AMERICAN STATISTICAL ASSOCIATION
(ASA)

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COMMITTEE ON ENERGY STATISTICS

MEETING WITH THE
ENERGY INFORMATION ADMINISTRATION (EIA)

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FRIDAY
APRIL 3, 2009

The meeting convened at 9:00 a.m.
in Room 8E-089 of the James Forrestal
Building, 1000 Independence Avenue, S.W.,
Washington, D.C., Edward Blair, Chair,

presiding.

COMMITTEE MEMBERS PRESENT:

EDWARD BLAIR, Chair
STEVE BROWN
BARBARA FORSYTH
WALTER HILL

VINCENT IANNACCHIONE

NANCY KIRKENDALL

EDWARD KOKKELENBERG

ISRAEL MELENDEZ

MICHAEL TOMAN

JOHN WEYANT

EIA STAFF PRESENT:

STEPHANIE BROWN, Designated Federal Official,
        Director, Statistics and Methods Group
        (SMG)
JAMES BERRY
CAROL JOYCE BLUMBERG
TINA BOWERS
JAKE BOURNAZIAN, SMG
EUGENE BURNS
MICHAEL COLE, Office of Integrated Analysis
        and Forecasting (OIAF)
JOHN CONTI
BRENDA COX, SRA
RAMESH DANDEKAR, SMG
JOHN PAUL DELEY, OIT
DEAN FENNELL
STAN FREEDMAN
CAROL FRENCH, OOG

ADRIAN GEAGLA, OIAF
LYNN GEISERT
MARK GIELECKI, Office of Coal, Nuclear,
        Electricity, and Alternate Fuels (CNEAF)
HOWARD GRUENSPECHT, Deputy Administrator, EIA
LOUISE GUEY-LEE, CNEAF
STEVE HARVEY, Director, Office of Oil and Gas
TYLER HODGE, Office of Energy Markets and End

        Use (EMEU)
PATRICIA HUTCHINS, CNEAF
ALETHEA JENNINGS
KATIE JOSEPH
FRED JOUTZ
MARY JOYCE, CNEAF
JAMES KENDELL

BOB KING
ANDY KYDES
TOM LECKEY
JANICE LENT, SMG
BARBARA MARINER-VOLPE
PAULA MASON, OOG
FRED MAYES

PRESTON McDOWNEY, SMG
RENEE MILLER

EIA STAFF PRESENT (CONTINUED):

EILEEN O'BRIEN, Consumption Data Management

      Team, Office of Energy Markets and End

      Use (EMEU)

KOBI PLATT

ANTHONY RADICH, CNEAF

MICHAEL SCHAAL, OIAF

ELIZABETH SENDICH, OIAF

SCOTT SITZER

HOWARD STONE, CNEAF

GRACE SUTHERLAND, SMG

EDDIE THOMAS

PHILLIP TSENG, SMG

SHAWNA WAUGH

ALEX WOOD

JASON WORRALL

BIN ZHANG, OOG

A-G-E-N-D-A

 1   P-R-O-C-E-E-D-I-N-G-S

 2   9:04 a.m.

 3   DR. BLAIR: Okay. We're going to

 4   call the meeting to order.

 5   To start, anybody in the audience

 6   who did not identify themselves yesterday, if

 7   you could please come to the microphone and

 8   identify yourself? If you were not here

 9   yesterday, if you did not already identify

10   yourself.

11   MS. BROWN: I hope the microphone

12   is connected today. Kobi, I think that's as

13   good as it gets.

14   MR. PLATT: I'm Kobi Platt. I

15   work in the Office of Energy Markets and End

16   Use and helped out actually this analysis here

17   with Tyler and Alex.

18   MS. GEISERT: I'm Lynn Geisert.

19   I'm a contractor.

20   MS. BLUMBERG: Carol Blumberg,

21   Office of Oil and Gas.

22   MR. KING: Alex King, EMEU.

 1   DR. BLAIR: Any others who have

 2 not signed in?

 3   MS. BROWN: Jim.

 4   MR. KENDELL: I'm Jim Kendell.

 5   DR. BLAIR: Our first session this

 6 morning is STEO, Oil and Gas Price Forecasts,

 7 Tyler Hodge.

 8   MR. HODGE: Okay. Well, thank

 9 you. It's good to see everyone this morning.

10   The reason I'm here is to present

11 some of our research and findings on work

12 we've been doing regarding trying to model

13 uncertainty in our Short-Term Energy Outlook

14 or STEO. And I've been working on this

15 project with Kobi Platt and Alex King who are

16 there in the audience.

17   And the whole reason we've been

18 working on this project is because, as you are

19 all aware, the rapid rise in crude oil prices

20 since 2007 through the first half of last year

21 plus the even faster decline in prices up to

22 the present has really made it difficult for

1 us to kind of fix a good price path for our

2 short-term outlook.

3   And even within the last six

4 months, especially within the last six months,

5 it is not unusual to see a day-to-day

6 fluctuation in prices of like five or ten

7 percent. I think even yesterday I think the

8 crude oil price was up eight percent or so.

9   So, you know, based on this

10 heavily volatility in the prices, we've found

11 ourselves recently in our short-term energy

12 outlook discussing or actually highlighting

13 some of the uncertainty around our price

14 forecasts and we've also been trying to

15 address some of the economic and market issues

16 that impact that uncertainty.

17   But what we're hoping to do, what

18 our goal is is to actually find a way to

19 characterize or quantify that uncertainty so

20 we can better discuss or frame our discussion

21 of our price forecasts, and specifically the

22 uncertainty around our price forecasts.

 1   And for this presentation, what

 2   we're going to do is we're going to highlight

 3   one widely used measure of uncertainty that's

 4   frequently cited within other financial

 5   analysis reports. And that's the implied

 6   volatility of NYMEX options contracts.

 7   And what we're hoping to do today

 8   is to get some insight and input from the

 9   Committee about the best way to apply this

10   volatility measure to our STEO forecasts.

11   So this will start off just sort

12   of discussing in a general way what implied

13   volatility is and also if you guys have any,

14   you know, simple questions or clarification

15   questions, feel free to bring that up. But if

16   you have any more substantial comments, maybe

17   we can just hold that until the end just to

18   make sure I get through the presentation.

19   But in terms of volatility, you

20   know, generally when people think of

21   volatility, they think of past changes -- or

22   changes in prices of a certain asset over

 1   time. And it is easy to measure historical

 2   volatility by just, you know, taking a day-to-

 3   day percentage change in past prices.

 4   But what we're trying to do is

 5   actually use information from current market

 6   activity to sort of gauge or measure the

 7   expected uncertainty among market

 8   participants. And one way to do that is using

 9   the implied volatility measure.

10   And by definition, implied

11   volatility for an options contract is the

12   uncertainty or the risk that is implicit

13   within an options market premium. And, of

14   course, you have to have some sort of

15   assumption of an option pricing model.

16   And an important point about this

17   is that the implied volatility measure is a

18   forward-looking measure of markets uncertainty

19   as opposed to just measuring historical

20   volatility.

21   So before I get into more detail

22   about the mechanics of implied volatility,

 1   I'll just illustrate some other ways that

 2   other financial analysts use this measure to

 3   represent or illustrate uncertainty. And

 4   first we've got a couple of charts here from

 5   the Federal Reserve. I'm not exactly sure

 6   what official report this is from. I think it

 7   is just for internal use.

 8   But you can see two different ways

 9   of using this implied volatility measure. On

10   the left, what they do is they just simply

11   track the implied volatility measure over

12   time. In this case for three different

13   futures contracts.

14   And it is interesting. You can

15   actually see how the volatility has increased

16   from 2007 through the latter part of 2008. So

17   that's one helpful way of actually

18   illustrating uncertainty.

19   A little bit more complex way of

20   illustrating uncertainty is to actually take

21   the options for a single fixed contract, in

22   this case for the December 2008 contract. And

 1   what they do is they plot the futures price

 2   over time. And then in addition to that, they

 3   create a confidence interval around the

 4   futures price that they construct using the

 5   implied volatility within the options on those

 6   futures contracts.

 7   And you can see, obviously, that

 8   as you get closer and closer to December 2008,

 9   the confidence interval of the range of

10   expected prices is actually converging even

11   though over time the implied volatility has

12   gone up.

13   So there's two important factors

14   impacting the range of expected prices. There

15   is the expected uncertainty around the future

16   price fluctuations and then, of course, as you

17   get closer to the forecast, you usually have

18   a lower or a narrower range of expected

19   prices.

20   So another financial analysis

21   report from Deutsche Bank actually creates a

22   much more complex use of the implied

 1 volatility measure. And with that, they

 2 actually create a probability distribution

 3 curve around what they expect the prices to

 4 be.

 5   And you can see here that they

 6 actually used two different pricing models,

 7 the Black-Scholes model in the red and a skew

 8 surface model. They're pretty similar. But

 9 what are the benefits of presenting implied

10 volatility this way? It gives you a sort of

11 a visual interpretation of different

12 probabilities, prices.

13   And you can see that based on the

14 area under the curve, they are pretty much 100

15 percent certain that the price will fall

16 between say 25 dollars and 100 dollars. Of

17 course, that's a pretty wide range, you know.

18 There's not very much information in that.

19   But from the probability

20 distribution curve, you can actually create

21 even narrower ranges or more customized ranges

22 of different prices. And this is a table that

1 Deutsche Bank presents along with their

2 probability distribution curve.

3   And it shows the probabilities of

4 the June 2009 crude oil contract, you know,

5 the prices in June falling below certain

6 levels for prices or falling above certain

7 levels of prices.

8   And based on this table, you could

9 actually create you own little confidence

10 interval. For example, let's see the

11 probability that prices will be below 80

12 dollars is 94 percent. If you combine that

13 with the probability that prices will be above

14 60 dollars, if you find the difference between

15 there, that translates to, you know, a

16 confidence interval of 63 percent probability

17 that that price will be between 60 and 80

18 dollars.

19   So that's a narrower range. But

20 we're still talking about a 67 percent level

21 of -- or 63 percent level of confidence. So,

22 you know, on a statistical basis, that

1 obviously is a pretty low level of confidence.

2 But at least it illustrates the uncertainty

3 around their price forecasts for the future

4 price levels here.

5   So I guess I'll go ahead and just

6 start talking about some of the fundamental

7 basics behind options and the implied

8 volatility level. And we'll start off just

9 introducing some basic options terms for those

10 who are unfamiliar with them.

11   There's two basic types of options

12 that can be traded in the market. A call

13 option gives the holder of the option the

14 right to buy an asset at some time in the

15 future but note, it's not an obligation to buy

16 in the future. And on the other hand, a put

17 option gives the holder the right to sell the

18 asset in the future.

19   And each specific options contract

20 has two important terms within the contract.

21 First there's the strike price, which is the

22 agreed-upon price that the parties agree

 1   either to purchase, in the case of a call

 2   option, or sell the asset in the future.

 3   And then, of course, the other

 4   important terms of the contract is the

 5   expiration date. And that's the last date

 6   that the option can be exercised by the holder

 7   or the date that the settlement takes place if

 8   they don't actually trade before the

 9   expiration date.

10   And like any other type of

11   financial or physical asset, options are

12   traded in the market. And the market trading

13   determines a level of value for that specific

14   asset. And that's what the option premium

15   represents. That's the price of actually

16   purchasing the options contract itself.

17   So as you can imagine, there's a

18   variety of different variables or factors that

19   impact the option premium or the value that

20   the market places on any given option

21   contract. And, you know, accurately modeling

22   the market's behavior and how it values these

 1   options has really kind of fascinated

 2   financial economists over the last couple

 3   generations.

 4   And one of the most important or

 5   well-known options models was formed by two

 6   economists. One was Myron Scholes and Fischer

 7   Black. This was back in the 1970s. And the

 8   mathematics behind this is extremely

 9   complicated and I won't pretend to understand

10   the derivation of this model.

11   In fact, I think it was -- yes,

12   Fischer Black and Robert Merton, they won the

13   Nobel Prize for developing this model back in

14   1997. But, you know, even given the basic

15   mathematics, you can see that there are a

16   couple of important structures behind this

17   model.

18   First, you can see that the model

19   is a random function of certain variables,

20   specifically, I guess, these two types of

21   variables here, the option premium, and the

22   current price of the actual underlying asset,

 1   those variables you can actually directly

 2   observe within the market.

 3   And then the other two variables

 4   here, the strike price of the option and the

 5   time to expiration are defined within the

 6   terms of the contract itself.

 7   And then if you make an assumption

 8   about what the risk-free interest rate is,

 9   usually like a 30-day Treasury bill rate, the

10   only other parameter variable that you don't

11   know in this model is the sigma value. And

12   that's what we call the implied volatility of

13   the option. You can actually solve this model

14   for sigma to determine an implied volatility.

15   And one other thing I should note

16   about this is that you might be able to tell

17   from some of the functional form of the model

18   that what they assume is that price levels are

19   logged normally distributed or in other words,

20   the daily rate of return is normally

21   distributed. That's an important assumption

22   behind this model.

1   And also note that you can

2   actually calculate implied volatility measures

3   for any of the strike price levels for a given

4   option, like for a June contract, you know,

5   there's maybe 30 or 40 different possible

6   options contracts for each specific strike

7   price.

8   And for our purposes, what we're

9   going to do is we're going to just focus on

10   the implied volatility for the options

11   contract whose strike price is closest to the

12   futures price for that day. The volatilities,

13   you know, there can be different --

14   theoretically they should be the same for all

15   levels of strike prices but in practice, there

16   is some difference between the different

17   volatilities and different strike prices.

18   But we're just going to focus on

19   what is called the at-the-money option, which

20   is where the strike price is equal or closest

21   to the futures price.

22   So based on that Black-Scholes

 1   model, there's a couple different possible

 2   methods we could actually use the implied

 3   volatility measure from that model to

 4   illustrate uncertainty. We could either

 5   create a confidence interval for the futures

 6   prices in any given month. Or we could create

 7   a probability distribution function like

 8   Deutsche Bank does.

 9   You know fortunately, you know, we

10   don't have to worry too much about the

11   mathematics behind implied volatility.

12   Fortunately there's a lot of organizations

13   that actually calculate those values for you.

14   We've collected a big database of

15   implied volatilities from the CME Group, which

16   is affiliated with NYMEX. And we've been able

17   to obtain some spreadsheets also from the

18   Federal Reserve and we were able to uncover

19   this function for calculating confidence

20   intervals around the expected price in any

21   given month.

22   Unfortunately, we don't totally

1 understand the mechanics behind that. Carol

2 Blumberg, she was nice enough to help us

3 deconstruct that a bit so we could see some of

4 the assumptions behind this confidence

5 interval.

6   But at least you can see that the

7 confidence interval is a function of these

8 four different variables. It's obviously a

9 function of the current price, the implied

10 uncertainty or volatility around those futures

11 prices.

12   It's a function of the time to

13 expiration. And, of course, you have to set

14 up an assumed level of confidence.

15   And similarly, we can use the

16 futures price and the implied volatility,

17 along with the assumption that the prices are

18 log normally distributed, to create an entire

19 futures price probability distribution curve.

20   And one thing to keep in mind for

21 either the confidence level or the probability

22 distribution function curve is that these are

1   all derived from NYMEX prices and NYMEX

2   trading.

3   They don't necessarily represent

4   the STEO uncertainty. But at least we can

5   show where the STEO forecast falls either

6   within the confidence interval or on the

7   probability distribution curve. And with the

8   probability distribution curve, we can also

9   possibly compare how the uncertainty has

10   changed from month to month.

11   First, I'll just show you an

12   illustration of an example of how we applied

13   the implied volatility measure for futures

14   prices on March 6th to the futures price curve

15   on that date. And March 6th was actually the

16   date that we last finalized our most recent

17   STEO.

18   But you can see here that even for

19   NYMEX futures prices, there is a wide range of

20   possible expectations for future price levels.

21   And you can see that the uncertainty actually

22   gets wider and wider the farther out you go

1   through the end of 2010.

2   And what we could do is we could

3   actually just put a log -- or insert our STEO

4   price forecast to show how our price forecast

5   compares to the NYMEX futures price curve.

6   And one thing I should note that

7   in the later months, it looks like our price

8   forecasts for March actually pretty much

9   coincided with what the NYMEX futures price

10 curve was. But I just want to warn you that

11 that is usually not the case because the

12 expectations that we have in deriving our STEO

13 price forecasts are almost always different

14 from what the NYMEX market is expecting.

15   For example, in these early

16 months, we're generally using -- or we are

17 using macroeconomic forecasts for our model

18 that are from Global Insight. And it is

19 generally accepted that as of right now,

20 Global Insight is considered one of the most

21 pessimistic macroeconomic forecasts.

22   But that's what we've

1   traditionally been using. So that's one

2   explanation why our current price forecast is

3   below the NYMEX market expectations. So one

4   benefit of this chart is that it allows the

5   STEO reader to sort of compare how our price

6   forecast compares to the NYMEX price

7   expectations. And it also shows some of the

8   uncertainty around those prices.

9   So in addition to just graphing

10   confidence intervals around the price curve,

11   we could actually present those intervals

12   numerically in a table. One benefit of this,

13   obviously, is that you can see, you know,

14   values behind the various ranges of possible

15   prices in the future.

16   And if we decide to go ahead and

17   decide to publish this information, we could

18   probably set up some sort of dynamic web page

19   similar to our STEO query system where the

20   user could actually customize the table to get

21   whatever information they are looking for in

22   a simple manner. That's a bit more difficult

1   to do graphically.

2   Let's see. Okay. Besides the

3   confidence interval, we could also just plot

4   a probability distribution curve for any given

5   month to show the full spread, sort of

6   illustrate the uncertainty around both the

7   NYMEX futures price and our STEO price

8   forecasts.

9   The 45.52 is the futures price

10   back on March 6th and the 40 dollars is the

11   June price that we were forecasting in our

12   latest STEO.

13   It's hard to see but you can see

14   the gray lines here illustrate a 67 percent

15   confidence interval, which is just a general

16   one standard deviation confidence interval.

17   And you can see that our STEO actually falls

18   pretty close to the lower bound on that

19   confidence interval around the NYMEX futures

20   price.

21   So I just want to show this graph

22   to show another way of possibly comparing the

1   uncertainty from month to month.

2   These two curves show a one month

3   ahead futures price probability distribution

4   curves. Specifically, in the red it shows the

5   probability distribution curve for the March

6   contract calculated back in early February.

7   And then the blue shows the probability

8   distribution curve for April prices based on

9   options contracts from March 6th.

10   And you can see that from the

11   shape of the curve that the implied volatility

12   of the April curve, the blue curve, is higher

13   than it is for the March contract. And the

14   shape is less peaked, I guess. It is more

15   spread out. I guess you could say in

16   statistical terms, it's more leptokurtic, I

17   think.

