.25-240.25-         Gasoil 10ppm       .+250.25-251.25+      250.25-250.75-       .+241.25-242.25-         Gasoil 0.2      227.50-228.50-      239.25-240.25-      234.25-235.25-      224.50-226.25-      225.25-226.25-         1% Fuel Oil      153.00-154.00-      161.00-162.00-      163.50-164.50-      158.50-159.50-      155.50-156.50-         3.5% Fuel Oil      138.00-139.00-      146.00-147.00-      140.50-141.50-      143.50-144.00-      132.50-133.50-         380 CST      167.00-169.00-      160.00-148.00-      167.00-169.00-      167.00-169.00-	Naphtha Swaps			245.00-246.50		
Gasoil EN590243.25-244.25251.25-252.25 +246.25-247.25+ +237.25-238.25- ULSD +248.25-249.25+249.25-249.75 +239.25-240.25	Jet Kerosene			260.25-260.75	257.25-258.25	249.25-249.75-
ULSD	Jet Av. Fuel	248.00-249.00	251 25 252 25	- 346 OF 345 OF		
Gasoil 10ppm	Gasoil EN590	243.25-244.25	251.25-252.25	+246.25-247.25+ +248.25-240.25+	-240 25 240 75	+237.25-238.25+
Gasoil 0.2	ULAU Gasoil 10mm			+240,25-247,25+ +250,25-251,25+	250.25-250.75-	+241.25-240.25+ +241.25-242.25
1% Fuel Oil153.00-154.00161.00-162.00163.50-164.50158.50-159.50155.50-156.50- 3.5% Fuel Oil138.00-139.00146.00-147.00140.50-141.50143.50-144.00132.50-133.50- 380 CST	Gasoil 0.2	227.50-228.50	239.25-240.25	5234.25-235.25	224.50-226.25	225.25-226.25-
3.5% Fuel Oil138.00-139.00146.00-147.00140.50-141.50143.50-144.00132.50-133.50- 380 CST146.00-148.00146.00-148.00146.00-148.00	1% Fuel Oil	153.00-154.00	161.00-162.00	)163.50-164.50	158.50-159.50-	-155 50-156 50-
0.5%-0.7% Straight Run	3.5% Fuel Oil	138.00-139.00	146.00-147.00	)140.50-141.50	143.50-144.00	132.50-133 50-
0.2 PCT Gasoil does not include -5 -15 spec. IPE Average (OCT) -226.25. IPE Average (NOV) 226.75						
	0.2 PCT Gasoil does not include	-5 -15 spec. IPE Ave	rage (OCT) -226.25.	IPE Average (NOV) 226.7	5	107.(AD-109.00-

## Gas liquids: Anomaly

An anomaly in Gulf Coast ethane pricing was witnessed at the end of the week. Trade was done this morning for E/P mix at 35.375 cts and then 37 cts/gal FOB Mt Belvieu. That high price was reportedly done on the back of news that an LPG pipeline that carries a y-grade had ruptured and had been shutin.

By late day E/P mix was bid/offered at 35-35.75 cts/gal FOB Mt Belvieu as purity ethane finished the day in and out of 35 cts. Purity ethane typically trades at a premium to E/P mix. Gulf Coast propane traded at 50.75 crs/gal late day for Sep or Oct TET. Midwest propane traded at 58.75-59 cts/gal FOB Conway. Bushton propane continued to be pegged about 0.50 ct above Conway as Hattiesburg was called 3 cts higher.

# **platts** Oilgram Price Report

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Americas, New York, NY 10020, Corporate offi-

cers: Harold McGraw III, chairman, president and chief executive officer, Kenneth M. Vittor, execu-

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operations.

#### Subscriber notes:

—Effective September 26, 2003, the existing Mars assessments have been supplemented by the inclusion of flat price trade that occurs over the course of the day. In addition, Platts now publishes a daily 3rd month forward Mars crude oil spot price assessment, next to its 1st and 2nd month Mars spot price assessments. Effective September 26, 2003, Platts has launched a separate set of three months forward Mars spot price assessments, which reflect a market-on-close value at 3:15 PM local New York time. The relevant market-on-close assessment parameters are identical to the existing Platts cash WTI assessment methodology (also see www.platts.com for Platts crude oil assessment specifications). A comprehensive Q & A document on the Mars market-on-close assessment methodology is available at http://platts.com/oil/guidetospec/marsqa.pdf. For additional questions or comments contact Gerald\_Bueshel@platts.com, Sheela\_Ponnusamy@platts.com or Jorge\_Montepeque@platts.com.

