

1 ILLINOIS POLLUTION CONTROL BOARD

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3 IN THE MATTER OF:)
4 PROPOSED NEW CAIR SO2,)
5 CAIR NOX ANNUAL AND CAIR) R06-26
6 NOX OZONE SEASON TRADING) (Rulemaking-Air)
7 PROGRAMS, 35 ILL. ADM.)
8 CODE 225, CONTROL OF)
9 EMISSIONS FROM LARGE)
10 COMBUSTION SOURCES,)
11 SUBPARTS A, C, D and E)

8

9 TRANSCRIPT OF PROCEEDINGS held in the
10 above-entitled cause before Hearing Officer
11 John Knittle, called by the Illinois Pollution
12 Control Board, pursuant to notice, taken before
13 Julia A. Bauer, CSR, RPR, notary public within and
14 for the County of Cook and State of Illinois, at
15 James R. Thompson Center, Room 2-025, Chicago,
16 Illinois, commencing at the hour of 1:00, on the
17 28th day of November, A.D., 2006.

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1 A P P E A R A N C E S:

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ILLINOIS POLLUTION CONTROL BOARD:

3 Mr. John Knittle, Hearing Officer
4 Mr. Anand Rao, Senior Environmental Scientist
5 Mr. Thomas E. Johnson, Board Member
6 Ms. Andrea S. Moore, Board Member
7 Mr. G. Tanner Girard, Actin Chairman

6

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

7 Ms. Rachel Doctors
8 Mr. John J. Kim
9 Mr. Ross Cooper
10 Mr. James Ross
11 Mr. Robert J. Kaleel
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L.A. REPORTING (312) 419-9292

1 A P P E A R A N C E S: (Continued)

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1 THE HEARING OFFICER: My name is John
2 Knittle. I'm the hearing officer for this
3 rulemaking proceeding, which is R06-26. Proposed
4 New CAIR SO2, NOX Annual and CAIR NOX Ozone Season
5 Trading Programs, 35 Illinois Administrative Code
6 225, Control of Emissions From Large Combustion
7 Sources, Subparts A, C, D and E.

8 With me here today from
9 the Illinois Pollution Control Board is
10 Board Member, Tom Johnson, who is the presiding
11 Board Member of these proceedings; Board Member,
12 Andrea Moore; Chairman, Tanner Girard; and we have
13 Anand Rao here as well.

14 Mr. Johnson, do you have anything
15 you want to say at this point about the
16 proceedings?

17 MR. JOHNSON: Nope.

18 THE HEARING OFFICER: Mr. Johnson
19 having nothing to say, we'll proceed.

20 A little background, this
21 rulemaking that was proposed by the Agency was
22 received on May 30th, 2006. I proposed a New Part
23 225 to reduce interest date and interest date
24 transport of sulfur dioxide and nitrogen oxides

1 emissions for fossil fuel fire and electric
2 generating units on an annual basis and on an
3 ozone seasonal basis for each of the calendar
4 year. The Agency proposes the adoption of the
5 Clean Air Interstate Rule, the Sulfur Dioxide
6 Trading Program, the CAIR, NOX Annual Trading
7 Program and the CAIR NOX Ozone Season Trading
8 Program to accomplish this objective.

9 We have had hearings on this
10 matter, October 10th through the 12th, at which
11 point in time we received the testimony of the
12 Illinois -- I'm not loud enough, am I sir?

13 MR. RUSSELL: I just want to make sure
14 I'm picking everything up.

15 THE HEARING OFFICER: Okay -- the
16 Illinois Environmental Protection Agency. Today
17 the hearing is designed to elicit testimony from
18 witnesses other than those from the Illinois
19 Environmental Protection Agency. We have five
20 witnesses scheduled to testify today and tomorrow,
21 and the hearing will go on as needed until we are
22 finished.

23 As before, aside from today, we'll
24 convene at 9:00 a.m. each day and proceed until

1 close with 5:00 p.m. as the target. Things are a
2 little different up here in Chicago. This is the
3 James R. Thompson Center, as you know, and they
4 close the doors down, and it kind of locks down on
5 us. So we're going to try to be out of here on a
6 timely fashion.