18   But you can see just based on how

19   spread out it is compared to the red curve,

20   that there is more uncertainty in April than

21   there was in March or in March compared to

22   February -- I'm sorry. So that's just one

 1 possible way we could actually show the

 2 comparison of uncertainty from month to month.

 3   And let's see here, what we could

 4 do is we could also just create a table from

 5 those probability distribution curves to

 6 illustrate numerically the different

 7 probabilities of various ranges of prices.

 8 One benefit of going with this approach is

 9 that it allows the reader to create their own

10 levels of confidence.

11   For example, if, you know, they

12 wanted a 99 -- a 98 percent confidence

13 interval, they could say that prices are

14 likely to be between 30 and 70 dollars. But

15 personally, that doesn't offer much

16 information for me. But you can create more

17 narrow bands of ranges, if you want, using the

18 various probabilities.

19   And I show, of course, how the

20 futures price in our STEO forecasts fall

21 within that table. It is probably easier to

22 illustrate that graphically than in a table.

1   So I just want to wrap up here by

2   just asking the Committee about a few

3   questions regarding our approach to modeling

4   uncertainty here.

5   The first one, as I mentioned,

6   what we're doing is we're calculating the

7   confidence intervals and the probability

8   distribution curves based purely on NYMEX

9   data. And I guess we'd like to know whether

10   it's really appropriate to compare EIA STEO

11   forecasts with information about uncertainty

12   in the NYMEX future options market.

13   And if so, do confidence intervals

14   or the probability distribution charts, which

15   of those is probably the best way to actually

16   illustrate the uncertainty? And if, you know,

17   is it better to actually present the

18   uncertainty information graphically? Or in

19   tables? Or in some combination of the two?

20   So with that, I guess I'll turn it

21   over to questions and Committee discussion.

22   DR. BLAIR: Our first discussant

 1   is Vince Iannacchione.

 2   MR. IANNACCHIONE: Thank you, Ed.

 3   First of all, this is a very

 4   interesting topic and one that kind of hit me

 5   in the face last night as I was reading the

 6   paper where the Dow is back up around 8,000 or

 7   so, which means I may be able to retire a

 8   couple of months earlier.

 9   (Laughter.)

10   MR. IANNACCHIONE: But apparently

11   gas prices are up too so I'm going to have to

12   pay more for gas. So anyway --

13   MR. KOKKELENBERG: Not all of your

14   income goes to gasoline, I hope.

15   MR. IANNACCHIONE: Anyway, I'm a

16   statistician and not an economist. And I'm

17   going to defer to our other discussant Ed for

18   some comments on the modeling schemes like the

19   Black-Scholes and that.

20   I see this, as a statistician,

21   volatility I equate with variance, of course,

22   and you have a sigma there in one of your

 1 formulas. And to go right to your first

 2 question there, STEO and the NYMEX, is it

 3 appropriate? Well, I think it really --

 4 certainly it is appropriate. And I know you

 5 want to look into the future for the forecast

 6 not in the past.

 7   But I think at some point, you

 8 have to be measuring how did it do in the past

 9 because if you can't rely at all on the past,

10 then I don't see how you can predict in the

11 future.

12   Unfortunately, this is a very

13 volatile time. And I think -- I notice that

14 you have 67 percent confidence intervals,

15 which aren't very confident frankly.

16   MR. HODGE: Yes, exactly, it just

17 illustrated the uncertainty.

18   MR. IANNACCHIONE: It's one

19 standard error. And that means -- and even at

20 that, the confidence intervals were very wide.

21 One of your graphics had -- I just did a

22 little looking at one of them there, the

1 dollars per barrel sitting at 50 dollars a

2 barrel, plus or minus about 20.

3   MR. HODGE: Yes.

4   MR. IANNACCHIONE: How useful is

5 that? I mean at some point, you may -- the

6 inherent volatility may be such that you

7 really have to say we can't give you a very

8 accurate estimate.

9   MR. HODGE: Yes, that's true.

10 We're kind of hoping in addition to this, we

11 can kind of compare how the volatility has

12 changed over time. So even though we might

13 have wide bands, maybe you'll have less wide

14 bands next month or something.

15   MR. IANNACCHIONE: Well, I think

16 we're all hoping for less wide bands --

17   MR. HODGE: Exactly.

18   MR. IANNACCHIONE: -- in the

19 future. That's for sure.

20   One thing that occurred to me that

21 I think ideally you'd want the forecasts

22 internally based on here's what was going on

1   in the prior months on the STEO forecasts. So

2   we're going to kind of base it -- the forecast

3   just on that.

4   And I wonder if you could consider

5   some replication methods that statisticians

6   use to estimate variance. In particular,

7   there are jackknife variance estimation

8   methods where you could basically if you have

9   these for weeks or even daily, if you have

10   these measures, you could delete one and see

11   what the forecast is without that week. And

12   then delete another one. And just kind of

13   randomly bounce around and see how much that

14   deletion effects the volatility.

15   That's a --

16   MR. HODGE: Okay.

17   MR. IANNACCHIONE: -- pretty

18   effective technique that survey statisticians

19   use because there's complex sample design to

20   generate -- it makes the estimation of

21   variances kind of difficult. And I get the

22   feeling that you're kind of in the same boat

 1   here.

 2   MR. HODGE: Exactly.

 3   MR. IANNACCHIONE: So that's one

 4   suggestion.

 5   On your second point, do

 6   confidence intervals and/or PDF charts

 7   adequately illustrate uncertainty, well the

 8   short answer is yes. I think they do.

 9   You may be saying well, which one

10   should we go with. And I think that depends

11   on the audience. Who you are trying to

12   communicate this information to.

13   At some level, confidence

14   intervals are more direct. The real value is

15   somewhere between that lower bound and the

16   upper bound. Or at least we're 95 confident

17   or we're 67 percent confident. Whatever it

18   is, the reader can tap right into that.

19   MR. HODGE: It's more intuitive, I

20   guess.

21   MR. IANNACCHIONE: It's very

22   intuitive, yes. And you're kind of setting

1   the confidence level.

2   MR. HODGE: Yes.

3   MR. IANNACCHIONE: I mean there's

4   -- with the PDFs, you had mentioned that they

5   enable custom confidence levels to be made.

6   And they do. And that one, PDFs might be more

7   difficult to understand because the reader can

8   go in and may be confused. Or they're not

9   really setting the confidence level.

10   I mean it is there. But they may

11 not fully appreciate it where with -- if you

12 set it, then that's what it is. Now obviously

13 you could have, just on this graphic here, you

14 could have different levels. That could be a

15 67 percent, a 95 percent would probably be

16 maybe --

17   MR. HODGE: Yes, off the scale.

18   MR. IANNACCHIONE: -- off the

19 scale there but still you could have different

20 gradations or shades --

21   MR. HODGE: Well, that's true.

22   MR. IANNACCHIONE: -- to

1 illustrate how the confidence interval expands

2 or contracts depending on what level of

3 confidence you have.

4   So as far as the third question,

5 should it be graphics or tables, I think in

6 general all of us would probably say give me

7 a graphic. I can deal with a picture a lot

8 easier.

9   With something like this,

10 especially with a confidence interval

11 approach, I think you could have tables for

12 someone who wants some more exact measures.

13 They could be in a supplement or something

14 like this. But that's where your main source

15 of communication would be, right with the

16 graphics.

17   Or if you're going with PDFs, and

18 there's no reason why, by the way, you can't

19 display both, I mean you could have,

20 especially on a website where for users who

21 want to look at PDFs, they could, it seemed

22 like in the curves, those bell-shaped curves,

1   I found myself looking at the labels.

2   I mean I know that if it is a

3   fatter curve that there's more variance there.

4   But I don't know how much more variance there

5   is. I mean I just know that it is kind of an

6   ordinal-type scale.

7   MR. HODGE: Okay.

8   MR. IANNACCHIONE: So maybe the

9   tables would be more appropriate there. Or

10   you could get creative and maybe a graphics

11   artist could help display that in a graphical

12   way as well. But it seemed to me that the

13   tables work better for the PDF.

14   MR. HODGE: You mean there's

15   probably more room for misinterpretation on a

16   graphical PDF like that?

17   MR. IANNACCHIONE: Well, I think

18   misinterpretation or just lack of

19   understanding.

20   MR. HODGE: Oh, okay.

21   MR. IANNACCHIONE: You know --

22   and, again, this all kind of gets back to who

1   is your audience here.

2   MR. HODGE: Yes, exactly.

3   MR. IANNACCHIONE: If the people

4   in this room are your audience, then yes, you

5   could go more upscale as far as the technical

6   level goes. But if you are putting it out on

7   a website for general consumption, you may

8   want to avoid that.

9   MR. HODGE: Yes, exactly. Okay,

10   well, thanks.

11   DR. BLAIR: Ed Kokkelenberg?

12   MR. KOKKELENBERG: I want to

13   compliment Tyler and company. They've done a

14   lot of work here. And they really poked

15   around in this issue of trying to forecast

16   volatility.

17   My comments probably raise more

18   questions than answers. I've already

19   communicated rough answers to Tyler by e-mail

20   and they were pretty consistent with what

21   Vince has just outlined.

22   But here's some comments for what

1 they're worth. First of all, the real issue

2 is can you get a precise forecast of the point

3 value. I mean if you could do that, you could

4 care less about the variance, right?

5   But the second moment becomes

6 valuable, the variance, when the time period

7 for which you are forecasting is rather wide.

8 For example, you're forecasting for 2010

9   MR. HODGE: Yes.

10   MR. KOKKELENBERG: -- and that

11 price may vary within that 2010. And that's

12 where the second moment becomes important. So

13 you want to know the limits of this price.

14   I teach -- when I teach

15 forecasting, I often use an example called Mr.

16 Tux. Mr. Tux has got a tuxedo rental place.

17 He's thinking of building a second operation

18 on the other side of town. And he has to sign

19 a five-year lease.

20   So he calculates the volatility of

21 his tux sales, which are highly seasonal -- or

22 tux rentals. And so I ask students well, why

 1 do you care about the volatility. He's got a

 2 point estimate for each year.

 3   And they think about this for a

 4 while. And the brighter ones say because he

 5 has a monthly lease payment he has to make.

 6 And he wants to be able to cover that in the

 7 worst month of his sales, right? Right.

 8   Okay. So it depends on your

 9 audience. If somebody really is taking market

10 positions in this for contracts that are

11 futures contracts, they are going to want to

12 know fairly precisely but they want to know

13 what kind of volatility that they can expect

14 within that time period.

15   But if you're talking about long-

16 run forecasts for people who are considering

17 building power plants or refineries 20 years

18 from now or 10 years from now, that volatility

19 may not be quite as important.

20   Having said all of that, it really

21 depends on your audience. Now the estimates

22 of the volatility are best made if the time

 1 series is stationary. And I don't think the

 2 time series is stationary at all in terms of

 3 co-variants or main. Yet the past is the only

 4 thing you have got to work with as you've

 5 said. And so you've got that. And if you

 6 don't have -- if that isn't going to help you

 7 forecast, then you're totally out at sea.

 8   So I come to this jackknife

 9 question. I like the idea. But I'm a little

10 concerned that what you are going to do is

11 identify a few time periods in which that

12 price really jumped around. And then you're

13 going to have to answer the question should I

14 eliminate that or leave it in?

15   And as somebody on this Committee

16 years ago said, you should cherish those

17 observations because they fall outside of your

18 model. That means your model isn't able to

19 handle that. And you should be at least aware

20 of that when you're using that model.

21   And so you're going to come to

22 that question if you use jackknife. But I

 1   like the idea to help identify problems.

 2   Now the futures contract

 3   volatility represents only the market players'

 4   uncertainty. And as you notice, that got

 5   narrow when you got toward the date, the

 6   expiration date on the contract because their

 7   uncertainty collapses to a point estimate

 8   ultimately.

 9   MR. HODGE: Yes.

10   MR. KOKKELENBERG: But you're

11   standing there looking at the point and

12   looking into the future. So that's why you

13   get these expanding bands of confidence. And

14   eventually after you get a few periods out, a

15   time series thing becomes mechanical.

16   And so those bands don't bounce

17   around nor do your point estimates bounce

18   around. They're just kind of projections of

19   uncertainty that lies within the model itself

20   -- the statistics of the model. As you get

21   more observations, the variance grows.

22   MR. HODGE: I think, you know, the

1 confidence intervals are based both on the

2 volatility and the timed expiration. So --

3   MR. KOKKELENBERG: Right.

4   MR. HODGE: -- you know, one is

5 offsetting the other. So I think that's why

6 it just sort of can get constant after a

7 while.

8   MR. KOKKELENBERG: Yes, but when

9 you make the forecast, your comb expands as

10 does the Bank of England's or anybody who is

11 doing these forecasts because the volatility,

12 the second moment essentially goes up --

13   MR. HODGE: Yes.

14   MR. KOKKELENBERG: -- as you go

15 off into the future. And it makes intuitive

16 sense because you're extending yourself beyond

17 your experience.

18   MR. HODGE: Yes.

19   MR. KOKKELENBERG: Okay. The

20 question I have is would you propose that EIA

21 do something like your third chart, which was

22 that one -- I thought I drank all that coffee

 1   -- your Figure One, the probability

 2   distribution. Go back a few more -- keep

 3   going -- keep going. No, you're going the

 4   other way. Reverse yourself. Continue.

 5   MR. HODGE: Is it a probability

 6   distribution?

 7   MR. IANNACCHIONE: Well, I was

 8   thinking it was like this one -- the

 9   probability density function that the Bank of

10   England had or whoever this was -- Deutsche

11   Bank. That, yes.

12   Now would you propose that the EIA

13   do that? And here's the problem I have with

14   that, I think that's great. The Deutsche Bank

15   and British Petroleum, and Enron, and formerly

16   Merrill Lynch -- I don't know who does this

17   now -- used to do this repetitively.

18   They may have done this, with the

19   computing capacity they have, ten times an

20   hour to help their market players understand

21   what the range of uncertainty is. And that

22   implies a fleetness of foot that is rather

 1   daunting for an agency that takes two and a

 2   half years to get a form change.

 3   MR. HODGE: Yes, we're just

 4   talking about monthly forecasts.

 5   MR. IANNACCHIONE: I know, I know.

 6   MR. HODGE: And that's a short

 7   time period.

 8   MR. KOKKELENBERG: Yes, for the

 9   short-term energy outlook, this might not be

10   a bad thing to do though because you can do

11   this every month.

12   MR. HODGE: Yes.

13   MR. KOKKELENBERG: Now the other

14   thing is that using Black -- another point --

15   totally different point -- Black Scholes

16   implies that the market has got it right.

17   MR. HODGE: Yes, there's a lot of

18   assumptions there.

19   MR. KOKKELENBERG: And that is

20   questionable for 2008 but it may have been

21   good for almost every other time, right? And

22   perhaps Black-Scholes is more important over

1 the long run rather than a very short run

2 thing. Over a ten-year span or a 20-year

3 span, Black-Scholes works.

4   MR. HODGE: Yes.

5   MR. KOKKELENBERG: Over a one year

6 or one-month span, Black-Scholes depends on

7 things not changing. And basically things

8 changed in 2008 dramatically. And I'm not

9 sure the Agency could have picked those things

10 up even if it was doing monthly forecasting.

11   The market didn't pick up and

12 these guys have millions of billions of

13 dollars invested in it. So I wouldn't feel

14 bad if you don't outdistance the forecast that

15 they do. The problem is that you have

16 Congress asking you why can't you forecast

17 better.

18   So as I say, I have more questions

19 than answers. But I really appreciate what

20 you did here. And I thought it was a real

21 good crunch into the problem.

22   MR. HODGE: Okay.

 1   DR. BLAIR: Steve, in that case,

 2 we'll go to questions and comments.

 3   MR. HODGE: Oh, sure.

 4   MR. BROWN: I have a couple of

 5 comments. First of all, for those of you who

 6 are new to the Committee, I thought it would

 7 be kind of useful to share but I think as the

 8 genesis of this, which is that, you know, six

 9 months ago, Congress was sort of demanding --

10 or a group of five Senators was kind of

11 demanding to know why could EIA get its short-

12 term energy outlooks and long-term energy

13 outlooks right.

14   So I think part of the response is

15 to really try to explain how much uncertainty

16 there is in any kind of outlook, even in a

17 market outlook.

18   MR. HODGE: Yes, I think they were

19 specifically pointing to, I think, a forecast

20 by Goldman Sachs. But the problem is Goldman

21 Sachs projects a range not an expected level.

22 So obviously with a range --

1   MR. BROWN: Well, and Goldman

2   Sachs also did a super-spiked outlook. And

3   what they do, they create these funny

4   scenarios like super-spike outlooks and stuff

5   like that. And they say well this only has a

6   one percent probability of happening. But if

7   it happens then they look really smart or

8   something.

9   Could you go forward a couple of

10 charts?

11   MR. HODGE: Sure.

12   MR. BROWN: It's the one that has

13 your forecast in with -- that one.

14   MR. HODGE: Okay.

15   MR. BROWN: I would have, you

16 know, let's say I was kind of running through

17 the STEO and I came to this chart online. And

18 I didn't have a big text to tell me what I'm

19 supposed to think here.

20   And I would really -- what I would

21 sort of look at in this chart is I would

22 really say well, how does the STEO compare

 1   with the NYMEX is what I would get out of

 2   this. I wouldn't get the sort of distribution

 3   unless you really did something to emphasize

 4   the distribution. And I would --

 5   MR. HODGE: You could send a

 6   background kind of the ranges.

 7   MR. BROWN: Well, and maybe if you

 8   did what Vincent suggested and kind of had

 9   more shading to emphasize the confidence

10   bands. But I would recognize that the

11   confidence bands were really about the NYMEX

12   thing.

13   And I would then be sort of saying

14   oh, it's not statistically different than the

15   NYMEX forecast even though it's different,

16   that's kind of what I would -- my take-away

17   from it without a big text explaining it to

18   me, is well, it's not really statistically

19   significantly different than the NYMEX.

20   And I'm not sure that that's what

21   you want to accomplish.

22   MR. HODGE: Yes, I didn't think

1 about viewing it that way. But I can see what

2 you're saying.

3   MR. BROWN: But that's -- I mean

4 that's how I look at it as a sort of like --

5 just looking at the picture, I have no

6 context. That's the immediate thing that

7 jumps out to me is oh, it's not really

8 statistically significantly different than the

9 NYMEX.

10   And the other question that that

11 sort raised for me is particularly since you

12 explained why the STEO is a little bit lower

13 than NYMEX is are you really comfortable at

14 this point in time with the STEO forecasts?