—Effective October 13th, 2003, Platts is planning to publish daily Urals CFD crude oil swap price assessments for two monthly balances. Urals CFD assessments will be quoted on an outright basis and as a delta versus Dated Brent. The relevant assessments will be rolled over from the current month on the 1st business day after the 10th of every calendar month. For example: On November 10th, November Urals CFDs and December Urals CFDs will be assessed. On November 11th, December Urals CFDs and January Urals CFDs will be assessed. Platts Urals CFD assessments will be published in Platts Crude Oil Marketwire, in Platts Oilgram Price Report (OPR), in Platts Neft Trader, and on Platts Global Alert (PGA) page PGA864. For questions or comments contact

Hanne\_Ovesen@platts.com or Gerald\_Bueshel@platts.com.

-Platts is proposing to launch an assessment for Napo crude, a new grade being produced in Ecuador. Platts proposes to launch the assessment Nov 1, and is inviting market feedback from interested parties by Oct 10. In keeping with Platts other Latin American crude assessments, the assessment would reflect cargoes loading 15-45 days ahead of publication date. Napo crude will be assessed FOB Ecuador as a differential against Platts' second month cash WTI. The crude assessed will have a typical API of 19 degrees and 2.01% sulfur. Platts will publish both the differential assessed, and the outright value, in Latin American Wire, Oilgram Price Report and on Platts Global Alert, page 280. For questions or comments, contact Jasmina Kelemen at 713-658-3208 jasmina\_kelemen@platts.com.

#### Corrections:

—In the Sep 16, 2003 Oilgram Price Report, No.178 (Prices eff Sep 15 2003) under the heading US Wholesale Posted Prices, Pad5. Spokane:unleaded should have read 102.95-110, Midgrade should have read 108.45-114.80, Premium Unleaded should have read 113.95-121.50, Kero should have read 113.25-113.25, No.2 should have read 93.25-93.25,LS Diesel should have read 92.95-93.25.

—In the Sep 17, 2003 Oilgram Price Report, No.179 (Prices eff Sep 16 2003) under the heading US Wholesale Posted Prices, Pad5. Spokane:unleaded should have read 102.95-105, Midgrade should have read 108.45-109.80, Premium Unleaded should have read 113.95-116.50, Kero should have read 113.25-113.25, No.2 should have read 93.25-93.25,LS Diesel should have read 90.95-93.00.

—In the Sep 18, 2003 Oilgram Price Report, No.180 (Prices eff Sep 17,2003) under the heading US Wholesale Posted Prices, Pad5.Spokane: unleaded should have read 101.45-102, Midgrade should haveread 106.80-106.95, Premium Unleaded should have read 112.45-113.50, Kero should have read 113.25-113.25, No.2 should have read 89,25-89,25,LS Diesel should have read 87,95-89.00.

—In the Sep 19, 2003 Oilgram Price Report, No.181 (Prices eff Sep 18,2003) under the heading US Wholesale Posted Prices, Pad5.Spokane:unleaded should have read 100.00-101.45, Midgrade should have read 104.80-106.95, Premium Unleaded should have read 111.50-112.45, Kero should have read 109.25-109.25, No.2 should have read 89.25-89.25, LS Diesel should have read 87.95-89.00.

—In the Sep 22, 2003 Oilgram Price Report, No.182 (Prices eff Sep 19,2003) under the heading US Wholesale Posted Prices, Pad5.Spokane:unleaded should have read 99.45-100.00, Midgrade should have read 104.80-104.95, Premium Unleaded should have read 110.45-111.50, Kero should have read 109.25-109.25, No.2 should have read 89.25-89.25, LS Diesel should have read 87.95-89.00.

# Market by Market

## International crude: Physical crude market bullish

note following a week which has seen values rebound sharply following reports of for the oming OPEC quota cuts, increased European demand and reduced cargo availability. "It continues to be a strong market around Dated -1 CIF Augusta. The vessel for remaining barrels in October," said a trading source. "There are still some major systems that need crude for 2H October and healthy demand in Europe still," he added. Cargo premiums against the Dated NWE moving into the Med was shut after Brent/BFO market rallied with Statoil picking up an Oct 18-20 Forties cargo from Urals looked pretty stabile around Dated Chev-Tex at Dated + 35 cts. Reports also emerged prior to the BFO window of Conoco selling an Oct 20-22 Ekofisk cargo to Glencore at Dtd + 28cts. TOTSA re-surfaced to bid for any grade BFO cargo loading on Oct 11-17 dates at up to Nov +25 cts while Statoil also bid an Oct 12-19 wet Brent cargo at Nov +30 cts. Vitol offered an Oct 15-17 wet Brent at Nov +45 cts. Some softening was noted to IPE Brent futures Friday with the November contract slipping to re-trade below \$27/bbl in part on profit taking.