7 So, during the breaks, I'm
8 available to answer any procedural questions. If
9 you want to have a chat with me, please feel free.
10 I want to emphasize like I did last time that the
11 Board and staff can't discuss the substance of the
12 proposal off the record. The substantive items
13 should be raised during the hearing. If you're
14 not sure whether it's substantive or not, just
15 raise it during the hearing, we'll address it
16 then.

17 We're going to start with the
18 prefiled testimony of Jason Goodwin. I do want to
19 note before we get started and introduce all the
20 interested parties that outside of the room, I
21 have copies of all the prefiled testimony that was
22 filed. Now, some of that may be amended in the
23 near future, but they're out there if you need
24 them. I also have sign-up sheets for the notice

1 and service lists. If you wish to be on the
2 service list, you know you'll receive all the
3 pleadings and prefiled testimony in this
4 proceeding. And in addition, you must serve all
5 your filings on the persons on the service list.
6 If you wish to be on the notice list, of course,
7 you'll only receive Board and hearing officer
8 orders. If you're filing a public comment and not
9 on the service list, you need not serve that
10 comment on the service list. If you have any
11 questions about which list you want to be on, and
12 I don't really see anybody who's not familiar with
13 our procedures, but feel free to ask me. You can
14 sign up for either list on the Board's website in
15 the clerk's office on-line.

16 And at this time, I'd like to move
17 forward and introduce the interested parties.
18 We'll start with the Agency again since it's your
19 rule.

20 MS. DOCTORS: Rachel Doctors. I
21 represent the Illinois Environmental Protection
22 Agency.

23 MR. COOPER: Ross Cooper, representing
24 the Illinois Environmental Protection Agency.

1 MR. ROSS: Jim Ross with the Illinois
2 Environmental Protection Agency.

3 MR. KALEEL: Rob Kaleel with the
4 Illinois EPA.

5 MR. DAVIS: Rory Davis, Illinois EPA.

6 MR. KIM: John Kim with the Illinois
7 EPA.

8 THE HEARING OFFICER: I didn't see you
9 back there, Mr. Kim.

10 And for the other interested
11 parties, Mr. Zabel?

12 MR. ZABEL: Schiff, Hardin,
13 representing Midwest Generation, LLC; Southern
14 Illinois Power Cooperative and Dynegy.

15 MR. BONEBRAKE: Steve Bonebrake with
16 Schiff, Hardin, representing the same three
17 clients.

18 MS. BASSI: Kathleen Bassi with
19 Schiff, Hardin, and the same three clients.

20 MS. BUGEL: Faith Bugel representing
21 Environmental Law & Policy Center.

22 MR. RUSSELL: Jim Russell, Winston &
23 Strawn, on behalf of Christian County Generation,
24 LLC.

1 MR. FORCADE: Bill Forcade, Jenner &
2 Block, on behalf of Kincaid Generation, LLC.

3 THE HEARING OFFICER: Mr. Rieser?

4 MR. RIESER: David Rieser on behalf of
5 Ameren.

6 MR. MURAWSKI: Steven Murawski on
7 behalf the Zion Industry, LLC.

8 MR. GOODWIN: Jason Goodwin with Zion
9 Industry.

10 THE HEARING OFFICER: I think that's
11 it. Before we get started, I was negligent in
12 asking if any of the remaining Board members have
13 anything they want to add at this point in time?
14 I see no responses from the Board members.

15 So one last minor bit of
16 housekeeping, the testimony of Michael Menne came
17 accompanied by a motion for leave to file
18 instanter the testimony. That was filed on
19 November 17th. The response time has been filed
20 in lapse for that. But in light of the fact that
21 we're going to be hearing the testimony today or
22 tomorrow, we should probably address that now.
23 Anyone have any objections to the motion for leave
24 to file instanter? Seeing none, we're going to

1 grant the motion for leave to file instanter and
2 accept the prefiled testimony of Michael L. Menne.
3 That's all I have. We're scheduled to start with
4 testimony of Jason Goodwin.

5 MR. MURAWSKI: My name is Steven
6 Murawski, and I represent Zion Energy, LLC, as I
7 said. Before we begin with Mr. Goodwin's
8 testimony, I'd like to make a motion before the
9 Board to accept the prefiling testimony of Jason
10 M. Goodwin timely filed with the Board and served
11 on the parties prior to this hearing, and I'd like
12 it read into -- as though it was read into the
13 record.