15   You know you were sort of

16 explaining why you're low, you know, sort of

17 like well the macro thing that we're forced to

18 use is something that is lower than everybody

19 else's. And --

20   MR. HODGE: Well, I could explain

21 it just the opposite, that they're higher than

22 us, you know.

 1   MR. BROWN: Well, but either way,

 2   I mean it's sort of -- you know, it's sort of

 3   you're going to be explaining why you are

 4   different from the market if you have a chart

 5   like this. And is that what you want to do?

 6   I'm asking that as a question. I

 7   don't have the answer to that.

 8   MR. HODGE: Yes, we usually don't

 9   highlight the differences between the NYMEX

10   and the STEO. I just thought that since we're

11   presenting this chart, there might be

12   questions.

13   MR. BROWN: No, but if you have

14   this chart on the STEO page --

15   MR. HODGE: Yes.

16   MR. BROWN: -- in the EIA website,

17   people are going to be asking this question.

18   MR. HODGE: Yes, we would

19   definitely need to have a lot of explanation

20   behind it.

21   MR. BROWN: And would you want to

22   answer that question? You may not want to

 1 answer that question. In which case you may

 2 not want this chart.

 3   MR. IANNACCHIONE: Wouldn't it be

 4 the next one that you would have on the

 5 website? The one after?

 6   MR. HODGE: The -- oh, wait -- the

 7 one before?

 8   MR. BROWN: The one before it.

 9   MR. HODGE: Yes, that? Yes,

10 that's another possible way to go. We

11 actually had a workshop about a month ago

12 called Relationship Between Financial and

13 Physical Markets. And we kind of went over

14 this presentation. And it seemed like a lot

15 of the audience seemed to prefer, you know,

16 showing the two together.

17   So I don't know -- of course, like

18 you said, it depends on who your audience is.

19   MR. BROWN: Well, it depends on

20 who your audience is and what you're trying to

21 accomplish.

22   MR. HODGE: Yes.

 1   MR. BROWN: I'm assuming your

 2 audience, kind of from the point of view of

 3 the questions I'm asking right now, are the

 4 five Senators in some sense.

 5   MR. HODGE: Yes, I mean obviously

 6 there's --

 7   MR. BROWN: Do you want to get

 8 them off your back? And in which case I think

 9 you'd want to have the 95 percent confidence

10 band up there.

11   MR. HODGE: Maybe just to be safe.

12   MR. BROWN: To be safe and well,

13 to have it shaded a different color something

14 like that.

15   But I do have one question. This

16 is really going far afield about the STEO now,

17 which is in general, it is very hard to

18 outperform auto-regressive models. And you're

19 STEO model is more complex than that.

20   And I'm wondering how long it's

21 actually been since the STEO itself was

22 examined to see how well it performs versus an

 1 auto-regressive model.

 2   And I'm also wondering if there

 3 are confidence bands on the STEO forecast

 4 itself, constructed from the statistics of the

 5 STEO.

 6   MR. HODGE: Well, that's an

 7 important point I should mention is that we

 8 don't -- the WTI crude oil prices, one of the

 9 only variables that we don't explicitly model

10 in our STEO outlook -- our STEO we formally

11 model in our model, we developed that forecast

12 through, you know, a consensus of opinions in

13 our meetings while discussing, of course, all

14 the variables and stuff.

15   So -- but obviously if we had an

16 econometric equation for WTI that performed

17 reasonably well, you know, we could develop

18 forecast errors from that equation. I think

19 that that would probably be the ideal way to

20 go.

21   But using the NYMEX futures also

22 allows us to sort of look forward instead of

 1   just sort of looking back at how well we've

 2   performed. So but I mean they're both valid

 3   ways to, you know, look at forecasts.

 4   MR. BROWN: So the STEO is more of

 5   a -- there's some judgment in there as well as

 6   some kind of formal model.

 7   MR. HODGE: Yes, yes, especially

 8   with the WTI crude oil price, there's more

 9   judgment involved. Of course, we look at all

10   the factors like, you know, the international

11   supply balance and macroeconomic factors and

12   stuff like that.

13   So -- but we don't formally model

14   that so that adds a whole other level of

15   difficulty in trying to, you know, gauge our

16   past efforts and how our forecast error is

17   derived.

18   DR. BLAIR: We're a couple of

19   minutes over time but we'll borrow a couple of

20   minutes from the next section to pick up John,

21   and Mike, and Barb, were you going to say

22   something?

 1   MR. WEYANT: Okay. To catch up on

 2   all these great comments, I do think that this

 3   is a very important area to push further. And

 4   you've made a lot of progress on it.

 5   I used to teach Black-Scholes.

 6   There's a lot of assumptions involved in it.

 7   You should kind of -- even without going

 8   through the derivation, which isn't actually

 9   that hard, you should go through those just to

10   familiarize yourself with it because if you're

11   going to use that methodology, people will

12   start asking you about, you know, zero

13   transaction costs.

14   And the one I think is

15   particularly good and relates to something

16   Steve kind of got into is that has been a lot

17   of work on this stochastic properties that

18   best fit energy products, natural gas,

19   electricity, gasoline, crude oil. I think

20   Steve has actually done some work in that

21   regard. So there's just a little bit of

22   literature out there.

 1   And, therefore you might want to

 2   modify the basic set up a little bit in Black-

 3   Scholes. And the people who do that, do that

 4   second step as well.

 5   Secondly on this, I think it is

 6   important if you're going to practice -- to

 7   get across that there is variance and it's

 8   kind of in the real world -- it's not

 9   stationary.

10   So every time I hear an industry

11   person say we need certainty in future carbon

12   prices, oil prices, I just go oh, my God, if

13   I was in the IT industry and I tried to do

14   that 20 years ago, people would have put me in

15   the loony bin.

16   So my interpretation of this,

17   which may be just totally idiosyncratic is, I

18   say well, your mean projection is kind of like

19   NYMEX. You didn't give me any other way to

20   think about uncertainty. I'm trying to

21   actually, you know, manage stockholder funds.

22   I'm going to actually graft on that as the

 1 uncertainty band around the mean forecast.

 2   So this gives me at least a rough

 3 idea how likely it is that it is off and how

 4 far that being off might be.

 5   MR. WEYANT: By the way, do you

 6 know what the current futures price is?

 7   MR. HODGE: I think it was like 52

 8 dollars.

 9   MR. WEYANT: So it's definitely

10 over 50 now. So that comes to the last thing.

11 I think Ed clicked this in my head. I think

12 it would be useful because you have this short

13 time horizon, kind of monthly things, if you

14 buy my argument or have some way of doing

15 uncertainty to kind of collect that data so

16 that the decision theory guys have this really

17 neat concept called calibrated experts.

18   So if I was saying okay, EIA,

19 you're not responsible for all the uncertainty

20 in the world. But if you're going to show me

21 these, you know, two-thirds of the time they

22 should be in there, I'm going to collect these

 1   for two or three years and say two-thirds of

 2   the time, were you within that one standard

 3   deviation or whatever the number is?

 4   I think that -- to me, that would

 5   build some credibility as you go to have you

 6   kind of be --

 7   MR. HODGE: That's true.

 8   MR. WEYANT: -- so you're not

 9   responsible for solving the problem of massive

10   uncertainty in the world like who is going to

11   be the next President or who is going to be in

12   the next Congress, et cetera.

13   MR. HODGE: Yes, we have the past

14   data to reconstruct, you know, these bands

15   historically and see how well we did. So

16   that's definitely a good idea.

17   MR. WEYANT: Yes, that on this

18   kind of big number crunching computer thing is

19   something, you know, you're kind of already

20   doing that. This is just not just doing the

21   means but these ranges. And that, if you

22   don't want to buy into this being a measure of

 1   the uncertainty in your conception of this,

 2   you could at least critique the use of this

 3   methodology which other people have tried to

 4   use. But kind of using the NYMEX kind of

 5   standard Black-Scholes options, could spread

 6   future price, just as you've done it. And say

 7   this is the methodology we're putting forward

 8   here and it is based on somebody else's model

 9   and somebody else's thinking. But we either

10   have more or less confidence over time based

11   on how the numbers turn out over time.

12   DR. BLAIR: Mike, are you

13   withdrawing your comment?

14   MR. WEYANT: I'm just going to

15   make a quick footnote because it is about what

16   John said but it was something very specific.

17   I would assume there's a -- I don't know if

18   this is transactions cost or something -- that

19   when the folks that purportedly regulate

20   futures transactions raise margin

21   requirements, that would be an example of

22   something that, you know, may have changed

1   over the last few years.

2   And I would assume that before and

3   after things like that, there could be

4   differences in price behavior. So it would be

5   one more thing to think about. The

6   institutional backdrop is not always being

7   held constant.

8   MR. HODGE: That's true.

9   DR. BLAIR: And Barb?

10   MS. FORSYTH: The point that I

11   would make is only that you can also encode

12   expert judgments. So you don't have to rely

13   just on historical data.

14   But you can formally encode expert

15   judgments to measure their uncertainty values

16   and explicitly reflect them so that you could

17   get it not just from the historical data but,

18   in fact, you could assess the uncertainty

19   about the historical data from experts and map

20   those probabilities --

21   MR. HODGE: Okay.

22   MS. FORSYTH: -- as well. So --

1   MR. WEYANT: So this is almost

2 moving towards a full update where you start

3 with priors and --

4   MS. FORSYTH: I didn't want to say

5 that but yes.

6   DR. BLAIR: And Ed, if you don't

7 mind, I'm going to ask that we go offline with

8 your comments so we can finish the session and

9 move on to the next one because we're over

10 time.

11   MR. KOKKELENBERG: No, I only have

12 about a two sentence comment. So I would

13 prefer to offer that.

14   DR. BLAIR: Okay, go ahead.

15   MR. KOKKELENBERG: And be online.

16 And the online comment is that somewhat

17 similar to what they're saying but for future

18 forecasting you really should employ a suite

19 of models, not just one model. That's it.

20   DR. BLAIR: Okay. Thank you.

21   MR. HODGE: Okay, I appreciate all

22 the comments. Thanks again.

 1   MS. BROWN: We're not done.

 2   DR. BLAIR: Oh, I'm sorry. Was

 3 there a comment from the audience? I'm sorry.

 4   MR. HODGE: Okay. Well, thanks

 5 again.

 6   DR. BLAIR: Our next session, Re-

 7 Labeling Price Data as Nominal, Jake

 8 Bournazian.

 9   MR. BOURNAZIAN: Thank you, Ed.

10   Good morning, Committee members

11 and EIA staff and the audience. Today's

12 presentation is about how our agency delivers

13 price data to our customers.

14   Now we release a great deal of

15 price information. In fact, in just the area

16 of petroleum and natural gas alone, we release

17 approximately 16,000 different price data

18 series from our website.

19   When I add in electric power and

20 coal and the other fuel groups, we're

21 releasing approximately 20,000 different price

22 data series from that website. So there's a

1   lot of quantity behind this information.

2   But there's something else besides

3   quantity and that's popularity because price

4   statistics are always unique more than any

5   other because it is that unique moment when

6   the supply and demand curve intersect and we

7   have a point of measurement where the market

8   is cleared -- for a day, a week, a month, a

9   year, they cleared on that measurement.

10   And that's why price statistics

11   are so popular. It's the best way to measure

12   market conditions.

13   And it shows back on our price

14   data because two surveys, retail motor

15   gasoline, and retail diesel fuel price survey

16   soak up about ten percent of the traffic from

17   our website. We have two-and-a-half million

18   visits per month on our website and these two

19   surveys take up about ten percent of that.

20   So it is something to keep in mind

21   that this is always going to be with us,

22   right? Price statistics will always be very

1 popular -- tomorrow when you wake up, ten

2 years from now -- and we have a great deal of

3 information.

4   And so that means managing traffic

5 is going to be a consideration that kind of

6 overarches this entire presentation and how we

7 do that. Now you see the word nominal and

8 let's get on the same page of what that means

9 because the word nominal means different

10 things depending on your educational

11 background.

12   If you have a scientific

13 engineering background, I'd like you to leave

14 it at the door because nominal for those

15 technical people means a value that

16 approximates the actual. So if I say I have

17 a truckload of dimensional lumber out back

18 versus I have a truckload of two by fours.

19 One is real, the other is nominal.

20   Now we're all going to be

21 economists today. And so nominal and real, in

22 the context that I'm speaking, refers to

 1   purchasing power.

 2   And I'm going to keep it really

 3   simple just for discussion purposes. I'm sure

 4   you could have a more sophisticated definition

 5   but when I'm talking about real and nominal

 6   distinction, what I'm referring to is if the

 7   rate of change in the money supply does not

 8   equal the rate of change of goods and services

 9   in the economy, then the purchasing power in

10   the future time period may not be the same as

11   the purchasing power in the current. And the

12   same thing applies to the past.

13   Now let's take a look at what we

14   do here at the agency. And what I want you to

15   pay attention to is the bread crumbs in the

16   upper left-hand corner.

17   We release real price information

18   and we do have a pretty clear navigational

19   path -- home page, forecast and analysis,

20   short-term energy outlook, real petroleum

21   prices. So a user will find it -- and, again,

22   we're managing traffic when we're designing

 1   and releasing this price information.

 2   And when you're at this page,

 3   you'll see graphs on diesel fuel, heating oil,

 4   crude oil, one of my favorite graphs on this

 5   page is gasoline. A couple reasons I like

 6   this graph because it does show that your

 7   grandparents 90 years ago paid through the

 8   nose for gasoline, just like you and I are

 9   doing today. So not a lot has changed in 90

10   years.

11   Second usefulness for this graph

12   is it does show what the current practices are

13   here at the agency. A nominal referencing of

14   real price series graph.

15   Let me describe that. What our

16   current business practice is is that if you

17   show real price data reference the reported

18   values as nominal. And if you're just showing

19   your actual reported prices, you don't use the

20   word nominal. Pretty much a general practice

21   across the agency.

22   But no story would be interesting

 1   this morning if we didn't have any exceptions.

 2   And we have some exceptions. I'm not just

 3   singling out this one publication. Last

 4   summer you may remember that crude oil went up

 5   to about 140 dollars a barrel.

 6   And whenever prices spike, you're

 7   going to see media interest on measuring that

 8   price spike. Is that a record in real dollar

 9   terms? They want to look at purchasing power.

10   It happens in other fuel groups, too.

11   Well, the manager of this

12   publication changed all the price tables and

13   labeled them as nominal retail prices. And

14   very knowledgeable manager, very experienced -

15   - in fact they won the EIA Administrators

16   Award for Employee of the Year just a couple

17   of days ago.

18   So what were they thinking?

19   Because they didn't get the award for doing

20   this re-labeling. Now they're just doing

21   their job as a manager, right? Because

22   customers call in and they're asking. Is that

 1   nominal prices that I see up there on your

 2   website?

 3   Now if you're a manager and you

 4   hear that same question four or five times, do

 5   you need to hear it six, seven, eight, nine?

 6   No, you're going to solve the problem. And

 7   this manager did. He solved the problem and

 8   changed the titles on that section of the pub.

 9   Now I told you, I have plenty of

10   other examples. About five years ago,

11   electric prices spiked. The Midwest and

12   northeast lost power.

13   Well, the manager of the Electric

14   Power Monthly was getting questions, once

15   again, from customers. Is that nominal? Now

16   they took a different approach. They changed

17   the text in the footnote to read that monetary

18   values shown are nominal.

19   So we live in an economy that

20   basically is balancing by bringing in imports.

21   And so any time you see a supply disruption,

22   if we have a hurricane four or five months

 1 from now, any kind of supply disruption most

 2 likely will yield price spikes.

 3   And we can rely on that or plan

 4 for that in the future regardless of what fuel

 5 group, except for maybe liquid petroleum

 6 fuels, which we'll hear about shortly, they

 7 don't need imports.

 8   Now whenever you see an

 9 inconsistency in an agency, it is always nice

10 to go look at our cousins and say what's going

11 on with the other federal statistical

12 agencies? How are they handling the issue?

13   Now I picked these agencies

14 because they are the only ones that release

15 business information just like we do. And so

16 at the Bureau of Economic Analysis, they don't

17 use the word nominal. They use the word

18 current.

19   And so when they release

20 information on disposable income, you get to

21 see the flavors as current disposable income

22 and changed. Now because they're not using

 1   nominal, I think BEA believes that engineers

 2   outnumber economists in our society. And they

 3   may be right.

 4   But they come back when they're

 5   releasing real personal -- personal disposable

 6   income, they'll call it current and real. So

 7   real does come back when we're talking about

 8   personal disposable income. Now we're on the

 9   same page. We're talking about purchasing

10   power because that's what we're trying to

11   measure.

12   Bureau of Labor Statistics

13   releases a lot of price data, price series.

14   They only use the word nominal when releasing

15   real price data. And they don't use it -- if

16   you download any data from BLS, you won't see

17   the word nominal.

18   And same with National

19   Agricultural Statistics Service. It follows

20   the same general pattern. Only use the word

21   nominal when you are releasing real price

22   data.

 1   Same with the Census Bureau. They

 2   release more sales and revenue data though

 3   rather than prices.

 4   Now has everyone here heard of

 5   this website fedstats.gov? Okay. I think I

 6   see some heads nodding. But what I want to

 7   see a show of hands on is who has actually

 8   downloaded any energy data from fedstats.gov?

 9   Raise your hand. Okay. I stumped everybody

10   on that question. It's like nobody raised

11   their hand there.

12   Well, let's go to fedstats.gov. I

13   just want to show you something real quick.

14   This is their homepage. And I'm going to pick

15   off some energy data. And so at this website,

16   you just click on your subject matter and hit

17   submit.

18   And when you do that, you get this

19   list of categories. It's a pretty

20   comprehensive type of categories -- a little

21   blurry -- but what I'm going to point out is

22   that when you click on gasoline prices or

 1 diesel prices, you go right to the gasoline

 2 and diesel level two pages on our website.

 3 And that's where you will find the retail

 4 price data.

 5   If a user clicks on prices

 6 monthly, all sources, direct link to the

 7 Monthly Energy Review. Wait a second. Wasn't

 8 that one of the anomalies I was talking about

 9 on our current business practice? So

10 depending on where the user has been or is

11 going, they're going to get the same product

12 but labeled differently.

13   So what we have here is within our

14 agency and also vis-þ-vis other federal

15 agencies. Because I told you, the Bureau of

16 Labor Statistics releases price information.

17 They release retail motor gasoline prices on

18 20 major cities.

19   We only release it for ten. But

20 within our website, we now are showing price

21 data as nominal retail prices without any real

22 data going along with that.

 1   Now another huge concept

 2   underlying the information we release is data

 3   integration. And we have more and more coming

 4   out is information products that draw across

 5   fuel groups. Okay. So I'll have state energy

 6   profiles, state energy database.