The bullish sentiment prevailing in the Med sour market Wednesday after the OPEC production cut may have materialized only for a blip, as a more relaxed sentiment set in Thursday and seemed fairly pronounced Friday, sources said. In hindsight, the initial bullish sentiment reflected in an Oct Urals CFDs deal concluded at ing to sources. Nigerian decades were still Dated -96/-95cts (Cargill-Total) Wednesday may have reflected a certain panic amongst buyers following the OPEC announcement, sources suggested. However, the OPEC cut will be effective November 1 only and could not be expected to have an impact on the Med market before 2HNov or even Dec. sources said. By Friday, buyers were still tip-toeing between sweet and sour, after margins had shifted in favor of sweet, but the sentiment on sour material was slightly softer. It looked like Urals Med could be setting out for a correction, expected to take Urals Med down some 20cts/bbl next week, sources said. An Oct Urals CFD was heard bid at Dated -1.15 by Glencore, while a value for Nov remained underground. On the physical side, an Oct6-10 80kt ex- Novo was heard placed with ERG at around Dated -1.10 CIF Augusta. While the information remained unconfirmed, it was believed that the cargo in question was the Oct8-9 Novo cargo. Initially, the seller was heard to have fixed the 1980- blt single- hull Armata, but had supposedly taken on a modern Minerva unit due to vessel restrictions at most Mediterranean discharge points, sources said. With the Armata, the cargo was discounted, even if only slightly in a bullish aframax market, sources said. With the Minerva unit, the

The physical market settled out on a bullish deal was seen to fully represent the market rate for 80kt Novo cargoes. A deal filtered through from Thursday as an Italian-enduser was heard to have bought another late 1st decade October Novo 80kt at was believed to be the double-double 1995-blt Four Bay.

In North Western Europe, an arbitrage window expected to open up for Urals Urals Med was seen softer Friday. Also, -1.20 CIF Rdam, or possibly slightly stronger for first decade October, narrowing the spread between Urals Med and Urals NWE, sources said. Despite a firmer tone on North Sea sweet grades, these had not firmed up sufficiently to have an impact on Urals. Sempra had bought a substantial amount of Urals for their VLCC shipment on the Stena Constellation into Asia. According to some sources more than 2.5-mil bbl.

No more Brass River news was heard to arrive, frustrating those market players with cargoes set to load. A number of Nembas have moved already off the November program. So far the Nov 3-4 has gone from ChevronTexaco to Nov 7-8 cargo is understood to have gone from Koch to Sun, the Nov 14-15 from Agip to Sinopec. The latter cargo was thought to be co-loading with a Nov 15-16 Kuito, also sold by Agip accordexpected to come out early in the week commencing 29 Sep. There was news of more potential union

Vietnam's Petechim has awarded its inaugural sell tender for one 250-350kb cargo of Su Tu Den to ChevronTexaco at Minas OSP+\$1.60/bbl (equivalent to Bach Ho OSP+54cts). Woodside's end-Nov Legendre and Petronas' early Nov Tapis have been sold at around Tapis+\$1.60/bbl. Cinta and Widuri premia were heard running due to winter middle distillate demand, with cargoes sold into Japan at above ICP+1.00/bbl.

### Europe: Barge prices fall

Barge prices fell after overnight falls in the NYMEX and amid thin buying interest in NWE as supply continues to outstrip demand after three weeks without a clear arbitrage opening for exports from NWE to the US.

Intraday, 800mt of prem unl 10ppm summer grade traded at 269 AR for prompt loading as Preem sold to Statoil. with Preem giving a discount to sell prompt. At 1700 BST the prem unl 10ppm bid-offer for winter grade stood at 268-273.5 AR.

Cargill offered down to 270.5 AR at 1725 BST, before selling to Statoil at 269 AR just before the close. Just after the close, Cargill sold at 270.5 AR to BP. Crack levels rose, with Oct pegged at \$5.57/bbl up from \$5.4/bbl Thursday.