14 THE HEARING OFFICER: Can we have a
15 motion to -- should we make that Exhibit No. 1?

16 MR. MURAWSKI: Yes.

17 THE HEARING OFFICER: Anyone have an
18 objection to that exhibit and entering it as if
19 read into the record? Ms. Bassi?

20 MS. BASSI: Does that exhibit number
21 have some other appellation besides No. 1? The
22 reason why I ask that is because at the
23 Springfield hearing, we introduced --

24 THE HEARING OFFICER: Right. I was

1 going to designate a whole new set of exhibits for
2 the second hearing, but we can continue if you'd
3 like.

4 MS. BASSI: Well, no. We introduced
5 an exhibit that was -- I think you called it
6 Midwest Generation Exhibit No. 1 or something, and
7 that's why I was asking.

8 THE HEARING OFFICER: Yeah. I don't
9 have any problem. We can definitely call that --
10 hold on. I'm getting there. Zion Energy No. 1,
11 if you'd like.

12 MR. MURAWSKI: We have no objection.

13 THE HEARING OFFICER: With that note
14 being made, anyone have objections to the
15 admission of Zion Energy Exhibit No. 1?

16 That will be admitted.

17 MR. MURAWSKI: Before we proceed, I'd
18 like to state to the Board and ask permission to
19 use a slide presentation as a visual aid only. We
20 do not plan to introduce this as a separate
21 exhibit. This is just for assistance with his
22 presentation.

23 THE HEARING OFFICER: Are you
24 referring to the --

1 MR. MURAWSKI: Yes.

2 THE HEARING OFFICER: -- handout you
3 made?

4 MR. MURAWSKI: Except there's certain
5 modifications that we'll discuss, just
6 clarifications, or some spelling error, but --

7 THE HEARING OFFICER: Just so I
8 understand, you're not intending to admit this
9 (indicating) document?

10 MR. MURAWSKI: I'm not intending to
11 admit it. It'll just be used as a visual aid.
12 We've also provided 20 copies at the front.

13 THE HEARING OFFICER: Would you have
14 any objection if we wanted to admit this as Zion
15 Exhibit No. 2?

16 MR. MURAWSKI: No, we have no
17 objection.

18 THE HEARING OFFICER: Does anyone else
19 have any objections to that?

20 MR. BONEBRAKE: I just have a
21 question.

22 THE HEARING OFFICER: Yes.

23 MR. BONEBRAKE: Is this the same
24 document that was circulated yesterday by e-mail?

1 MR. MURAWSKI: Yes, there are two
2 changes. One is there were references to CUSA
3 instead of CASA. And I believe there is also a
4 reference to all criteria pollutants, and it
5 should be major criteria pollutants on one of the
6 slides. Those are the only two changes.

7 THE HEARING OFFICER: With that
8 clarification, Mr. Bonebrake, any objection?

9 MR. BONEBRAKE: No.

10 THE HEARING OFFICER: Let's admit this
11 as Zion Exhibit No. 2 just to keep the record
12 clear if we're going to be discussing it.

13 MR. MURAWSKI: There's also one
14 correction on Page 7, which it says, "Constructed
15 in the past 5-8 years." It should be 5-10 years.
16 That's the only other change in the version of the
17 slides.

18 THE HEARING OFFICER: So we've got
19 Zion No. 1 and 2 having now been admitted into the
20 record. And, Mr. Murawski, you can proceed as you
21 see fit.

22 MR. MURAWSKI: The next thing is that
23 we have a preference that questions be held until
24 the end. But, obviously, we'll answer questions

1 if it happens.

2 THE HEARING OFFICER: How long do you
3 anticipate the slide show last?

4 MR. MURAWSKI: I don't think we
5 anticipate it -- if no questions are asked, maybe
6 ten minutes.

7 THE HEARING OFFICER: I think we can
8 probably hold questions until the end then.

9 MR. MURAWSKI: And, finally, the
10 presentation addresses the proposed rule that the
11 Illinois EPA initially presented to the Board. It
12 does not address the newly proposed rule that was
13 just filed with the Board, just for clarification.