 7   I think Howard Gruenspecht

 8   mentioned the state data initiatives. So now

 9   I'm grabbing coal, petroleum, natural gas data

10   and I want it all together. Well that --

11   fundamentally in your file specification, you

12   need standardization if you're pulling in data

13   from different fuel groups because what

14   they're doing now is you're taking data from

15   production environments that is being released

16   on the web and you're repackaging it.

17   And when you repackage it, it is

18   important to pay attention to what label

19   you're using. Once again, once the whack a

20   mole game is getting to be played and the

21   bricks loosen in the wall, we're going to see

22   some charts and tables popping up once in a

1 while in info products that say hey, I have

2 nominal prices here on this graph.

3   Also, it goes off because

4 sometimes our file formatting can make a

5 difference. I'll refer to that later.

6   Well, when you get into this area,

7 you have a lot of related issues. These are

8 not all the related issues. I just picked off

9 a few, some of the more interesting ones.

10   Has anyone ever used the term

11 nominal spot price? Once again, no hands out

12 there. Same here. I've never used that

13 either because no one speaks that way. But

14 we're going to have to take a look at that in

15 talking about certain types of wholesale

16 markets.

17   File format matter, well in the

18 Natural Gas Monthly, if you click on a table

19 and you click on a PDF file, the label in the

20 PDF file says Nominal Retail Prices.

21   But if I click on an html file, or

22 an xls file for this same exact table, it

1   doesn't say nominal. Hmm, easy fix. Just

2   change all the other file formats to show

3   nominal, right? We want to be consistent one

4   way or the other.

5   And, of course, I gave you a

6   couple of anecdotes where one project manager

7   re-labeled the titles. And no customers

8   called back with any questions. Another

9   project manager changed a footnote and, once

10 again, no users called with any questions. A

11 couple of ways to do that.

12   Now you don't have to worry,

13 Committee members, about any of these related

14 issues because fortunately the Statistics and

15 Methods Group climbed up on their white horse,

16 rode through the hallways, and decided to fix

17 this problem. And they did that by using a

18 very special tool, one of the statistical

19 standards.

20   Now I have a copy of that

21 statistical standard in your -- in the paper

22 as an exhibit. Also the proposed revised

1   standard is in there as an exhibit.

2   Now you know you're working with

3   the right tool if it yields the right

4   benefits. And let me just confirm with you,

5   we are using the right tool to fix this

6   problem. Because one, when you apply required

7   actions to a statistical standard, you are

8   going to get standardization of common

9   business practice. Same data now will look

10   and appear the same way, regardless of where

11   you find it on the website.

12   Now I mentioned earlier about

13   fedstats and how fedstats has these cross-

14   links and one is going to go to the Monthly

15   Energy Review and somewhere else goes to a low

16   gas page and we have different labels.

17   Now let me ask you -- if I asked

18   any one of the Committee members if you would

19   like some Coke and you aren't thirsty, you are

20   going to ignore me because you're not thirsty.

21   But if you are thirsty and I say, "Would you

22   like some Coke," you're still not confused

 1 because you're going to answer me yes or no.

 2   You may look at this bottle and

 3 say, "That's exactly what I was looking for,"

 4 or "That really wasn't what I'm looking for

 5 but it will do for me."

 6   But if I ask you if you're

 7 thirsty, would you like to access some Coke

 8 and you say, "Yes," and then I say, "Well then

 9 I have some Coke for you," now I've confused

10 you because now you are wondering is the Coke

11 in this bottle the same as the Coke in this

12 bottle.

13   And yes, it is. But that's still

14 not good enough for you because you have past

15 experiences. You have a preconceived image in

16 your head. When I said, "Would you like some

17 Coke to drink," you already had an image. And

18 so you're going to choose one of these that

19 more resembles your image in your head.

20 Something that you were used to looking at.

21   That's the confusion I'm talking

22 about here because it's not that people aren't

 1   using fedstats. There is traffic going

 2   through fedstats. And if you're looking for

 3   something and you find it, there's no

 4   confusion. All right?

 5   You only get confused if you find

 6   the same data across different web pages on

 7   our website and it looks differently each time

 8   you're accessing it.

 9   So back to data integration being

10   a huge problem here -- or not a problem, it's

11   just an underlying principle we have to plan

12   for. In the last two years, we've come up

13   with five info products that have built across

14   fuel groups.

15   And, of course, all statistical

16   standards arose out of OMB's statistical

17   standards in 2002 which, again, it's always

18   interesting. When Statistics Netherlands

19   speaks, they speak with one voice. Statistics

20   Canada, Statistics New Zealand -- but when the

21   federal government speaks, we have many

22   voices.

1   And so one overarching objective

2   with OMB is trying to get the federal agencies

3   to speak with one voice.

4   I have some questions and get some

5   feedback but I want to tell you a little

6   something about these questions. First, first

7   question here, keep in mind that when you

8   respond to this question, it is subject matter

9   dependent and I need you to be wearing your

10   data user hat. Okay?

11   That's different than the second

12   question which is subject matter independent.

13   And you can choose when responding -- keep

14   that data user hat on or wear the data

15   producer hat.

16   Because I'm sure as economists, at

17   some point in your career -- many times you've

18   worked with price data. And you either had to

19   evaluate do I need to make an adjustment for

20   inflation?

21   And then whatever you did, you

22   presented your results. So you were a

1 producer at that point. And you chose an

2 appropriate label.

3   So we have these two questions and

4 then feel free to borrow from my analogy

5 because, of course, everything goes better

6 with Coke.

7   (Laughter.)

8   MR. BOURNAZIAN: Mr. Chair, let's

9 turn it back over to you.

10   DR. BLAIR: Walter?

11   MR. HILL: I guess I don't have

12 many comments. You are quite right. It is

13 confusing to work with price data. Sometimes,

14 of course, there are other data out there like

15 kilowatt hours that are pretty consistent if

16 you're looking at 1990 data or 2009 data.

17   Typically, you can tell whether or

18 not the data are adjusted or not adjusted

19 although you can't always. The term that I've

20 used in class all the time, I tend to use

21 current and constant dollars rather than

22 nominal.

 1   And it turns out I use the word

 2   nominal in a different sense -- nominal,

 3   ordinal, interval ratio, which maybe is also

 4   confusing when I look at the title though from

 5   the context, again, it is clear what you mean

 6   by that.

 7   My first question, I'll preface

 8   it, it would be good for the data to be

 9   labeled one way or the other -- good to have

10   a consistent label. And often you can

11   possibly tell.

12   I even use things like data from -

13   - pre-World War I data. So clearly you're

14   looking at military spending that are in the

15   hundreds of millions of dollars it turns out.

16   So you know that it's a different --

17   completely different frame of reference than

18   the hundreds of billions of dollars that we

19   are using now.

20   In your segment on the label, it

21   will save a few minutes here and there

22   typically if you're going back to look at the

 1   data. Typically you can tell, I think. In

 2   fact when I've used the data, you can

 3   typically go back and tell.

 4   But it will save like five minutes

 5   or so trying to figure out which one -- if

 6   you're actually using nominal or real data.

 7   MR. BOURNAZIAN: Maybe at the end

 8   of this discussion, I'd like to poll the

 9   Committee because we're thinking about what

10   this is looking like. But let's first get the

11   comments.

12   DR. BLAIR: I'd like to ask a

13   clarifying question. Included in the text

14   material was a current standard 202.14 and a

15   revised standard and the revised standard

16   speaks to when you would say real and when you

17   would say nominal.

18   So this would seem to resolve the

19   matter in a sense. Is the question whether we

20   agree with this?

21   MR. BOURNAZIAN: No, that's not

22   the question. You're correct. The revision

1   to the statistical standard intends to resolve

2   these issues. And the agency in the last

3   month is going through internal deliberations.

4   They are certainly being commented on right

5   now.

6   What we're interested in, though,

7   from the Committee, because it's unique, I

8   have a specialized, sophisticated group here

9   in this room. And so just like I asked, you

10 don't have a preconceived image. When you're

11 accessing price data, how do you like to view

12 it?

13   Just like you have a label in your

14 mind when you think about Coca-Cola, if you

15 don't see the label you're expecting,

16 something is awry. You've got to realign your

17 expectations.

18   And so when you're accessing price

19 data as users, does the word nominal help you

20 out? Or does it get in the way? And also

21 releases. Okay, it looks like the Chairman

22 has a comment.

 1   DR. BLAIR: Well, just as a

 2 follow-up -- again, a clarifying question --

 3 if I read the proposed standard correctly, any

 4 time dollar figures were real have been

 5 adjusted, they would be labeled as real.

 6   MR. BOURNAZIAN: Correct.

 7   DR. BLAIR: If in the same table

 8 there are dollar figures that are nominal,

 9 they would be labeled as nominal.

10   MR. BOURNAZIAN: Right.

11   DR. BLAIR: But if a table was

12 purely nominal data, they would not be labeled

13 as nominal.

14   MR. BOURNAZIAN: Correct.

15   DR. BLAIR: The nominal label

16 would only be used to distinguish those

17 numbers from real numbers when real numbers

18 were used.

19   MR. BOURNAZIAN: That's correct.

20   DR. BLAIR: So that the default,

21 if you didn't know anything else, the default

22 would be that the data were nominal.

1   MR. BOURNAZIAN: Correct.

2   DR. BLAIR: And then it would seem

3 that the problem is that the user doesn't know

4 your default. So, you know, once the -- after

5 a while, they could kind of figure out ah hah,

6 you know, apparently --

7   MR. BROWN: But if two tables were

8 in the same publication and one only had

9 nominal and one had real and nominal, the

10 second table would not be labeled nominal even

11 though it was in the same publication.

12   DR. BLAIR: That's the way --

13   MR. BOURNAZIAN: Yes, that's

14 correct.

15   DR. BLAIR: -- that's the way I

16 read it. And so it would seem that the

17 sensible answer is that you would -- if it's

18 nominal, you would say nominal and if it's

19 real, you would say real. Always.

20   MR. BOURNAZIAN: Now the question

21 is are you a sensible person --

22   (Laughter.)

 1   MR. BOURNAZIAN: -- because I want

 2   to know your view.

 3   DR. BLAIR: Regrettably no.

 4   (Laughter.)

 5   MR. KOKKELENBERG: I have a basic

 6   question. First of all, there's no reason why

 7   you couldn't prominently display a statement

 8   of what nominal prices are and what real

 9   prices are. You don't have to put it on every

10   table. But you could have it early in the

11   material you do display.

12   Now when you do web page things,

13   that's a little bit more. But you might have

14   a footnote that says for definitions of real

15   and nominal, go see or click here.

16   The second thing is what the heck

17   do you mean by real? This chart is terrible

18   because it says they're real prices. Oh, well

19   what does that mean?

20   Well, as an economist, I would say

21   they've probably been adjusted it for

22   inflation. But what index is used to adjust

 1 them for inflation? Is it the Consumer Price

 2 Index for all Urban Consumers? Is it an index

 3 that says whatever price of gasoline existing

 4 in 2008 was the real price and I'm going to

 5 call that equal to 100 and then do that?

 6   And, you know, your common garden

 7 variety user isn't go to go that far, right?

 8   And the other question is well

 9 maybe it was the producer's price index. Or

10 maybe it was a composite market basket of

11 gasoline prices.

12   MR. BOURNAZIAN: Well, it's fair

13 to say if you flip the page prior to that

14 draft, you'll see all the methodology. But I

15 didn't --

16   MR. KOKKELENBERG: Oh, okay. All

17 right.

18   MR. BOURNAZIAN: It does say --

19   MR. KOKKELENBERG: Well, wait a

20 minute. Real petroleum prices --

21   MR. BOURNAZIAN: Your comment is

22 still very much on point.

1   MR. KOKKELENBERG: -- okay, fine.

2 All right. You did use the CPI here. But

3 what's the base period? It says in some base

4 period.

5   MR. BOURNAZIAN: Right.

6   MR. KOKKELENBERG: Okay?

7   MR. BOURNAZIAN: You rest your

8 case.

9   MR. KOKKELENBERG: I rest my case.

10   (Laughter.)

11   MR. KOKKELENBERG: Right. Also, I

12 have this problem that I was on a committee

13 that was advising our university library about

14 how to set up many of its web pages.

15   And one of the problems are that -

16 - quickly identified that users of search

17 engines take the first two or three hits.

18 They don't go any deeper. You could have

19 250,000 hits and they won't drill down past

20 the first page.

21   So when you're doing this and you

22 get different ways to look at the numbers,

 1   you've got real problems. The consistency

 2   thing that you're asking for or seeking is, I

 3   think, very important simply because of that

 4   tendency of people to grab the first number

 5   they see. So --

 6   MS. KIRKENDALL: Consistency is

 7   wonderful but I'd prefer current dollars and

 8   constant dollars.

 9   MR. BOURNAZIAN: Expert

10   terminology?

11   MS. KIRKENDALL: Yes. I don't

12   like nominal. Ah, what's nominal?

13   (Laughter.)

14   MR. BOURNAZIAN: We've got two

15   votes for current so far.

16   MR. MELENDEZ: My suggestion has

17   nothing to do with real or nominal but perhaps

18   in getting more advice. This is -- reaching

19   out to this group is great. You have an

20   opportunity next week at the Energy Conference

21   to perhaps pulse folks that are users of your

22   website. You said two-and-a-half million hits

 1   a day?

 2   MR. BOURNAZIAN: Per month.

 3   MR. MELENDEZ: Oh, per month. I'd

 4   go and seek some more -- you know from real

 5   users who are big users of your data. Just a

 6   suggestion.

 7   MR. BOURNAZIAN: That's a good

 8   suggestion, too. I think we may want to have

 9   some targeted focus groups and media people,

10   some heavy data users like you just outlined.

11   And see what they say.

12   DR. BLAIR: Other comments?

13   MS. BROWN: I'll just add this one

14   comment is that we -- this is Stephanie --

15   this has been a topic of discussion internally

16   with the office directors and staff here

17   trying to get consensus on how we're going to

18   move forward. It isn't just with this group.

19   We sort of -- and Jake's been

20   leading this effort -- trying to get people to

21   think about it and come up with a workable

22   solution for everybody. So thank you for the

 1   suggestion of taking it outside to the Energy

 2   Conference also.

 3   MR. COHEN: He said he was going

 4   to have a show of hands or something.

 5   DR. BLAIR: Yes, that's right.

 6   Or, you know, we could do a quick

 7   questionnaire here, write one up. Would you

 8   care to poll the group in some fashion?

 9   MR. BOURNAZIAN: Yes, I would.

10   And the question I'd like you to respond to is

11   when viewing energy price statistics, do you

12   prefer to see the term nominal in the title?

13   So it's nominal wholesale prices, nominal

14   retails.

15   I'd like to see a show of hands.

16   How many people would prefer that labeling?

17   MS. BROWN: As opposed to?

18   MR. BOURNAZIAN: The current

19   default practice which is to not have the word

20   nominal in there.

21   MR. KOKKELENBERG: I'd prefer

22   that. I think Nancy's point might be well

 1 considered in that. But given that

 2 variability of whether it's nominal or current

 3 or something like that, yes.

 4   MR. BOURNAZIAN: Your preference

 5 would be to see the word nominal? So I have

 6 one, two, three, four, five, six, seven,

 7 eight.

 8   MS. BROWN: Is it -- let me --

 9 Stephanie -- clarify, are you asking the word

10 nominal versus nothing? Or some word versus

11 nothing? Because that would take into account

12 like Nancy said.

13   MR. BOURNAZIAN: I'm asking the

14 word nominal or something substantially

15 similar, you know, whether you pick Nancy's

16 word or, you know, whatever is helpful.

17   MS. BROWN: Something versus

18 nothing.

19   MR. BOURNAZIAN: Whether it's

20 current, nominal --

21   MS. BROWN: Okay.

22   MR. BOURNAZIAN: -- but basically

1 the decision would -- or the comparison is

2 against our default current practice which is

3 to not use any labeling on that. So I believe

4 that eight Committee members responded

5 affirmatively.

6   But there was actually one that

7 did not. Might I hear your --

8   MR. IANNACCHIONE: I actually did.

9   MR. BOURNAZIAN: Oh, okay.

10   MR. IANNACCHIONE: I would say

11 that this group, with all due respect, is not

12 very representative of --

13   MR. BOURNAZIAN: Right.

14   MR. IANNACCHIONE: -- your user

15 group. And I wonder, to expand on Izzy's

16 suggestion, why don't you put this question

17 out on the web and let people respond to it?

18   MR. BOURNAZIAN: That's another

19 way to solicit feedback. Okay.

20   PARTICIPANT: I think some places

21 use it -- sorry -- put it in parenthesis

22 rather than in the title, right, if you put

1   like current dollars in parenthesis under the

2   title. So you'd say, you know, sales of

3   gasoline (current dollars).

4   MR. HILL: This is Walter Hill.

5   Just someplace on the page. I would not

6   necessarily want it in the title but a

7   footnote so you see it on the page rather than

8   trying to guess.

9   MR. BROWN: And I prefer current

10 dollars.

11   MR. HILL: Yes, I prefer current.

12 I use current and constant is what I use.

13   PARTICIPANT: I'd like, as a user

14 of data, I often don't read beginning caveats

15 or instructions of a document that has lots of

16 data. I sometimes go and flip through the

17 pages that give me the information that I

18 think I want.

19   And if, in fact, there's no

20 labeling of what that data -- price data

21 represents, whether it's real 2000 dollars --

22 year 2000 dollars or nominal, I get confused.

 1   And, in fact, it forces me to spend a lot more

 2   time trying to figure out what that is.

 3   I personally would prefer to see

 4   it in either parenthetically somewhere in the

 5   title or in a footnote or something because,

 6   you know, I don't just systematically go

 7   through a document and read all of the

 8   directions to see whether, in fact, it is

 9   going to be nominal or real and what are your

10   dollars.

11   MR. BOURNAZIAN: Okay.

12   DR. BLAIR: Other comments or

13   questions? Do you want to poll us on that

14   one?

15   MR. BOURNAZIAN: No, because it's

16   more broad and open ended for you to give

17   comments on. More or less, you know, what

18   have you done in the past or outside of

19   energy.

20   DR. BLAIR: In that case, thank

21   you very much, Jake.

22   MR. BOURNAZIAN: Thanks.

1   DR. BLAIR: And we have a break.

2   (Whereupon, the foregoing matter

3   went off the record at 10:38 a.m.

4   and resumed at 10:57 a.m.)

5   DR. BLAIR: Well, we'll go ahead

6   and reconvene. And in this session, we have

7   Liquid Fuels Market Model. Andy Kydes is

8   going to start us off.

9   MR. KYDES: Okay. Good morning

10   and welcome. I'm happy to be here and -- at

11   least I am now.