## NNPC... from p. 1

the House of Representatives on Sep 30 to give details on the amount of money spent on crude produced and sold by the NNPC," an Abuja-based source said.

The House Committee chairman on petroleum resources, Cairo Ojiugbor and other House representatives said there were allegations of "improper and inadequate declaration of the crude oil produced and sold by the NNPC on behalf of the country."

"We want them to come and tell us what we are getting from the sale of oil." Ojiugbor was quoted as saying in ThisDay newspaper.

Obasanjo left out the oil ministry in the composition of his first and second cabinet and instead appointed Rilwanu Lukman, a former OPEC secretary-general, as special advisor on petroleum.

"Oil is our most critical resource. We think the sector should be separated from the presidency. There ought to be a minister as in previous governments who oversees the industry. We don't understand the rationale behind the president's decision to not appoint a minister," said the NLC's Odah.--Jacinta Moran

### USAC: Unleaded differentials fall

New York Harbor RFG unleaded 87 cash differentials fell 2.50 cts/gal Friday as the wide spread between the October and November NYMEX gasoline contracts slowed buying, sources said. Trade was reported at 5.75 cts over the October NYMEX screen for prompt delivery. Any-month talk was at 5.00-5.25 cts over. With October NYMEX gasoline trading some 9 cts/gal higher than the November contract, sources said buyers who do not need to cover prompt positions ahead of the weekend were putting off buying. RFG premium unleaded 93 cash was last heard valued at 20-23 cts over the NYMEX contract. Conventional unleaded 87 cash differentials were down 4 cts/gal Friday with talk last heard at 3.00-3.50 cts over the NYMEX. Conventional premium unleaded 93 was valued at 18.50-20.25 cts over the NYMEX screen.

Thin trade continued in the No.2 oil and jet fuel spot markets Friday with very little change reported in cash differentials. Prompt No.2 oil cash talk was last heard at 0.70-0.45 ct under the October NYMEX print, LS diesel cash was last valued at 0.75-1 ct over the NYMEX screen. Jet 54 was valued at 2.50-2.75 cts over the NYMEX. Jet/kero 55 was talked at 4.00-4.25 cts over the October NYMEX.

#### STATE OF FLORIDA

COMMISSIONERS: LILA A. JABER, CHAIRMAN J. TERRY DEASON BRAULIO L. BAEZ RUDOLPH "RUDY" BRADLEY CHARLES M. DAVIDSON



TIMOTHY DEVLIN, DIRECTOR DIVISION OF ECONOMIC REGULATION (850) 413-6900

Hublic Service Commission

August 12, 2003

in doctor file? see MAH

Internet E-mail: contact@psc.state.fl.us

Mr. Shipper

Dear ...:

In connection with Docket No. 030001-EI, the staff of the Florida Public Service Commission is attempting to assess the market price for waterborne coal transportation service purchased by Tampa Electric Company (TECO). This is needed for the evaluation of TECO's costs subject to cost recovery in the Commission's annual fuel adjustment proceeding. Recently, TECO issued a Request for Proposal (RFP) for its coal transportation needs. In order to make an assessment of such costs, we are asking for your evaluation of TECO's RFP, including whether the conditions of the RFP were reasonable and what your price would be to provide service under two different conditions. Assuming you received this RFP, please answer the following by August 29, 2003:

Do you believe TECO's RFP offers a fair opportunity for competitive bids? If not, please explain, and identify any unnecessary competitive impediments. Also, provide any suggested changes in the language of the RFP that, in your opinion, would be necessary to make the RFP fair and reasonable.

2)
Single (

What is your company's estimated price (\$/ton or \$/ton-mile) or range of prices it would consider offering for providing coal transportation service for each segment (river, terminal, ocean) or combination of segments described in the RFP, in response to the two following proposals:

- A) TECO's RFP (as written) and
- B) TECO's RFP with your suggested modifications stated in response to Item No. 1 above.

Please list any assumptions that may be necessary to understand the prices you identify.

If you have the ability to provide international coal shipments to TECO, what constraints would you modify, if any, in the TECO RFP in order to bid for that portion of waterborne coal transportation service? What would be examples of your prices or ranges of prices to ship foreign coal from various major coal-producing locations in South America, what would be your shipping routes, and what types of

Mr. Shipper Page 2 August 12, 2003

ships would you use?