14 THE HEARING OFFICER: Duly noted.

15 Can we swear Mr. Goodwin in,
16 please?

17 (Witness sworn.)

18 MR. GOODWIN: I'm Jason Goodwin. I'm
19 the director of the environmental health and
20 safety for Calpine Corporation eastern power
21 region, and I'm here today. I appreciate the
22 opportunity to present an overview of the comments
23 on proposed Clean Air Interstate Rule as proposed
24 by the Illinois EPA.

1 Just kind of a general overview,
2 the content of our presentation is largely a
3 summary of our written comments.

4 THE HEARING OFFICER: Can you elevate
5 the volume a little bit?

6 MR. GOODWIN: The comments were
7 submitted on behalf of Zion Energy, LLC. Zion
8 Energy, LLC is a wholly-owned subsidiary of
9 Calpine Corporation. Zion Energy, LLC is the
10 owner of the Zion Energy Center, which is a
11 peaking power generating facility located in Lake
12 County north of Chicago. The operations,
13 maintenance and other support services such as
14 environmental health and safety support is
15 provided via contract of Calpine Services Company,
16 which is also a wholly-owned subsidiary of Calpine
17 Corporation. I'm employed by Calpine Operating
18 Services, and that's how I'm involved with Zion
19 Energy.

20 As I said, it's a peaking power
21 generating facility, which is intended to serve
22 electric power market demands during peak periods.
23 The facility began construction in August of 2001.
24 And the final unit was completed and began

1 commercial operations in September of 2003. The
2 facility itself is a simple-cycle combustion
3 turbine based facility. It includes three
4 simple-cycle combustion turbines based on the
5 general electric 7FA model. It fires natural gas
6 as its primary fuel, but it does have the ability
7 and is permanent for distal fuel as a backup fuel
8 when necessary.

9 As part of the permitting process,
10 Zion Energy was required to undergo review by the
11 Prevention of Significant Deterioration Program,
12 and the program does meet best available control
13 technology requirements for all major criteria
14 pollutants.

15 Just to clarify, Zion Energy will
16 be restricting its comments to the NOX portion of
17 the CAIR rule. Its taken notes on it, on the SO2
18 portion of the rule.

19 In general, Zion is generally
20 supportive of the concepts proposed in the CAIR
21 rule by Illinois EPA. We believe
22 that -- we believe it provides a good foundation
23 for an equitable and effective emission reduction
24 program. First and foremost, we want to highlight

1 and support the concept of using the CAP and trade
2 model. We believe that through other CAP and
3 trade models such as in the acid rain program, NOX
4 trading program, which has been in effect in
5 Illinois for several years, I think this
6 represents the best model and best mechanism for
7 achieving emission reduction in a cost effective
8 manner.

9 We also support and applaud the
10 Agency for including an emissions allocation
11 process that we used in updates on an annual
12 basis. We believe that frequent updating in a
13 timely manner provides a great opportunity to have
14 allocations appropriately match the conditions of
15 the power market and provide a strong relationship
16 and correlation between those two factors. We
17 also support the revision of the initial
18 allocation date moved to January 1st, 2006. In
19 contrast to the federal proposed rules, where
20 initial sources are including the program by a
21 much earlier date, this provides a greater
22 opportunity to include the majority of sources in
23 the pool at the outset and reduce pressure on the
24 new source allocation pool.

1 We also support the shorter
2 baseline opportunity for newer sources giving them
3 an opportunity to integrate into the main pool in
4 a more timely fashion. We also support the new
5 source set-aside, which enables new sources to
6 reduce their out-of-pocket compliance cost and
7 expenses in order to comply with the program.

8 And, finally, although Zion is not
9 directly effected by this portion of the rule, we
10 support the notion of using -- providing credit
11 for steam generated by combining
12 power/cogeneration facilities.

13 MR. MURAWSKI: Is there any caveat to
14 your support of the cogen rule related to
15 allocation --

16 THE REPORTER: What was that? Sorry.

17 MR. MURAWSKI: Is there any -- does he
18 have any caveat to his support of that rule
19 related to the allocations?

20 MR. GOODWIN: The mechanism by which
21 the cogen is steamed based on the credit is
22 applied relates to another provision that we
23 discuss a little bit later in terms of the
24 fuel-weighting provision. We discuss that in more

1 detail. But, conceptually, we do strongly support
2 the idea of giving credit toward steam generating
3 by cogen at CHB facilities.