12   What I want to do is give you a

13   brief overview and status report on our new

14   model development effort on the liquid fuel

15   market model, LFMM, and I really twist over

16   that. So let's just call it the LFM so that

17   I don't get too confused and use too many

18   words here.

19   After we go through the quick

20   overview of the status, we're going to go to

21   the summary of the stakeholder inputs that

22   we've gotten and that we've prioritized at

 1   this point with the review Board for this

 2   project.

 3   So basically what I'm going to

 4   talk about is why did we do that? Why did we

 5   undertake this project? What are, you know,

 6   what is the process that we're using? Where

 7   are we? And where are we headed? And what's

 8   the approximate schedule that we're going to -

 9   - we think we're going to be done at with?

10   And then we're going to talk about

11   the stakeholder issues and questions. And I

12   say prioritize because they are prioritized

13   actually by EIA, the OIAF group, not by the

14   stakeholders. We did ask for prioritizations

15   but unfortunately almost all of the

16   prioritizations we got were either critical or

17   very high.

18   So it was difficult to get a

19   spread, a meaningful spread in terms of

20   priorities. So we had to go through and do

21   that ourselves.

22   Okay. So why did we do this? And

1   the critical point is number three, which is

2   to correct deficiencies and add some new

3   capabilities that we thought we needed within

4   this particular model system.

5   And just to be clear on what this

6   modeling system or component is, it's going to

7   replace the petroleum market model. It's

8   going to replace the International Energy

9   Market Module, again, NEMS. And it's also

10   going to take a whole bunch of satellite

11   modules that produce liquids for transport

12   fuels primarily and basically put them in a

13   consistent framework that allows these

14   technologies in fuels to compete against each

15   other in the U.S.

16   And then, again, we're going --

17   and this project is part of the new NEM

18   development. We didn't formally -- though we

19   asked for some 10, 12 million dollars two or

20   three years ago, we didn't quite get that. So

21   instead, because of the priorities, at least

22   this office has, with regard to what needs to

 1 really get done, we decided to try and squeeze

 2 apart some money, start this process going

 3 because we thought it was very important to

 4 actually get this new modeling system in place

 5 given the interest in liquids today.

 6   To be more specific, what am I

 7 talking about with regard to improvements?

 8 Well, we want a model that is easier to update

 9 than the current model -- use and maintain.

10 We want less analyst intervention necessary

11 before we, you know, before we find a

12 converged solution that we believe.

13   We want, to the extent possible, a

14 seamless integration between the domestic

15 liquid market and the international market.

16 There are the usual things of technology

17 assessment, the ability to analyze complex

18 policies related particularly to carbon, cap

19 and trade, and, of course, the new low carbon

20 fuel standard that we haven't integrated yet

21 even in the current system.

22   There are -- obviously we have had

 1   some -- because we have so much analyst

 2   intervention, this is a big issue for us, the

 3   issue of contents in the liquid products and

 4   prices -- prices and margins that we've had.

 5   We've had to work on, I think, too much.

 6   But not that we don't, in the end,

 7   have confidence in what we put out but it took

 8   us too long to get there. So that's something

 9   we want to change. We want to increase model

10   transparency and frankly we thought it was

11   time to reevaluate, you know, the level of

12   technological detail.

13   The refinery has lots of processes

14   in place. We really don't care about most of

15   those. We care about some of them. Whereas

16   coal to liquids or other synfuels, liquids,

17   biomass to liquids, in fact, have sort of a

18   greater level of aggregation.

19   So we want to revisit that

20   particular aspect of how we do that modeling

21   to make sure that we get that right and that

22   we either have more detail on the synfuels or

 1   less on the refinery. But in any case,

 2   there's now a difference, a major difference

 3   between the two.

 4   Of course the other thing is that

 5   we keep on getting suggestions on is that we

 6   really need to make sure that we build in the

 7   flexibility to do uncertainty analysis. And

 8   this means uncertainty in key inputs and

 9   distributions of them, how they effect the

10   distributions of the output.

11   And there are a lot of other

12   things that would be considered. But that's

13   one of them.

14   What's the process we're using?

15   We're going through a formal project

16   management process.

17   This is new to me in the sense of

18   EIA because while I've done project management

19   before, this is actually a formula process you

20   go through in some detail, lots of checks,

21   reviews, to make sure you're on schedule.

22   There's lots of measurements to make sure

1   that, in fact, you are not exceeding costs.

2   You're not too late. And so on.

3   So we're going through this

4   process. We have a formal project review

5   Board which is composed of the office

6   director, who is the sponsor of this project,

7   four division directors, and I meet with them

8   once a month, and I meet with the sponsor once

9   every two weeks. So we've got this

10   communication that's pretty tight with regard

11   to where we are and where we're headed.

12   The major deliverable for this

13   part of the project is the organization and

14   development of the technical workshop, which

15   we hope to have by the end of June of this

16   year. Given contracting vagaries, it may

17   spill over into July. I'm hoping no later

18   than that.

19   But basically this workshop will

20   take the stakeholder inputs, the

21   prioritizations, our views on what's

22   necessary, what's not, along with the

 1   stakeholder views of what's important and

 2   what's less important.

 3   And try and address, okay, the

 4   modeling types of questions. What do we need?

 5   To what kind of structure can best serve the

 6   issues that need to be addressed and the

 7   questions that need to be answered?

 8   And this includes a lot of

 9   questions that need to be answered. This is

10   just a partial list. But how complex should

11   the model be? Should it be simple? Should it

12   be very complex? There's no unanimity of

13   thought on this, by the way, among the

14   stakeholders' responses that we did get,

15   originality, the kind of structure.

16   Certainly the optimization

17   frameworks have gotten advanced enough so that

18   we can now consider nonlinear if it turned out

19   to be the appropriate method to use.

20   And, of course, there's simulation

21   and then what level of product detail, what

22   are the data requirements? You can build a

 1   fantastic model but if you can't support with

 2   data, there's no point in building it,

 3   platform, and so on. All of these things are

 4   on the table when we describe or try and

 5   discuss the technical aspects of the modeling

 6   building this summer.

 7   This is the process, the design

 8   and development process that we've used so

 9   far. We've developed a list of what we think

10   are representative stakeholders for this

11   project. Many of them have been outside of

12   the government. Some of them have been inside

13   the government.

14   And we ask essentially the

15   question what are the key issues and questions

16   that this new model should be able to address

17   in the next five to ten years. So this is the

18   form of the question. And we have, in fact,

19   provided a five-page writeup that has more

20   detail. And at the end, a number of

21   questions.

22   But the central or key question is

 1   what are the issues and questions this model

 2   has to be able to answer reliably? We

 3   developed that list, the initial list by

 4   December. We sent out the request for

 5   information or feedback.

 6   We subsequently added through

 7   inputs by various people within our

 8   organization and outside of our organization

 9   some additional stakeholders which we then

10   continued to send letters to and requests for.

11   At that point we continued to get

12   their inputs. All but one of the inputs, in

13   fact, have been incorporated in our

14   prioritized list of these dates. Because of

15   the formality of the process, I needed help.

16   So we developed a core team to help me through

17   getting through Phase One, which is the

18   completion of the technical workshop

19   organizing that, getting the summaries and so

20   on.

21   And Susan Holte, Phil Tseng, and

22   Randy Cook are the three members of this team

1 that I want to thank. One of them, at least,

2 is here. But I want to acknowledge their

3 help. They've been very helpful in pushing

4 the process along and keeping it close to

5 being on time or a little behind.

6   There were more than 70 individual

7 suggestions made by the stakeholders, not

8 including this group. Again, I mentioned the

9 issue with the prioritization. So we

10 coalesced these 70 or more than 70 into a

11 smaller set.

12   We presented it to the Review

13 Board and we said okay, since, you know,

14 there's not good information or good enough

15 information to really create a separation

16 between these, you guys go ahead and measure

17 it and prioritize these. And so we ended up

18 with a prioritized list. And I'll show you

19 some of that at the end of this thing.

20   We've also gone through the

21 process of trying to get the list of technical

22 experts, modeling experts knowledgeable in the

1 liquid market area. And we were looking for

2 up to about 20, 25 suggestions from which

3 we'll pick four to write white papers on

4 technical aspects of developing this model,

5 given the information from the stakeholders

6 and from basically our needs and priorities

7 and information that must be exchanged between

8 various modules.

9   So the key deliverable is right

10 here, the June or July time frame for the

11 workshop.

12   And I would invite the members of

13 this committee, if you have suggestions toward

14 technical experts in this area, please, please

15 send them to me. I will take them and I will

16 definitely use them in this thought process

17 and in this selection process.

18   I'd like to have them before the

19 end of next week. So you have, you know,

20 several working days maybe to come up with

21 names and e-mail addresses and telephone

22 numbers.

 1   Okay, the next steps. After we

 2 complete this workshop, we're going to have

 3 two independent expert groups develop

 4 component design reports which basically lays

 5 out the critical issues, the data

 6 availability, and the model structures they

 7 recommend.

 8   And then some of the equations

 9 that are characteristic in developing this

10 kind of model. It's not enough to build a

11 model but it's a good place to start.

12   EIA is going to take those reviews

13 and develop its own, taking as many of the

14 good ideas as we can identify them and

15 combining those where it's possible. But in

16 any case, we'll have our own so we'll own it.

17   Then we'll have an independent

18 review. So there's lots of reviews in this

19 process of project management.

20   Once the independent expert

21 reviewers complete their work and we've

22 incorporated their comments, the next step is

1   to develop the full mathematical

2   specification. That's in March.

3   The next one is to -- from March

4   through July -- to produce a pilot model that

5   stands alone using something that's quick and

6   easy. Think of MetLab that's going through

7   part of NEMS initially but something that we

8   can fully test, put it through its paces.

9   Once we've got that and obviously

10   we're going to be modifying the representation

11   because we're going to learn some things in

12   the process, once we think we've learned

13   enough, we're going to present it to the IER

14   and get some feedback there.

15   Once we've basically addressed

16   those hurdles or those issues, we'll be then

17   starting the full model implementation within

18   NEMS. Then do the testing and the

19   documentation. And be ready for use for

20   AEO2012.

21   This is a long cycle. And it's a

22   long cycle because we're trying to do it

 1   right, in a sense. We've adopted the project

 2   management approach with feedback.

 3   It's going to be cut off at any

 4   stage where we think it's really the wrong way

 5   to go or, you know, the wrong thing to do.

 6   Now let's get to the categories of

 7   stakeholder interests or inputs. And this is

 8   the, if you want, the buckets in terms of

 9   which the suggestions and questions could fall

10   in to within the areas of markets -- of prices

11   and margins, technology assessments, lot of

12   these.

13   The key ones that I think occurred

14   pretty often were the prices and margins, for

15   example, type assessment, competition,

16   international here, and policy analysis.

17   There are all sorts of policy analysis. This

18   model should be able to do lots of different

19   types of policy analysis including the low

20   carbon fuel standard for the U.S.

21   There were -- there was one

22   mention of security. Externalities here

 1 refers to water and land competition, energy

 2 crops versus food primarily, and, of course,

 3 a few of us picked up on the fact that the

 4 current model doesn't really represent a

 5 vintage representation of capacity so you

 6 really have a tough time trying to figure out

 7 what the investments to make to meet the new

 8 changing mix of outputs -- petroleum product

 9 outputs or liquids -- given new, for example,

10 ARCA standards, less gasoline, for example,

11 possibly more diesel, the refineries, all the

12 refineries can't meet that.

13   And so you either have to invest

14 so that they can change their mix or you have

15 to retire them. And we have to provide enough

16 details so that we can make that decision

17 within the model.

18   Now these are, in fact, the

19 suggestions that were provided. And these

20 are, remember, coalesced suggestions. So

21 we've taken some liberties to reduce the

22 number from 70 to -- I don't know -- about 45

1   or 50. And even that's too large. But

2   there's still some development in this here.

3   But the main point here is that

4   many of these suggestions were not in the form

5   of questions or issues to be addressed. They

6   were in the form of how to address some

7   unspoken set of issues and questions.

8   That isn't bad because we're smart

9   enough to be able to backtrack and figure out

10 what we think they were. But in terms of

11 being sort of transparent and honest, we

12 simply put them down in the form we got them.

13   So this is the form we got them.

14 And so you can see number one priority of

15 those that we have is fuel prices by market

16 segment and disaggregated by margins,

17 disaggregated by product and region.

18   Lots of times, you have a

19 recurrent theme for policy analysis of

20 environmental issues, carbon cap-and-trade.

21 Also tax policies, tax incentives. These are

22 listed several times, as you'll see, in these

 1 handouts.

 2   Some of the ones that occurred

 3 very often, they wanted to make sure that we

 4 incorporated alternate fuel supplies for

 5 liquids. That is bio liquids of all sorts

 6 including ethanol liquids, gas liquids, bio

 7 mass liquids, ethanol. They want all this to

 8 be done on a level playing field. And the

 9 competition should be correctly represented.

10   And, of course, they wanted market

11 behavior included in there. And, of course,

12 they wanted, again, more policies that they

13 wanted us to be able to address.

14   Some more, there were some very

15 specific suggestions. Make sure you can

16 address the impact of an ethanol tariff.

17 Well, okay, we do that. And that was nice.

18 But also we'll be moving it.

19   But there were, again, the

20 recurrent themes, potential to analyze taxes,

21 tax incentives, constraints on the kinds of

22 liquids you can use and their content, carbon

1 content or particulate content, or sulfur

2 content, and their impact on liquid prices and

3 environmental emissions.

4   And also on investments. A key

5 point. They continually, particularly the oil

6 and gas industry, stressed make sure you

7 include the costs and benefits -- not just the

8 benefits -- of forcing a particular policy on

9 the system because they feared that we would

10 be under representing the cost of the industry

11 in trying to push a particular policy for

12 using fuel that would lower the carbon for

13 example.

14   There was one strong request to --

15 more than one but one very strong one to make

16 sure that we broke up the liquids production

17 between refinery gate, transportation,

18 distribution, and dispensing in order to be

19 able to identify the bottlenecks for

20 particularly new products.

21   So, you know, there's a whole slew

22 of these. Again, include the non-petroleum

1 feedstocks so you can do that. Make sure --

2 so you can represent correctly. Fairly, I

3 think the word fairly was used a number of

4 times. The competition that has to go on

5 between the petroleum source, liquids, and

6 conventional liquids, for example.

7   And make sure that you show -- I

8 don't see it here but it's somewhere in here -

9 - the competition between the uses for bio

10 fuels.

11   That is bio fuels used for energy

12 production versus bio fuels used for liquids,

13 bio fuels used for generation in bio mass

14 generation versus bio fuels used for liquids

15 in transport fuels. And so that was

16 repeatedly stated a number of times.

17   And then finally, realistic

18 representation of market adoption for new

19 technologies.

20   I'm happy to give this group the

21 full list, all 70-plus of them on a

22 spreadsheet with attribution. I will take the

1 names of the individuals who suggested a

2 particular item off so that -- so there's no

3 issue related to attribution.

4   The one thing I want to say is

5 that I put out the original list to the

6 stakeholders on -- I think it was December

7 31st or 30th. And one of your ASA members

8 sent me his responses on January 1st. I was

9 impressed. I was truly impressed. Thank you,

10 John.

11   (Laughter.)

12   MS. BROWN: And identified.

13   MR. KYDES: And with that, because

14 there were so many individual suggestions,

15 I've given you just the highlights of the top

16 roughly 30. But I didn't want to go through

17 all of them because there's no time.

18   But you can view them yourselves.

19 And I would be happy to send them to you.

20   At this point, are there any

21 questions?

22   MR. BROWN: You are not required

 1   to represent the production of crude oil for

 2   this, right?

 3   MR. KYDES: No. We're not

 4   required to represent the production of crude

 5   oil except that it is an important component

 6   of the turbine and crude oil prices.

 7   MR. BROWN: Okay. You demand

 8   crude oil.

 9   MR. KYDES: I demand crude oil. I

10   demand the correct price relationship with

11   supply availability.

12   MR. BROWN: Okay.

13   MR. KYDES: Right.

14   MR. WEYANT: Can you describe

15   exactly how the oil price directories and NEMS

16   are developed because it looks like they're

17   kind of -- they're not in this module, I

18   guess, at least part of the determinants are.

19   Then there's the international

20   energy model. But it almost seems like a lot

21   of what matters are in the inputs to that. Is

22   that a correct interpretation?

1   So the question is how do you get

2   those, you know, the 200, 110, 70 --

3   MR. KYDES: Okay. To be

4   completely above Board, those are done through

5   a Delphi method in terms of selecting the

6   initial low, medium references and high. We

7   really don't have a model per se that can

8   produce for us a particular price trajectory.

9   MR. WEYANT: I understand. The

10 people who do that are, we think, are well

11 aware of the numbers and behavior of the

12 different modules in terms of, you know, how

13 big a deal is bio fuels, unconventional versus

14 conventional. You'll probably have to have

15 some.

16   MR. KYDES: Yes. When I mentioned

17 the -- first you have the gross assumption on

18 prices. Then you have the external analysis

19 of what the aggregate demand is by product,

20 again.

21   But then the supply of crude oil

22 is really identified by -- it has to be

 1   identified and is identified by at this point

 2   five different crude types from regions.

 3   And those then -- there's actually

 4   a simple model of supply and demand and

 5   involve the crude types and some refinery

 6   representation. That feeds into currently the

 7   international energy model, which is then used

 8   by the rest of the NEMS.

 9   PARTICIPANT: Can I make a

10   statement just about the oil prices? Is this

11   a good time to try and address that? Or is

12   this not the right time?

13   MR. KYDES: Yes.

14   PARTICIPANT: And so the oil price

15   is -- you take an oil price trajectory and

16   then we run it through WEPS+ to see what the

17   demand for total liquids are. And then we

18   have a model called GWAD where we try and meet

19   that demand.

20   And so then what develops is you

21   find that certain oil prices you need more oil

22   than you think is reasonable to produce or you

1   have an increased demand for OPEC crude or

2   whatever. So it is an iterative process. But

3   it's not a model iterative process. There is

4   human intervention that way.

5   DR. BLAIR: Are you going to get

6   Mike up next?

7   MR. KYDES: I think we are, yes.

8   So Mike Toman is going to give

9   Market Behavior Response.

10   MR. TOMAN: Thank you, Andy. It's

11 always a little disconcerting when you learn

12 more from the prelude presentation than you

13 knew when you were preparing your comments.

14 So we'll have to play a little catch up on

15 this.

16   But also I should say what I want

17 to do here, per Ed's request, is provide

18 somewhat an organized synthesis of comments

19 that John Weyant had produced which I saw

20 yesterday, things that Steve Brown produced,

21 which I saw about a week ago, and my own.

22   And I'll invite both Steve and

 1   John to, you know, quickly and mercilessly

 2   correct me if I forget anything or get

 3   anything wrong.