Please identify any information, not otherwise indicated in your responses to 4) Ouestions 1 through 3, that would be relevant to assessing the market price for

If you did not receive an RFP, please e-mail Bill McNulty at bmcnulty@psc.state.fl.us. He ax you a copy. Upon request, your response to this request for information manulty. will fax you a copy. Upon request, your response to this request for information (may) be considered confidential under FS...Please indicate whether you would be willing to testify with respect to the above in the form of a deposition or affidavit. Thank you for your cooperation in this matter.

check - new wording for Bill

if we see the info at hearing, TECO reads to know?

Tim Devlin protective agreement?

Director of Economic Regulation

#### STATE OF FLORIDA

COMMISSIONERS: LILA A. JABER, CHAIRMAN 1. TERRY DEASON BRAULIO L. BAEZ RUDOLPH "RUDY" BRADLEY CHARLES M. DAVIDSON



TIMOTHY DEVLIN, DIRECTOR DIVISION OF ECONOMIC REGULATION (850) 413-6900

Auhlic Serbice Commission

1/1:5 revised thethor 102 8/13 - See 1/2 1/202

For Docket File?

Mr. Shipper

Dear ...:

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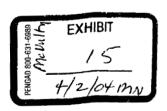
- Do you believe TECO's RFP offers a fair opportunity for competitive bids? If not. 1) please explain, and identify any unnecessary competitive impediments. Also. provide any suggested changes in the language of the RFP that, in your opinion, would be necessary to make the RFP fair and reasonable.
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PSC Website: http://www.floridapsc.com

Mr. Shipper Page 2 August 12, 2003

ships would you use?

Please identify any information, not otherwise indicated in your responses to Questions 1 through 3, that would be relevant to assessing the market price for waterborne coal transportation to TECO.

If you did not receive an RFP, please e-mail Bill McNulty at <u>bmcnulty@psc\_state.fl.us</u>. He will fax you a copy. Upon request, your response to this request for information may be considered confidential under FS...Please indicate whether you would be willing to testify with respect to the above in the form of a deposition or affidavit. Thank you for your cooperation in this matter.

Tim Devlin

Director of Economic Regulation

## Bill McNulty

From =

Todd Bohrmann

Sent:

Thursday, March 11, 2004 1:44 PM

To:

Andrew Maurey; Bernie Windham; Bill McNulty; Cochran Keating; Jennifer Rodan; Sid

Matlock; Todd Bohrmann

Subject:

FW: Request for Information About Port of Tampa

fyi

\_\_\_\_ Original Message-----

From : Lisa Hall [mailto:Lhall@tampaport.com]

Sent: Thursday, March 11, 2004 2:07 PM

To: tbohrman@psc.state.fl.us

Subject: Request for Information About Port of Tampa

Mr. Bohrman,

Pursuant to Mr. Bohner's direction, following are responses to your queries of February 10, 2004:

- 1. Panamax vessels can have a draft of up to 43 feet. Big Bend Channel has a 34 foot draft. Bayside/Gannon has an approach channel that has an operational draft of 39 feet plus 2 foot of tide to a max of 41 feet, but the berthing area is only 34 feet.
- 2. Tampa Port Authority Berth 30 at Port Sutton, Pendola Point, has a draft of 43 feet but is limited by the approach channel to 39 feet plus tide to a max of 41 feet. Drummond Coal has an open storage area to store, process and deliver coal by truck or rail.

Responses to supplemental questions from Commission staff:

- 1. There are some locations in the Port of Tampa that can handle Handy-sized coal vessels. All the channels can accommodate these ships. However, sites to handle coal are limited because of permitting. Tampa Port Authority Berth 219 has handled coal in the past under special permit but is no longer accepting it at this site. Kinder Morgan has a facility at Port Sutton that has the potential for handling coal shipments.
- 2. Coal storage facilities are regulated and permitted by the Florida Department of Environmental Protection (FDEP). A permit must be obtained from the FDEP to store, process or blend coal whether it is for an open storage pile system or a silo storage system. In Hillsborough County, FL, some of the FDEP permitting, i.e., coal silo air discharge, has been delegated to the Environmental Protection Commission of Hillsborough County.

**EXHIBIT** 

12/04

Lana McLaurin

Legal Assistant to Dale Bohner

Phone: (813) 905-5141 Fax: (813) 905-5144

Tampa Port Authority Legal Department 1101 Channelside Drive, Tampa, FL 33602

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