4 THE HEARING OFFICER: Yeah, and I
5 apologize for the room here, but it is really hard
6 to hear up here. And if I can't hear it, I'm
7 assuming the court reporter is having trouble
8 hearing as well. So just at the end, you guys are
9 kind of tailing off. And I think it's going to be
10 a problem all day long for me as well. So if you
11 can't hear me, please let me know.

12 MR. GOODWIN: If you can't hear, can
13 you please let me know?

14 THE REPORTER: Yes, definitely.

15 MR. GOODWIN: Despite our general
16 overall support for the rule, Zion Energy does
17 have a couple of areas to where we feel like the
18 Agency should review and reconsider certain
19 provisions.

20 All of these issues generally go
21 to the overall view of how we see the treatment of
22 the rule as applied to gas-fired peaking
23 facilities. There are several components of that,
24 which all stem from the same general concern. The

1 fuel-weighting of allowance allocations, which is
2 currently provided from the proposed rule, the
3 Clean Air Set-Aside, and specifically with the
4 proportion of allowances that are set aside for
5 projects and early elections and other ventures of
6 that nature. And, again, the overall treatment of
7 gas-fire peaking units, and what, in our view, is
8 a lack of consideration as to the limitations that
9 we have with respect to making additional
10 reductions.

11 Fuel-weighting aspect is one of
12 the primary components that we feel bears
13 additional review by the Agency. We are opposed
14 to what we view as inequitable treatment of
15 sources based on fuel type. We believe that this
16 sets up inequitable reduction requirement for
17 facilities. Specifically, those that have
18 undergone control technology review within the
19 recent past and have demonstrated compliance with
20 best available control technology requirements.
21 We see this as an unfortunate departure from the
22 NOX trading program, which has been in effect and
23 operational within Illinois for several years. We
24 view the past experience with the trading program

1 as being highly successful and question the basis
2 for deviating from that concept.

3 Further, the reduction in terms of
4 allocations that are available to the gas-fired
5 units ignores the basis and the understanding that
6 the facilities that we're talking about, and
7 specific design energy in particular, represent
8 the -- not only the best available emission
9 control and technology threshold, but it also
10 satisfies the most available emission rate
11 technology for similar sized facilities throughout
12 the country. We deducted an additional review of
13 EPA's RACT/BACT/LAER clearing house, and
14 determined that between those recent facilities
15 would have permitted in the United States since
16 Zion bearing the same type of the equipment at the
17 exact same emissions. We believe that that
18 indicates that there has not been a sufficient
19 level consideration for the fact that there is no
20 real ability to make reduction beyond what's
21 achievable with this technology.

22 MR. MURAWSKI: Before moving on, can I
23 ask a couple questions?

24 THE HEARING OFFICER: Yes, you may.

1 MR. MURAWSKI: Are you familiar with
2 the bases that the Illinois EPA has included in
3 its technical support document and testimony
4 during the last hearing on why fuel neutral
5 allocation was not chosen?

6 MR. GOODWIN: Yes.

7 MR. MURAWSKI: And in response to the
8 Illinois EPA's position, could you explain why the
9 testimony that you're giving presents a unique
10 impact on Zion Energy versus what the Illinois EPA
11 has stated as its position supporting fuel
12 weighting?

13 MR. GOODWIN: My understanding of the
14 Agency's testimony is that the fuel-weighting
15 concept that was introduced for the purpose of
16 recognizing and taking into consideration the
17 inherently higher emission rates seen from
18 coal-fired facilities compared to gas-fired
19 facilities.

20 However, what I don't believe the
21 Agency has adequately addressed is the issue of
22 how gas-fired simple-cycle combustion turbines
23 would be able to address additional reduction
24 requirements or needs to the extent that those

1 might be required. Specifically, the type of
2 combustion technology that we're talking about has
3 does not lend itself to additional controls
4 required by some additional rule provision or
5 bio-reduction in the overall emissions CAP.
6 Because the vast majority of gas-fired facilities
7 in the state of Illinois are simple-cycle peakers
8 and not of the combined cycle variety, which are
9 more easily controlled, we believe that this is an
10 issue that bears additional consideration from the
11 perspective of the inability to make additional
12 reductions.