 4   We haven't gotten Cutler's

 5   comments, to my knowledge yet, unless they

 6   came in very early this morning and I didn't

 7   see them.

 8   DR. BLAIR: Oh, here they are.

 9   Can you integrate them please?

10   MR. TOMAN: Oh, sure, okay.

11   (Laughter.)

12   MR. TOMAN: I'll be happy to do

13   that tomorrow.

14   Well, let me get to it so we have

15   more time for discussion. I think that the

16   list that Andy showed us of the different

17   kinds of stakeholder requests, preferences,

18   goals, is helpful. And it does show that

19   people are thinking about this effort in

20   multiple ways.

21   They're thinking about how to

22   build the model, the kinds of things they want

1   the model to produce, and then the kinds of

2   questions they want the model to answer. We

3   were asked to comment on that last category.

4   But I want to share -- because they were part

5   of the overall feedback of the three of us --

6   a few observations as well on the approaches

7   and the nature of the outputs.

8   On the approaches, I think -- and

9   I don't think any of this, with perhaps one

10 exception, is not already covered in the

11 comments that you have, Andy. So these are

12 more in the way of endorsements.

13   I think the ability to do -- we

14 think the ability to do uncertainty analyses,

15 sensitivity analyses is obviously crucial.

16 But particularly in this case when so many of

17 the alternative fuel technologies remain so

18 profoundly uncertain, it's going to require a

19 great deal of, I think, even offline work to

20 think through the range of reasonable

21 parameters to be putting in for describing

22 supply behavior on several of these

 1   alternatives.

 2   And I think with that would come

 3   the virtue of modularity. You mentioned that

 4   this replaces several different components.

 5   And I'm hopeful that as the architecture of

 6   the model itself develops, one would be able

 7   to build it and then snap on additional pieces

 8   as they became available with relative ease.

 9   And example might be that it's

10   very difficult now, at least in my view, to

11   have any solid judgment about the economics of

12   production of liquids from oil shale with in

13   situ technology. You could build that module

14   now but it would sort of sit there idle.

15   If you build it later and snapped

16   it in and didn't have to redo the model, that

17   would be a good thing. And presumably you've

18   already been, you know, thinking that through.

19   One point that John particularly

20   emphasized but I would certainly agree with is

21   the ability to capture some form of forward-

22   looking investment behavior, to not have

1 investment be myopic or recursive but to try

2 to have investment based on some notion of

3 expected long-run returns to that investment

4 and not just, you know, conditions of that

5 moment.

6   That obviously makes the model

7 harder to do but I think when we're talking

8 about the kind of investments that we're

9 considering here, that would be a high bar

10 well worth aiming for.

11   Now Steve mentioned in his

12 comments the question of seasonality. And I

13 actually don't know what the time steps in

14 this would be because as a consumer of the

15 products, I tend to look at, you know, mostly

16 the annual results, in fact.

17   So I don't know to what extent the

18 model needs to be given extra work or

19 adjustment to deal with the realities of the

20 seasonal behavior of the markets. Presumably

21 you've already figured out what you want to do

22 on that. But it's clearly important.

1   One question that you asked and I

2   have a thought on it, perhaps a naive one, and

3   John and Steve can weigh in on this, too, as

4   well as others, is this idea of having one

5   model that can be used for both the domestic

6   application and a direct feed to the

7   international application or possibly two

8   models.

9   One model seems like a good idea

10   but I don't know enough about the nature of

11   the non-U.S. data to know how well that works.

12   If the non-U.S. data are very coarse and you'd

13   have to coarsen up the U.S. data as a

14   consequence to make it work, it may be

15   worthwhile to have separate models rather than

16   a one size fits two purposes.

17   But, again, that reflects

18   ignorance and naivete on my part about the

19   data. And so that's more like a point for

20   thought rather than any kind of serious

21   recommendation at least now.

22   Another area where I at least have

 1 an opinion and others may or may not agree is

 2 I think that this is an area in which less can

 3 be more. I applaud the desire to move away

 4 from a detailed process refining model of

 5 which there is exactly one in each pad. That

 6 strikes me as a really good idea.

 7   But I know from some of the work

 8 that I've been involved with looking at

 9 specific energy types because of the

10 uncertainties about them and then often the

11 heterogeneities of the supply conditions, a

12 very elaborate model that includes a lot of

13 that may end up simply making it harder to

14 detect the effects of changes in parameters

15 that you are trying to do in a policy

16 analysis.

17   So there's a trade off here. But

18 I would at least tend to say something along,

19 you know, to caricature more along the lines

20 of, you know, simple supply curves or with

21 multi product, you know, outputs, cost curves

22 plus product trade offs, you know obviously

 1   the real model would be a little more jazzed

 2   up than that but I think in particular the

 3   idea of hanging on to a separate, really

 4   detailed model, I'm not sure I see the virtue

 5   in that. But then, again, I don't work for

 6   EIA and you may have strong reasons to do

 7   that.

 8   For the purposes that the request

 9   letter laid out, I think it would be good to

10   move to a much more transparent framework that

11   would make it easier to use and easier to see

12   what's driving what.

13   Okay, so a couple of quick

14   comments on the outputs, I mean a lot of that,

15   I guess, is pretty much what one would expect.

16   And your stakeholders have identified, you

17   know, a lot of the obvious things that you'd

18   certainly want a model to do.

19   One thing that I think will be

20   important to think through is that when you

21   are wanting to do costs and benefits, what

22   would be your device for measuring costs and

1 benefits?

2   If this is a model, as I

3 understand it, that sort of takes a menu of

4 demands for liquid fuels and then works out

5 how to supply them, you can certainly work out

6 the supply side cost impacts. If they make

7 fuel more expensive, there's going to be

8 losses in consumer surplus and so on.

9   So presumably to do complete

10 welfare analysis of the policies and not just

11 increased costs of production, you'd want to

12 have some ability to deal with larger economic

13 effects than just movements in the supply

14 relationships and the associated costs.

15   I'm not sure how inter-fuel

16 competition will be represented -- one of the

17 questions that was raised in the annex -- and

18 I'm also not sure how important it is. So I

19 should say that.

20   To the extent that the fuels are

21 not actually, you know, homogeneous goods,

22 just liquids that are basically all the same

 1   except maybe there's a different thermal

 2   content per volume, then presumably there is

 3   some kind of imperfect competition or

 4   different goods competition that's going on

 5   that may be important to represent more

 6   explicitly in the cases where that's important

 7   so that you're getting a competition among the

 8   attributes of goods and not just among

 9   different energy forums.

10   That may end up being more

11   relevant in dealing with the vehicle side,

12   which is not in the model, you know the old

13   story of everybody buy compressed natural gas

14   vehicles so they didn't lose the whole trunk

15   to the tank. So maybe that shows up elsewhere

16   in the overall modeling system.

17   But if the fuels are different,

18   then I think those differences need to be

19   retained if they're different in an

20   economically significant way.

21   I think more than anything else,

22   at least my own opinion, the ability to talk

 1 about, as an output of the model, what the

 2 model means for the consumption and cost of

 3 bio feed stocks is just huge. And I think

 4 it's the area in which we absolutely know the

 5 very least of any of the things that are being

 6 addressed in this kind of modeling effort.

 7   That also then refers, you know,

 8 of course to important applications. But

 9 trying to construct supply curves for bio feed

10 stocks is a pretty difficult exercise. And I

11 think it is something that really warrants a

12 pretty significant investment of effort

13 amongst the different things you'll have to be

14 investing in to get the new framework up and

15 running.

16   And that would include then, in

17 the larger application, the point that you

18 made in the overhead about potential other

19 sources of demand for feedstocks and what

20 competition between bio electric and bio fuel,

21 for example, might turn out to look like.

22   In the applications -- and also

1 then sort of the consequences for the modeling

2 itself, to come back briefly to that -- it

3 seems like it is possible perhaps to compress

4 that still-large set of different interests

5 that you have a little bit.

6   And they all seem to involve

7 things, which, again, speaking in simple-

8 minded terms -- that's my comparative

9 advantage -- you have to have the ability to

10 show how changes in the overall supply side,

11 you know, the availability of more fuels of

12 different types, if that's changing the share

13 of conventional refined petroleum products in

14 the market or the mix, you know, we need to be

15 able to look at the refining cost implications

16 of that, for example.

17   So there has to be the ability to

18 tie together from the overall product slate

19 back to the individual refining unit or set of

20 refining units. And basically there has to be

21 some way to manipulate the parameters of these

22 supply relationships because a lot of the

1 policy interventions that will be considered

2 won't be, I think, just output-based standards

3 or, you know, pricing policies.

4   There's still, in my view at

5 least, continued relevance in the ability to

6 describe things that actually move the supply

7 curve around -- technology-based, you know,

8 regulation.

9   If the current Administration

10 decides to revisit standards for air toxics,

11 for example, this could certainly change the

12 nature of refining technology and what gets

13 snapped on to the building. It's not just a

14 cap-and-trade for a pollutant.

15   So it seems like the categories

16 that we can distill out of interest are first,

17 just what happens if alternate fuels start

18 taking on a larger share of the market?

19 Whether that's driven by improvement in their

20 cost structures or the various policy levers

21 that you've already identified. So that would

22 be one application.

1   You know if you're working

2   backwards from the question to the model, that

3   seems like something you'd really want to be

4   able to do.

5   Another category in your note, you

6   said define energy security if you dare to

7   mention the phrase. And so to me, not

8   everything that mean when they ask this but

9   sort of the most interesting and sensible

10   questions that are brought to mind is if

11   you've got policies that are either trying to

12   restrict overall use of liquid fuels or

13   policies on the supply side that try to torque

14   the mix in different ways, tax preferences,

15   investment tax credits, efficiency standards

16   on the demand side, you know you want to be

17   able to deploy in the model a good suite of

18   different policy options and trace those

19   through.

20   And again, some of those may

21   involve changing the composition of demand for

22   different fuels. Some of them may involve,

1   you know, actually changing the relative costs

2   of the different fuel types.

3   So we've got kind of alternate

4   fuels as a market or policy phenomenon

5   themselves. Energy security is something that

6   links to alternate fuels but also to the

7   demand side. How well will the model run

8   globally?

9   Or even taking in global inputs

10   and run domestically, how well will it be able

11   to capture the way investment response to

12   rising global demand, you know, the talk that

13   has gone on for some years now about the rapid

14   and even unexpected growth and demand in China

15   and other rapidly-growing developing

16   countries, will the model be able to give good

17   insights because policy makers, I think, will

18   continue to be asking those questions.

19   And then I've already mentioned

20   the ability to look at feedstocks for bio

21   fuels. So the flip side of being able to

22   model it well and reflect the uncertainties is

1   then to be able to look at different policy

2   approaches toward expanding bio fuel feedstock

3   availability. Are we going to sort of dismiss

4   the conservation reservation and turn it into

5   a feedstock farm or something like that?

6   The environmental area,

7   obviously, is important. That could include,

8   as Steve pointed out in one of his comments,

9   the effects on investment of constrained

10   sighting or lags in permitting. Certainly it

11   will involve carbon pricing.

12   But as I mentioned, it could also

13   involved technology approaches. And

14   presumably the model will also be able to give

15   some insights into what the differentiated

16   fuel recipes mean for pricing in local markets

17   for like gasoline where you can't really trade

18   across price differences without violating,

19   you know, local air quality standards.

20   Now the last thing that was

21   mentioned, and John particularly called this

22   out, but then I think the Q&A may have taken

1   us a little further on that is the question of

2   using the model to explore market power. And

3   it may be that there are important instances

4   of downstream market power, at least in the

5   short run, that one could explore.

6   Maybe there are certain markets

7   that are kind of captive to a few refineries,

8   I don't hear much about that so I kind of

9   assume at this point that isn't a major issue

10   in the market.

11   The concern is usually with crude

12   oil behavior, supply and pricing behavior, and

13   presumably that's outside the model, this

14   model, so I don't know whether it's possible

15   to get traction on this issue in this modeling

16   effort. Or whether that's part of the larger

17   suite of efforts that EIA might be

18   considering.

19   You know my view, having thought

20   about this a little bit over a few years, is

21   that it's very interesting and very tough. So

22   I'm not sure I would necessarily put it at the

 1 top. In fact I'm sure I would not put it at

 2 the top of my priority list given all the

 3 other things you have to do. But it

 4 ultimately would be useful to be able to help

 5 policymakers think that through as well.

 6   Now can I turn it directly back to

 7 Steve and John to see if there's anything that

 8 they either want to contradict or add before

 9 we open it up?

10   MR. BROWN: It seemed like a very

11 comprehensive list to me.

12   MR. WEYANT: Well, I have some

13 general comments just learning from, you know,

14 the real time problem during our discussion

15 here and your comments but I can do those

16 another time.

17   So this will seem like partly a

18 summary but in many ways a reinforcement and

19 modest elaboration of what Mike has already

20 said to kind of take Mike as a spokesman for

21 our group any time is the optimal strategy.

22   So one thing to keep in mind, I

 1 guess I view this, particularly in EIA, this

 2 opportunity to kind of think about models from

 3 the ground up, as a real kind of precious, you

 4 know, much more valuable than oil or good old,

 5 probably like diamonds, or maybe even

 6 dilithium crystals. Because I think you guys

 7 don't get many opportunities to do this.

 8   I actually remember the whole NEMS

 9 debate. And there was going to be new model

10 development. But there were a hundred

11 different directions to go and lots of

12 reports, special reports, and regular reports.

13 So I think it is a very unique and valuable

14 opportunity.

15   But -- so I always start with --

16 some people asked me what -- is this a good

17 model or is that a good model? So I have this

18 kind of snide way of just getting people to

19 think more broadly and I think you are well on

20 your way to doing this.

21   So I guess I find in a lot of

22 applications, you know, one percent of

 1   formulation is worth about 99 percent of, you

 2   know, model other than design computations and

 3   stuff but particularly at points like this.

 4   So the snide response I have to --

 5   the question of -- I'm always asked what makes

 6   a good scenario, what makes a good model, what

 7   makes a good approach to uncertainty, what

 8   makes a good approach to model assessment?

 9   And my answer is always it all

10   depends on the question. So Mike actually

11   started with questions as your survey did.

12   But I think you need to continue to push in

13   that direction.

14   So I like Mike's idea because one

15   thing I jotted down right as he was starting

16   there is you could do -- and he did start and

17   Andy started and your committee started on

18   market segmentation kinds of things.

19   I guess I do worry that you'll get

20   pulled into -- and this is just an

21   occupational hazard here at EIA -- into a

22   model that does everything.

 1   But if you think about it, would a

 2   model that does, you know, the U.S. version of

 3   a whale oil market for the purpose of

 4   projecting oil prices be different or similar

 5   to some, you know, corn ethanol guy who really

 6   wants to know exactly what his product is

 7   going to be worth versus another one. Or --

 8   I don't know -- electric -- I actually had

 9   some neat course projects, as I mentioned

10   before, electric cars.

11   You say well, it's hard to use

12   NEMS to do, you know, the better price model

13   of electric cars. But you're asked to do all

14   of these kinds of things. So I think market

15   segmentation might be good.

16   And I always come back and I know

17   you've heard this before, but here again, Mike

18   did a very good job of arguing for modularity.

19   That you might be able to prune it down to

20   three, four, five, six categories. I had a

21   list of three.

22   He had a list of six or seven that

1   I think, you know, you could probably refine

2   it. But boy, for off the top of your head,

3   that was a pretty good one.

4   And then you -- but are we really

5   -- just because it's just design phase and not

6   implementation phase, think through, as you do

7   on the NEMS documentation, all the linkages

8   with all the other modules and what those

9   would entail.

10   And how much you would be able to

11   do with the existing architecture, just for a

12   few specific examples that I think are hard

13   that I've thought a little bit about is on the

14   bio fuels because I've been through this with

15   the global models, kind of right in the middle

16   of the -- well, let's just put it bio fuels

17   technology in. Maybe we couple it to carbon

18   capture and sequestration. Boy, that could do

19   negative emissions. It wouldn't be cool.

20   So there actually was a bunch of

21   groups that put that out. Then the

22   negotiators wanted this to be kind of a main

1 scenario. And people said well, we didn't

2 really look at that. And who knows if there's

3 enough land to do this. And whether it's on

4 marginal lands, national park lands, or we're

5 taking ag land away from starving people in

6 the developing world.

7   So you will have to, at some

8 point, I think in doing this market

9 segmentation and modularity, think how to

10 confront some of those problems. But I think

11 if you get it down to five or six potential

12 main uses as opposed to all 70, I think that's

13 possible.

14   And there are kind of specific

15 things. The other one that I hadn't thought

16 about but should have is this Clean Air Act

17 amendment overlay when you're talking about

18 refineries and bio fuels and greenhouse gases.

19   The other big one on the biofuels

20 was if you're not careful, the way to get

21 stuff to grow fast in a small amount of land

22 is to dose it pretty heavily with nitrogen

 1   fertilizer, which produces nitrous oxide,

 2   which is almost a perfect substitute for

 3   carbon dioxide as a radiative-forcing agent.

 4   So -- actually when I think that

 5   community, you know well some of the people in

 6   the U.S. can help thinking about that. But

 7   the Clean Air Act probably -- I just -- don't

 8   ask me why I read the whole, you know,

 9   American Bar Association overhead on the Clean

10   Air Act and there is a lot of -- Mike probably

11   knows better than some other people here do --

12   things that are coming along.

13   But if you're talking about

14   refineries and citing refineries and what

15   constraints there might be on them and bio

16   fuels plants and I guess the other big one

17   that wasn't explicitly mentioned but it's

18   really prominent in the current projections of

19   liquid fuels is the non-conventionals. So I

20   guess I got from the last couple of meetings

21   that peak oil is kind of not completely out of

22   the cards for conventional oil, even a clean

 1   EIA, but the big issue is how much, I guess,

 2   tar sands are now heavy, heavy. Do I have

 3   that right? Heavy, heavy oil or heavy, heavy,

 4   heavy oil.

 5   All those categories, I just

 6   talked to somebody who was just up in Alberta

 7   and they're planning on exporting five-ten

 8   million barrels a day to the U.S.

 9   So I don't know what all -- I

10   think it just means to proceed along the path

11   that Andy described that Mike augmented. But

12   to do as much of this -- actually take some

13   lessons from marketing to do kind of even more

14   intense focus groups and I guess the one thing

15   that popped into my mind when Mike was

16   speaking was this idea of market segmentation,

17   that you could group this.

18   And I guess you already tried some

19   consolidation. But then I guess the next step

20   would be to kind of run that through a more

21   full preliminary design thing in terms of what

22   that is going to mean in terms of information

 1 from other modules, information provided to

 2 other modules, and so on.

 3   I know you hear this all the time

 4 but if this is one of the few times where I

 5 think you've really had the chance in the last

 6 10, 15 years anyway to rethink kind of the

 7 design at that level as opposed to improving

 8 one or another of the individual modules.

 9   MR. BROWN: One environmental

10 issue that John's comments just refreshed in

11 my mind is that the carbon content of some of

12 our imported liquids, such as the tar sands

13 oil from Canada, is a little bit different

14 than let's say domestically produced light

15 crudes.

16   And I know that's something that

17 the current NEMS model does not take into

18 account. We don't import any of the carbon

19 that -- you know, the carbon content that is

20 produced overseas, we don't import that so

21 that we don't actually get to see kind of the

22 net carbon contribution of our consumption

 1 activity.

 2   And that may be something that

 3 even if you don't want to answer, someone

 4 might want to have answered not too far down

 5 the road.

 6   MR. KOKKELENBERG: I'm simply

 7 going to underscore Steve's comment, to some

 8 extent here. Congress apparently has, and

 9 society has two objectives. One is to

10 minimize the importation of crude oil from the

11 Middle East or other unstable areas. And the

12 other is carbon dioxide control.

13   And the models and the development

14 I'm sure are serving both of those. But those

15 two aspects are probably going to be the ones

16 where you get questions in the near-term

17 future anyway.

18   And so issues like Steve just

19 pointed out about the carbon content of

20 various sources as well as the BTU content and

21 -- because bio fuels might be great for crude

22 oil substitute. But they certainly are no

1 panacea for carbon dioxide.

2   DR. BLAIR: Other comments?

3 Questions?

4   (No response.)

5   DR. BLAIR: Did anybody in the

6 audience want to make a comment or question on

7 this subject?

8   Going once -- Andy, did you want

9 to say anything?

10   MR. SCHAAL: I'm Michael Schaal.

11 I'm the Director of the Oil and Gas Division

12 within Integrated Analysis and Forecasting.

13 And I very much appreciate your comments and

14 suggestions that I've heard here today.

15   And I'd like to underline one

16 issue that I think comes out of the

17 discussions here, one of which is this is an

18 excellent opportunity to take what we have and

19 make it simple within the context of what we

20 want to do in terms of policy analysis.

21   But also towards the end of this

22 conversation, I'm struck by the number of

 1   issues that are new and arising that are

 2   potentially complex and have a degree of

 3   uncertainty which come in to some conflict

 4   with the idea of keeping the modeling approach

 5   simple.

 6   So I think that's one of the key

 7   tension points that we're going to face in

 8   discussing what this new module looks like

 9   going forward. And I think that's one of the

10   observations that I get out of observing the

11   conversation and the feedback that we've

12   gotten here today.

13   Thank you.

14   MR. TOMAN: Just a -- I think you

15   make a very good point. So maybe five seconds

16   on that.

17   To the extent that you have the

18   ability to modularize so that a lot of

19   uncertainties can be dealt with in a satellite

20   place and then pretty simple representations

21   of what is driving policy get brought in, it

22   seems like you sort of -- you know, you build

1   some flood walls to prevent uncertainty in one

2   place from swamping you in another place.

3   So I was thinking when I made my

4   first comments about that kind of modularity

5   in addition to, you know, modularity just in

6   terms of technology or fuel price.

7   DR. BLAIR: Andy?

8   MR. KYDES: Just a minor response

9   here.

10   The low carbon fuel standard is

11 going to require the full life cycle analysis

12 that you're talking about with regard to tar

13 sands.

14   For example, and that's one of the

15 items -- that's one of the policies that I

16 think we have to be able to incorporate within

17 the new structure, in fact, we'll probably

18 have to do it before the new structure because

19 I think that there's a legislation that is

20 coming along that we are going to be asked to

21 evaluate.

22   And that legislation is the Waxman

 1   Bill, which has that among three other items.

 2   And so I agree with you that that's, in fact,

 3   one of the capabilities we're going to have to

 4   build into the model when we're designing and

 5   building it. So I think that's a very good

 6   suggestion.

 7   MR. TOMAN: So, Andy, on that

 8   point, is there a thought to have Argonne redo

 9   the GREET model or somebody else redo

10   something like that? A new round of analysis?

11   Some life cycle carbon calculations?

12   MR. KYDES: We may do that. The

13   only reason I'm hedging is because of the fact

14   that you're too early in the process to be

15   able to identify, you know, what needs to be

16   done. But I think if it is a necessary part

17   of what we need to do, then we'll be doing it.

18   MR. TOMAN: Okay. Well, maybe

19   this is a side point to the main discussion

20   and it's just one person's opinion but I think

21   that the GREET results need to be freshened up

22   and tightened up. I think it is important if

 1 we're going to go down the road of trying to

 2 do the life cycle carbon calcs for the reasons

 3 you and Steve mentioned, to take a free look

 4 at the measurement of that.

 5   I think there's been a lot learned

 6 since those calculations were done. And it

 7 would be a good time to freshen that up.

 8   MR. WEYANT: Actually back to your

 9 other point though, which I think is

10 generalizable, is I think that using that and

11 other life cycle cost systems and getting as

12 much as you possibly can out of that in

13 looking at how you might be able to graft

14 those as sources of inputs and destinations

15 for outputs would be a good idea.

16   I guess one think I implied before

17 is you could use the kind of global integrated

18 assessment models as a source of insights

19 about, you know, international trade and land

20 use change and things like that. Again, it's

21 maintaining the ability to deal with

22 complexity but not making it part of the core

 1 modeling system if I interpreted that

 2 correctly.

 3   So that's generalizable. So this

 4 specific Greek case, which is, you know, a

 5 good start at start at that. I know there are

 6 tree or four groups that have tied to do that,

 7 none of which I actually think are completely

 8 up to date.

 9   But then you could actually

10 leverage off them and get them to update their

11 thing and take advantage of that rather than

12 trying to do the whole enchilada.

13   So we're trying to coordinate

14 socioeconomic modeling with the climate models

15 for the next quasi-IPPC round so one issue is

16 land use. Land use submissions, greenhouse

17 gases, mitigation, projections, all that

18 stuff.

19   So I naively thought about 15, 16

20 months ago that one group or the other kind of

21 had this virtually figured out, how do to land

22 use. So we had a meeting. It was actually

1   back here a year ago February. And the

2   conclusion was neither side really knew what

3   the heck they were doing.

4   So fortunately there were a couple

5   of land use experts there and said well, we've

6   been working on this. And we're not really

7   sure. But if we work together for a while, we

8   might be able to come up with some reasonable

9   numbers.

10   So the prescription there for this

11 broad a initiative is just to figure out a few

12 groups you could leverage off of to provide

13 detailed information that might cover some of

14 the complexities that will relieve you of the

15 responsibility of doing all that complexity in

16 one single model.

17   And then, you know, if you really

18 don't like their module at the end, the other

19 alternative, which Mike kind of touched on, is

20 just like you could have a really detailed

21 refinery model and do reduced form kind of

22 vectors or surfaces from that.

 1   You explicitly mentioned this at

 2 one point. You could actually build your own,

 3 you know, complex life cycle cosmos that you

 4 like better but that doesn't mean that that

 5 has to reside as a, you know, hard-wired

 6 module in the model.

 7   You could then take -- I guess I'm

 8 still in OR -- I hardly can take kind of

 9 extreme points in vectors out of that. You

10 know this is part of that.

11   MR. KYDES: This is, in fact, one

12 of the options I think that should or could

13 come out of the technical workshop. In fact,

14 it is one of the options that we considered.

15   The plus side is that you have

16 presumably a very, very good detailed refinery

17 model that has lots of different levels of

18 complexity for the refineries that you can

19 then run through and test out.

20   And then, of course, there are a

21 well-known number of different ways to be able

22 to generate a pseudo model or small model that

 1   represents it. The problem is that then you

 2   have to maintain essentially the large model

 3   and then make sure that the algorithms work.

 4   And so then when you get some

 5   silliness, you have to then figure out what to

 6   do about it.

 7   MR. WEYANT: Yes, it's not kind of

 8   throwing the information over the fence and

 9   forgetting about it. And then if they update

10   it, you want to update it. It would be nice

11   to have somebody else do that. But --

12   MR. KYDES: Right. Well, I agree.

13   I think that is potentially a very good option

14   if we could find somebody who has a very good

15   model that we could use in that regard.

16   I wanted to mention one of the

17   things in the white paper that we will be

18   sending out to this technical group,

19   discussants and authors, we'll have a section

20   that identifies the information required by

21   the rest of the NEMS --

22   MR. WEYANT: So it's just parallel

 1   to the current NEMS document?

 2   MR. KYDES: To the current, yes.

 3   MR. WEYANT: That's great.

 4   MR. KYDES: And then it will also

 5   identify the information the LFM model

 6   requires from other sources, not only from the

 7   rest of NEMS but from the IEO component as

 8   well --

 9   MR. WEYANT: That's great.

10   MR. KYDES: -- the international

11   component. Okay. So I think many of the

12   suggestions you've made, in fact probably all

13   of them with one exception, I think we agree

14   with. At least I personally agree with.

15   MR. WEYANT: Which ones didn't you

16   agree?

17   (Laughter.)

18   MR. KYDES: Forward looking, I

19   agree with how you formed that is really the

20   problem.

21   MR. WEYANT: It was his

22   suggestion. So Don will tell you how to do

 1 it.

 2   MR. KYDES: And fundamentally, I

 3 do believe that every decision that you make

 4 that has to do with opportunity, the question

 5 is how you formulate that so that it actually

 6 simulates it.

 7   MR. BROWN: But the only

 8 information they have, of course, is from the

 9 past.

10   MR. WEYANT: Well, not the

11 procedures. I guess I was hoping there might

12 be a way to do kind of what is done in the

13 electric utility sector. To look at some

14 simple way for people who making these big

15 investments in refineries or bio fuel plants

16 to have some maybe simplistic way of -- yes,

17 I definitely believe a 30-year foresight

18 alone, both the primo and deal path is a

19 little bit -- it's kind of like well, the

20 stock market didn't work last year so --

21   But I think from the business

22 people I know, which is probably less than

1 you're exposed to, that, you know, some kind

2 of, you know, three-, four-, five-year trend

3 extrapolation or, you know, a STEO, somebody

4 who looks at STEO, you know, a few years out

5 into the future.

6   What we're finding on the consumer

7 demand side is most people who make energy

8 efficiency investments either don't look out

9 at all -- you can actually do this by simple

10 questionnaires -- even the auto industry has

11 this thing -- that even the people who do only

12 go about three years. Three, maybe four at

13 the outside.

14   So nobody actually does life cycle

15 costs. Now that suggests a whole different

16 set of policies you might or might not be

17 willing to do. And some complicated Welker

18 economics. That's another question.

19   But just it's something other than

20 using current conditions as future --

21   MR. KYDES: Absolutely.

22   MR. WEYANT: -- like it's done in

1   the electric sector. So I was -- I think Mike

2   responded correctly.

3   MR. KYDES: I have to agree.

4   Myopic expectations are wrong.

5   MR. WEYANT: But which is more

6   unrealistic? Completely myopic or 30-year,

7   50-year foresight?

8   MR. KYDES: I don't know the

9   answer to that.

10   MR. WEYANT: It's a fool's game to

11 actually even ask that question. So I think

12 you get it.

13   MR. KYDES: Yes. I do appreciate

14 the Committee's recommendations. I know many

15 of you and I appreciate meeting you again.

16   DR. BLAIR: And I'd particularly

17 like to thank Mike for his work in

18 coordinating this and giving the response.

19   MR. TOMAN: It was a labor of

20 love.

21   DR. BLAIR: That brings us to

22 Committee suggestions for topics or dates --

1 and/or dates for the fall 2009 meeting.

2   MS. BROWN: I have the dates,

3 potential dates, just to make your job easier

4 here. I looked in my trusty little

5 Blackberry. If we keep it Thursday and

6 Friday, I assume that's probably what people

7 prefer.

8   And we'll still -- unless I hear

9 differently and Ed and I discuss differently -

10 - we'll go with the day-and-a-half format.

11 There's five potential dates. October --

12 first, second, eighth, ninth, 15th, 16th,

13 22nd, 23rd, 29th, and 30th. So there are five

14 dates.

15   I don't know if anybody has any

16 preferences. But those are the five

17 Thursday/Friday dates.

18   (Off-mic comment.)

19   MS. BROWN: I'm sorry. I'm

20 missing this.

21   MR. TOMAN: I was asking John if

22 there was anything we already knew on the

 1   calendar due to the climate change

 2   negotiations where at least he may be yanked

 3   out of the country.

 4   MR. WEYANT: It all peaks at the

 5   end of the year in Copenhagen. So there's

 6   supposedly -- nobody really has anything

 7   scheduled.

 8   MS. BROWN: So is earlier in

 9   October better than later?

10   MR. WEYANT: Probably, yes. I

11   just -- the other thought I had is just to

12   pick some dates and I can probably defend

13   them.

14   MS. BROWN: Well, why don't we go

15   with the first and second? How is that? Want

16   me to get it on your calendar?

17   MR. WEYANT: Yes.

18   MS. BROWN: You know, we'll kick

19   it around here at the EIA to make sure that

20   there's no conflicts here. I haven't looked

21   that up. But let's all tentatively go with

22   the first and the second.

 1   MR. TOMAN: The first day of your

 2   new fiscal year. And that's okay?

 3   MS. BROWN: Yes, there you go.

 4   MR. TOMAN: You'll be able to

 5   cover travel expenses the first day of the

 6   fiscal year.

 7   DR. BLAIR: How about topics for

 8   the next meeting?

 9   MR. BROWN: One topic that I want

10   to raise, and I don't want to discuss it in

11   great detail today, is whether this Committee

12   ought to remain affiliated with the ASA. I

13   actually found Ron's remarks to be out of

14   touch and defensive. And I think they provide

15   a terrible service on travel.

16   And, you know, in keeping us

17   informed even of the dates when I was a new

18   member. And I got much better service on

19   National Academy panels that I've been on.

20   And I don't know what the cost is, ASA versus

21   National Academy panels. But --

22   MS. KIRKENDALL: It's a lot more.

 1   MR. BROWN: They're a lot more?

 2   MS. KIRKENDALL: Yes.

 3   MR. BROWN: Okay.

 4   MS. BROWN: Maybe you and I and Ed

 5   can talk about what it is that you don't like

 6   about it. And we can work through ASA to try

 7   to improve what the process is.

 8   MR. BROWN: Okay.

 9   MR. KOKKELENBERG: Can I join in

10   on this? I think that Steve is right. The

11   support that ASA has -- and years ago the

12   support that they gave this panel was very

13   much at arms' length, which didn't bother me

14   so much. But if it is impeding the work of

15   the panel or making it difficult to do

16   planning, maybe those are issues we can

17   address with ASA.

18   Alternatively, there may be other

19   affiliations that might make more sense. And

20   I think it is a good idea to at least think

21   about this problem.

22   MS. BROWN: I think this is

 1 something we have to think about internally at

 2 EIA.

 3   MR. KOKKELENBERG: Oh, yes.

 4   MS. BROWN: And I will bring this

 5 up with the other senior management here about

 6 your concerns. But it's not a decision --

 7   MS. BROWN: No.

 8   MS. KIRKENDALL: -- that I think

 9 the Committee should be making. This is

10 probably an EIA decision, okay?

11   MS. BROWN: Probably. We offer

12 you some kind of cover with the ASA emblem,

13 right?

14   MS. KIRKENDALL: Yes.

15   MS. BROWN: The seal of approval.

16 And without that, it has to be somebody who is

17 equivalent like the National Academy. And

18 they may not want to touch us.

19   MS. BROWN: That's not what ASA

20 gets to do this.

21   MR. KOKKELENBERG: Pardon?

22   MS. KIRKENDALL: They wouldn't

 1   touch it for the amount of money that ASA gets

 2   to do this.

 3   MR. KOKKELENBERG: Well, that may

 4   be a good reason to stay with ASA.

 5   MS. KIRKENDALL: Oh, I don't think

 6   he was really complaining. I think he was

 7   offering alternatives.

 8   MR. BROWN: Well, he actually

 9   suggested that we stop being affiliated with

10   EIA, which is odd because I mean it is sort of

11   like to me we'd be more affiliated with EIA

12   than ASA.

13   MS. KIRKENDALL: Well, and see

14   it's -- this has always been kind of funny.

15   I was on the ASA Committee on Committees that

16   he talked about at one time. At one time the

17   Board of Directors of ASA actually considered

18   getting rid of this committee until I pointed

19   out that there was a grant that came into ASA

20   that they might like to keep.

21   It's just people -- you know, it's

22   kind of a funny committee from the point of

1   view of ASA. And they're happy to continue

2   it. But we really just don't fit the mold.

3   They've been quite adaptable in

4   many ways. They don't require that everybody

5   be members which is great because most of you

6   aren't members. None of the modelers are

7   probably. I mean --

8   MR. WEYANT: I used to be. I used

9   to be. I'm actually not sure if I am.

10   MR. KOKKELENBERG: Well, that can

11   be readily enforced. Ed can say look, we want

12   to hire Stephanie to be a member of the

13   committee but we'd like you to become a member

14   of the ASA.

15   MS. BROWN: But they didn't

16   require that. But when I solicited new people

17   for the committee, that wasn't the deal

18   breaker. Being a member of the committee is

19   not a deal breaker.

20   MR. WEYANT: Well, it was when I

21   was chair. It was a deal breaker. I just

22   said very strongly you will become a member of

1 ASA. I mean big deal. What's so hard about

2 that?

3   But the point I think that Steve

4 is right. ASA, at least in Ron's remarks,

5 sounded like they were woefully out of touch

6 with this committee.

7   DR. BLAIR: Well, let me try to

8 move into topics.

9   MR. WEYANT: I guess in general it

10 will be interesting because I know there is

11 now a plan at EIA to do this NEM model. So it

12 would be useful. I guess I personally

13 wouldn't want to do things that were totally

14 off that track.

15   But the three big things I see --

16 and this is partly just what I'm concerned

17 about right now and also the new

18 Administration -- would be things like

19 behavior on the demand side, kind of energy

20 efficiency behavior.

21   Or maybe something even more

22 pragmatic like the stimulus stuff. I still

 1 think I would rather have the Administration

 2 come talk to EIA and a couple of other groups

 3 that actually have looked at these sectors,

 4 about where to park all that money.

 5   I don't know if that's beneath the

 6 modeling level or even based on NEMS runs, you

 7 could do subsidies and stuff right within the

 8 current structure.

 9   And the third one with Steve Chu

10 and John Holderman around would be kind of

11 advanced energy technology assessment and

12 things. At least thinking that through.

13   I guess is the -- what's the

14 status of the horizon for the models now?