13 MR. MURAWSKI: And what is the effect
14 from a compliance standpoint or a participation
15 standpoint for Zion Energy and similar
16 simple-cycle units?

17 MR. COOPER: Could you please repeat
18 that?

19 MR. MURAWSKI: Could she read it back,
20 please?

21 THE HEARING OFFICER: As last time, if
22 you want the court reporter to read it back, ask
23 me, and I'll find out if she can. Can you do
24 that?

1 (Whereupon, the requested
2 portion of the record
3 was read accordingly.)

4 MR. MURAWSKI: Let me restate the
5 question.

6 THE HEARING OFFICER: Please.

7 MR. MURAWSKI: What is the effect on
8 Zion Energy and similar simple-cycle EGUs in the
9 State of Illinois from the scenario that the
10 Illinois EPA's proposal presents?

11 MR. GOODWIN: Under a CAP and trade
12 program, the effected source is making a decision
13 between the options of installing emission
14 controls and reducing emissions on their own and
15 purchasing allowances from other sources to cover
16 its accommodations. There's a cost benefit
17 analysis that's done. And the company must make a
18 decision about whether it makes more sense to
19 install controls or whether it makes more sense to
20 leave emissions as they are and purchase credits
21 from other sources to satisfy their obligation.

22 Because of the unique technical
23 limitations in these types of facilities in
24 simple-cycle peakers, half of that equation is not

1 something that we can go and take advantage of.
2 There really is no option for us to make any sort
3 of additional reductions at the facility itself.
4 In the event that we fall short in terms of
5 emission credits or would be forced to go to the
6 market and make additional purchases, credits, to
7 cover that allocation, which for a peaking
8 facility is critical because those costs --
9 ultimately have to be factored under the cost of
10 generation and ultimately have been passed onto to
11 the electric consumers.

12 Regarding the Clean Air Set-Aside
13 Program, we believe that, in concept, this is a
14 valid concept, a valid proposal. We've
15 participated through Calpine and other
16 organizations within the company and other
17 rule-makings in other parts of the country and
18 seen similar programs and endeavors. We are
19 neutral to the position of whether or not that
20 program should be in place.

21 However, our concern is primarily
22 associated with the percentage of the pool that's
23 proposed to be set aside for such projects. We
24 believe that 25 percent of the overall pool is an

1 inordinately large portion to be set aside with
2 respect to the overall pool. We believe this is
3 out of proportion with the compliance needs and
4 CAIR rules in the state.

5 Clearly, Illinois is strongly
6 oriented to the coal generation. It's expected
7 there is a significant number of emission
8 reductions that may be required to comply with the
9 CAIR CAP. We believe that some portion of these
10 should be re-evaluated for distribution for the
11 Illinois allocation program to name other sources.

12 In particular, we strongly feel
13 that nongenerating sources under the program, such
14 as the energy efficiency program and related
15 programs, programs of that nature, should not be
16 included for consideration because at the end of
17 the day, they're not generating sources and
18 there's no opportunity for them to ever have a
19 compliance obligation. And when you take -- and
20 bringing this back to our overall concern and
21 concept, we feel like we're such a large
22 proportion of the pool to pull that aside for
23 Clean Air Set-Aside Programs, and then the
24 additional issue of fuel weighting and the lack of

1 opportunity for us to make additional reductions
2 should we choose, this is really a very
3 disadvantageous position for companies like
4 ourselves to be put in.

5 Lastly, on this issue, we also
6 feel that unused allowances out of the concept
7 pool should be redistributed to the main pool for
8 allocation to main budget sources. The current
9 rule proposal contemplates that unused or
10 unclaimed credits would be rolled to the following
11 year. We feel like this particularly is such a
12 large set-aside included here that any unclaimed
13 credits should be rolled back into the pool for
14 redistribution.