15 That NEM is going to go out to 2030 or any --

16 if you're going to do climate stuff, you

17 probably have to have 2050 even for the

18 current bill?

19   (Off-mic comment.)

20   MR. WEYANT: For the AEO? But if

21 you were asked to do a McCain Lieberman Boxer

22 make up your names, do they let you just use

 1 the current version of NEMS? Or do they try

 2 to get you to extend it out?

 3   These are just ideas but those are

 4 the three that I like.

 5   MS. BROWN: John --

 6   MR. CONTI: Well, I'll try and

 7 address some of John's questions.

 8   MS. BROWN: Just speak loud.

 9   MR. CONTI: First of all, as you

10 know, as part of the EMF, when it comes to all

11 of the modelers around in terms of the end-use

12 models, we typically have more information

13 than anybody else. So we're not going to get

14 a lot of insight from anybody in terms of how

15 subsidies or legislation is done.

16   MR. WEYANT: No, but I was talking

17 about you guys providing insights to the

18 people putting together the stimulus money.

19   MR. CONTI: And we do.

20   MR. WEYANT: You do?

21   MR. CONTI: And we do, and we do.

22 One way or another, we do.

 1   And when it comes to how stimulus

 2   money is spent at least within the Department,

 3   we're pretty much in touch with that. A lot

 4   of times, it is very hard to connect the

 5   expenditures with how they actually will

 6   effect reductions in energy use. And I'm sure

 7   -- you know, that's a constant struggle.

 8   I'd like to have some distinction

 9   between the National Energy Model and our

10   current National Energy Modeling System. We

11   are certainly updating a number of our modules

12   in the current system. And we might assume

13   them lock, stock, and barrel in a new National

14   Energy Model.

15   But what we have today is not what

16   is going to be a National Energy Model. We

17   are definitely rethinking the whole structure.

18   MR. WEYANT: Is there one after

19   the liquid fuels that is next in the queue so

20   far? Or is that still in debate?

21   MR. CONTI: Well, I guess the

22   first one in the queue is the OLOGS model.

1   And we're starting to implement that now for

2   the upcoming AEO.

3   And then there's the liquid fuels

4   module. And we really haven't gotten past

5   that because we have to deal with a lot of --

6   first of all, in spite of thinking we had the

7   money, we never really had the money -- we

8   didn't start receiving some of these funds up

9   until a week ago. We actually don't even have

10 it yet. They said that we had but we really

11 still don't have it.

12   MS. BROWN: We really haven't see

13 it.

14   MR. CONTI: They said yes, you

15 have the money but it's not really in your

16 accounts yet. So we really don't have the

17 money.

18   And then we've run into some

19 procurement issues as to what we could do with

20 this money. And I'm sure you guys -- a lot of

21 you are familiar with how to try and do

22 contracts within the federal government.

 1   But I do foresee us doing a new

 2   National Energy Model. And Howard keeps on

 3   mentioning it even though we never really have

 4   the personnel that are devoted to doing it,

 5   which I think is absolutely required.

 6   And you might be able to help us

 7   sort of at a very high level saying, okay, if

 8   you're going to do a new National Energy

 9   Model, at the module level, I'm very

10   comfortable that we have a lot of experts that

11   know how to model individual sectors very

12   well.

13   I think maybe what we don't have

14   is some of that insight at the very highest

15   level of putting together this as a system.

16   And start thinking of it from even maybe from

17   different computer-type of platforms or

18   computer-type of systems that might, you know,

19   make it easier to maintain and to use because

20   that's what -- our current system is

21   ultimately flexible. But you pay a big price

22   for that.

 1   You know it's not particularly

 2   easy to use. But we can do just about

 3   anything that anyone asks us to do with it,

 4   given enough time.

 5   MR. WEYANT: Well, again, is that

 6   a possible -- maybe it takes three months to

 7   decide this -- a possible agenda item? Where

 8   you guys could say here's what we're thinking.

 9   What do you think? Is that too early? Too

10   late? Just, you know --

11   MR. CONTI: No, I don't think it

12   is too late to start thinking about it. I

13   think we really do -- and we do need to start

14   at the high level and figure out, you know,

15   where they might connect.

16   Yes, Mike?

17   MR. TOMAN: Well, John, I hear

18   your points clearly enough. I'm still not

19   clear though on one, which is John Weyant's

20   suggestion that since I understand, I just

21   found this out at the break, that you'll be

22   doing another round on AEO sort of to look at

1   the stimulus packages as they go through?

2   MR. CONTI: We will not be doing

3   another round of the AEO. We will, as a part

4   of any service request that is forthcoming, we

5   will update our reference case assumptions.

6   MR. TOMAN: Okay.

7   MR. CONTI: And they will include

8   a representation of the stimulus package.

9   MR. TOMAN: I thought you already

10   had a service request in hand that was going

11   to be asking you to do another round of

12   outputs.

13   MR. CONTI: We do have one -- yes,

14   we do have one in hand.

15   MR. TOMAN: Okay.

16   MR. CONTI: But we're not -- I'd

17   like to differentiate between a full AEO --

18   MR. TOMAN: No, I agree. I was --

19   MR. CONTI: Yes, we'll update the

20   reference case. And we'll update a number of

21   parameters.

22   MR. TOMAN: Okay.

 1   MR. CONTI: We're not going to

 2   update all of the parameters we do annually

 3   because first of all, a lot of that data is

 4   not even available.

 5   MR. TOMAN: Since at least for a

 6   long time it seems, we've talked about the way

 7   that different macro level influences effect

 8   energy and how energy effects macro level

 9   issues, and you're going to be doing this

10   service report. Does it makes sense?

11   I would say I agree with John

12   Weyant. I would like to see something about

13   the energy economy, public expenditure linkage

14   be on the agenda in the fall.

15   I'd like to hear more about what

16   you were having to do with the service report,

17   compliance, and what issues that raised. And

18   is there anything the Committee can do to be,

19   you know, helpful in exploring things that are

20   tough or endorsing what you're doing. Is that

21   totally off map for you?

22   MR. CONTI: No, we sort of touched

1 on this the other day. There was another

2 comment that came up yesterday morning. And

3 looking at -- or maybe it was at lunch -- in

4 terms of the interaction with the economy,

5 most of you know we use the -- now the IHS

6 Global Insight model. First it was DRI, then

7 it was WEFA DRI. Then it was Global Insight.

8 And now it is IHS Global. IHS, I think, is

9 beginning to own most of the energy consulting

10 industry in the United States.

11   And so that's the model we use.

12 So in terms of how -- what are the

13 interactions between the energy and the macro,

14 it is the interactions between NEMS and the

15 Global Insight model.

16   Now we can certainly look at that

17 a bit. I don't think we have alternatives to

18 that connection in any type of a near-term

19 framework. Maybe, you know, if you want to

20 start looking at it today to see what you

21 might be able to do in a NEMS development

22 setting --

1   MR. TOMAN: I think given the

2 current debate, I mentioned that. But I'd

3 actually be more interested in the other

4 direction. We have some share of the 800

5 billion that's going into energy-related

6 activities. I know you know how much that is

7 and how it will be spent.

8   MR. CONTI: Right.

9   MR. TOMAN: But what effect it has

10 on the larger economy does seem to be very

11 interesting as well as estimates that are made

12 from it about, you know, how this will change

13 long run as well as short run carbon

14 trajectories.

15   MR. CONTI: Right.

16   MR. WEYANT: Just how you do it

17 would be an interesting starting point.

18   MR. CONTI: Well, you know, in

19 that case --

20   MR. WEYANT: It's going to be

21 better than anything else.

22   MR. CONTI: -- in that case -- but

 1   I think most of that is done internally to the

 2   Global Insight model. We certainly have the

 3   energy component of how that effects the

 4   energy sector. But in terms of how it effects

 5   the whole U.S. sector, I don't think EIA is an

 6   expert in how --

 7   MR. WEYANT: Would it be totally

 8   out of bounds to ask them to come talk to this

 9   group?

10   MS. FORSYTH: We talked about

11   this. Didn't Stephanie talk about it

12   yesterday as bringing in outside speakers?

13   MR. WEYANT: Could that be done?

14   MR. CONTI: We could explore that,

15   I think.

16   DR. BLAIR: We can certainly take

17   it as a suggestion for a topic.

18   MS. BROWN: Why don't John and I

19   work together over the next, you know, couple

20   of weeks to see what we can do. I think

21   you've got a sense of what it is they'd like

22   to see. Who would do it is -- you know,

 1   bringing in someone from outside -- this is

 2   the forum to bring in people from outside. So

 3   that's fine if we can do it.

 4   MR. CONTI: We can discuss it.

 5   MS. BROWN: Okay.

 6   DR. BLAIR: Any other suggested

 7   topics?

 8   MR. KOKKELENBERG: Yes, something

 9   I've mentioned in different ways. The

10   policies are changing and they're changing

11   fairly rapidly. And the economics last year

12   was a really shocking set of changes in prices

13   among other things.

14   The ability of the agency to move

15   rapidly and address questions like the

16   Senators provided and like the ones that Mike

17   and John were just talking about is well,

18   okay, how are things going to interact, is an

19   issue that is bothering me.

20   How -- could the department

21   consider -- could the agency consider how --

22   what are the bottlenecks of making it fleet of

1   foot to be responsive and adjust things? I

2   mean the stimulus is known, to some extent.

3   And the AEO that was just published is totally

4   out of date. Well, that happens.

5   How fast does it take them to

6   respond? And is there ways to make that

7   response faster? To make the agency more

8   relevant to the people who are asking it

9   questions, whether they be Congress or the

10   public?

11   That would be a topic -- I would

12   have no way --

13   MS. KIRKENDALL: Are you talking

14   about the forecasting piece or the data piece?

15   MR. KOKKELENBERG: Either -- both

16   -- I don't care.

17   MS. KIRKENDALL: I think the data

18   piece actually keeps up pretty well.

19   MR. KOKKELENBERG: All right.

20   Then the forecasting piece or the implications

21   piece. The data piece might keep up well but

22   the first session I came to, years ago you

 1 were presenting how we were trying to make the

 2 data au currant by essentially using time

 3 series analysis of past data because we had no

 4 idea what was happening right now.

 5   MS. KIRKENDALL: They do use that

 6 for some imputations. But they also have real

 7 survey data that come in at that same time.

 8   MR. KOKKELENBERG: No, I

 9 understand that. I'm saying maybe this is a

10 topic for next session, okay.

11   Then I have one other one that is

12 interrelated again to John and Mike. If there

13 is going to be pressure on carbon issues,

14 there's going to be questions about nuclear.

15 And I don't think the Committee has looked at

16 nuclear for some times.

17   Years ago, there was a question

18 about capacity utilization rates in nuclear

19 power plants. And there were studies that the

20 Committee did or ancillary groups did about --

21   MR. WEYANT: Life extensions.

22   MR. KOKKELENBERG: Yes, life

 1   extensions. And is there a statistical or

 2   modeling issue there that the Committee might

 3   be useful to the agency on? Maybe next time,

 4   maybe a year from now? That's the issue

 5   there.

 6   MS. BROWN: Okay.

 7   DR. BLAIR: Barb?

 8   MS. FORSYTH: I heard in a lot of

 9   different talks this time questions about

10   assessing uncertainty. And I'm wondering if

11   there is an interest in either talking about

12   standard approaches that EIA uses to assess

13   uncertainty or to present uncertainty

14   information to users.

15   And I'm also wondering whether

16   there's a need to educate users about

17   uncertainties. So kind of a -- I don't know

18   if there is a general interest in that. But

19   it sounds like there are very different

20   estimation contexts.

21   And the specifics of the

22   approaches could be very different. But maybe

 1   there is a framework.

 2   MR. BROWN: One thing that I think

 3   would be helpful both to the EIA and the

 4   Committee would be to have sort of a plan on

 5   presenting one part of the STEO every time.

 6   And give us a chance to look at, you know, and

 7   actually kind of have a list of where we're

 8   headed in terms of the STEO.

 9   Because I know in some cases, some

10   of the STEO stuff is legacy rather than, you

11   know, being pretty current. Some of it is

12   pretty current. And it would be good to know

13   kind of where the STEO stands and what pieces,

14   you know, might need a little bit more work,

15   et cetera.

16   MS. BROWN: One from me? Just in

17   line with one of the things that Ron had

18   mentioned and we talked about yesterday.

19   If you have work that you are

20   doing related to the work that we do, and some

21   of you think that's a stretch because you are

22   sampler or in industry or whatever, but I

 1 think if you really think about it, there

 2 probably are things that you have that are

 3 relevant to what we do.

 4   And if you want to talk to us

 5 about what it is that you're doing, that would

 6 be very valuable to us.

 7   And I think, John, you mentioned

 8 that you have a graduate student working on

 9 something with NEMS?

10   MR. WEYANT: I have a bunch of

11 them.

12   MS. BROWN: A bunch of them. I

13 mean if you wanted to maybe bring them in or

14 one of them in to summarize to us what they're

15 doing, I think the NEMS groups might be

16 interested in seeing what graduate students

17 are working on. That's always a fresh

18 approach.

19   MR. WEYANT: Sure.

20   MS. BROWN: So I want each of you,

21 if you wouldn't mind, to be thinking about

22 that. If you are working on something, please

1 contact either Ed or myself and let us know

2 what it is so we can get it on the agenda.

3   DR. BLAIR: Nancy?

4   MS. KIRKENDALL: Steve Harvey

5 talked about the two new initiatives to

6 evaluate the Petroleum Statistics Report and

7 the Natural Gas Monthly. And I think that a

8 number of us on the Committee will be real

9 interested in that.

10   MS. BROWN: Actually there will be

11 follow ups on a couple of the items. That's

12 one of them. And Steve had mentioned in his

13 presentation that he'll be doing more in the

14 fall.

15   I would guess that the liquid

16 fuels, you might be doing an update on what

17 you find from your workshop? I don't know.

18 We'll have to talk about it.

19   But I think there are some natural

20 add ons. And the other thing that I hope that

21 we'll implement is -- I don't remember -- it

22 was either Izzy or Vince that suggested the

1   spreadsheet that talks about what the

2   recommendations are from the Committee so we

3   can follow up on what we've done.

4   MR. WEYANT: And the other one

5   like that was the Coal Group -- I think

6   Phillip and others said that they might -- I

7   don't know if it's next time or the time

8   after, just that one way to think about it is

9   it was mostly focused on supply and not on

10 transportation.

11   So if there is new work on

12 transportation bottlenecks, that could be a

13 good one.

14   MS. BROWN: I'm sure Phillip and

15 Jason will be interested in talking more about

16 where they're going with their work. That

17 will be good.

18   MR. TSENG: Yes, actually for the

19 coal, we do have a very rich dataset. We have

20 the distribution information as well for each

21 year. So we'll be looking into the

22 transportation part.

 1   And we probably can provide kind

 2   of maybe two papers. One is addressing some

 3   of the issues we presented this time and we

 4   got feedback. And the other part is if we

 5   have the transportation information, who do we

 6   present it in a modeling framework so we can

 7   actually simulate effect of different

 8   transportation bottlenecks on coal production

 9   and consumption.

10   I have one more comment, kind of

11   going back to Mike's comment about the

12   stimulus package. It is related to, I think

13   it's energy technology assessment because I

14   know for sure the energy efficiency in the

15   Renewable Energy Office, the Biomass Program

16   receive 800 million dollars additional money

17   besides their regular budget.

18   And so the question will be what's

19   the new tact on technical progress. And

20   that's going to be a very challenging issue.

21   But if it accelerates the technology,

22   development, and the penetration, I think in

 1   a modeling framework, that's almost like

 2   another challenge for EIA.

 3   MR. TOMAN: Phil?

 4   MR. TSENG: Yes?

 5   MR. TOMAN: When you do the AEO,

 6   you have --

 7   MR. TSENG: No, I don't do that

 8   AEO.

 9   MR. TOMAN: -- no when the agency

10   does the AEO, it has -- I forget what it is

11   called -- the high technology, the more rapid

12   technical advance scenarios, things of that

13   type -- would it be possible in that set up

14   since, you know, not in my lifetime are we

15   ever going to have a good equation that

16   relates expenditures to research outcomes --

17   can you essentially study the question you

18   just posed by, you know, what if it

19   accelerates, you know, this much, is it

20   possible to get definition of a few key

21   scenarios that would allow that kind, you

22   know, of exploration? And it's still going to

 1   be a judgment call ultimately for the decision

 2   makers.

 3   MR. TSENG: I'm not in a position

 4   to answer that.

 5   MS. BROWN: But John --

 6   MR. CONTI: I think I want to

 7   answer it definitely in the sense that the

 8   GPRA analysis or the analysis that the

 9   specific programs do should do exactly that.

10   I was in a meeting yesterday -

11   MR. TOMAN: That's true.

12   MR. CONTI: -- where we were

13   talking about how we are going to evaluate

14   this because they're going to get, like he

15   says, you know, a few hundred million there,

16   a couple of billion here.

17   And they have to figure out how

18   that will increase, you know, the

19   effectiveness of their programs. And so I

20   don't want EIA to really do it. If they had -

21   - if they come out with a report that says as

22   a result of this, it is going to advance, you

 1 know, the technology two years. Then we could

 2 clearly run a scenario that does that.

 3   We might include it in our op tech

 4 co-authorization.

 5   MR. TOMAN: Right. No, that's not

 6 inconsistent, John, with what I was saying.

 7   MR. CONTI: Yes.

 8   MR. TOMAN: It's not that you

 9 would have to take ownership of the two years,

10 five years, whatever. But you work with the

11 relevant lab and others to, you know, have

12 them tell you well, we think it could be this

13 or this. And then you could look at each set

14 of consequences.

15   MR. CONTI: And I think we do try

16 and do that. The problem is we get into the

17 number of technologies modeled in NEMS. And

18 so we package them all up and we put them into

19 one scenario.

20   What you're suggesting is you want

21 to look at them sort of one-off. I don't

22 think we have --

 1   MR. TOMAN: At least a few.

 2   MR. CONTI: Who gets to determine

 3   which --

 4   MR. TOMAN: Mr. Chu, Mr.

 5   Secretary.

 6   DR. BLAIR: Any other suggested

 7   topics?

 8   (No response.)

 9   DR. BLAIR: We'll invite public

10   comment at this time. Would anybody from the

11   public care to make a comment?

12   MR. CONTI: I'll reiterate one

13   thing I said yesterday. Three-quarters of our

14   budget or more is spent on the data programs.

15   And we spend a lot of time in these meetings

16   talking about the analysis and modeling.

17   DR. BLAIR: Any other comments?

18   (No response.)

19   DR. BLAIR: We stand adjourned.

20   Thank you.

21   (Whereupon, the above-entitled

22   meeting was concluded at 12:26 p.m.)

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