15 Again, focusing back on our main
16 concept, we believe that the rule proposal doesn't
17 adequately consider the circumstances of gas-fired
18 peaking units in the state, and that's our primary
19 reason for requesting that the Agency review these
20 concepts for the rule. Again, most of the
21 gas-fired effective facilities under CAIR in this
22 state are simple-cycle turbines. The vast
23 majority of those have been constructed within the
24 last five or ten years. Those facilities have all

1 undergone BACT or LAER control technology reviews,
2 which essentially, demonstrates that they are at
3 the top of the class in terms of emission control
4 technology.

5 As I said, these facilities are
6 unable to install additional controls should we
7 find the need to do so. The main reason for that
8 is that control technology, such as selective
9 catalytic reduction and selective non-catalytic
10 reduction, which are the two most common
11 post-combustion control technologies, are highly
12 dependent on combustion exhaust temperature.
13 These particular control technologies are
14 incompatible with the exhaust temperatures that
15 are seen from large frame combustion turbines, and
16 essentially ineffective for making additional
17 reductions. As we talked about in our review of
18 the RACT/BACT database, EPA's determinations have
19 supported that, and we believe that that's
20 something that the Agency should take into
21 consideration and review.

22 So in conclusion, we'd like to
23 commend and support the Agency on the majority of
24 the rule. We believe that, in our experience in

1 comparison with other states and other rule
2 proposals regarding CAIR, that this is a highly
3 positive rule. We believe that it's a significant
4 improvement on the federal model rule, and we
5 encourage the Agency to continue moving forward.

6 Again, though, we do note that
7 there are several provisions that we would
8 recommend for additional review and
9 reconsideration. Specifically with --

10 THE REPORTER: Specifically what?

11 MR. GOODWIN: I'm sorry.

12 THE REPORTER: That's okay.

13 MR. GOODWIN: Specifically with fuel
14 neutral allocations proportion of the CASA
15 set-aside fuel and the overall gas-fired peaking
16 facilities.

17 This concludes my presentation.
18 I'm happy to answer any questions that anyone has
19 at this point.

20 THE HEARING OFFICER: Well, do we have
21 any questions for Mr. Goodwin?

22 MR. BONEBRAKE: We have some
23 questions, and I don't know if the Agency has some
24 questions as well or --

1 MS. DOCTORS: We do, but you can go
2 first.

3 MR. BONEBRAKE: Does anyone else want
4 to ask questions first?

5 THE HEARING OFFICER: I think they're
6 all allowing you to ask the first set of questions
7 there, Mr. Bonebrake.

8 MS. BUGEL: I'm signaling that I want
9 to go at some point. I don't want to go first. I
10 just want to go at some point.

11 MR. BONEBRAKE: I guess I will break
12 the ice.

13 BY MR. BONEBRAKE:

14 Q. Mr. Goodwin, I'm going to have a
15 number of questions for you that are directed at
16 your prefiled written testimony. And so if you
17 wouldn't mind first turning with me to the first
18 page of your testimony.

19 MR. BONEBRAKE: Am I projecting
20 sufficiently?

21 THE REPORTER: Pretty good.

22 BY MR. BONEBRAKE:

23 Q. The first paragraph in your background
24 section on Page 1 refers to 28 power generating

1 facilities in 15 states?

2 A. Yes.

3 Q. And could you tell us in which states
4 those facilities are located?

5 A. Let's see. Colorado, Wisconsin,
6 Illinois, Arkansas, Oklahoma, Louisiana, Alabama,
7 Florida, South Carolina, New Jersey, New York,
8 Maine, Ohio. Did I say Minnesota?

9 Q. I didn't hear it before.

10 Are a number of those states,
11 Mr. Goodwin, in the process of adopting CAIR rules?

12 A. Yes, nine of those states are in the
13 process of adopting CAIR rules.

14 Q. And have you been involved in a
15 proceeding like this in any of those states
16 concerning their CAIR rule proposals?

17 A. Yes, we've been involved in several
18 rule-makings and continue to be involved at this
19 point.

20 Q. Have you provided testimony at any of
21 those proceedings?

22 A. I don't believe I've submitted
23 testimony in terms of the administrative hearing
24 process, but we have submitted written comments on

1 numerous of those examples.

2 Q. Are you familiar with the approach
3 that those nine states have taken with respect to
4 set-asides?

5 A. Yes, to varying degrees. I mean,
6 certainly with nine different states, you're talking
7 about a spectrum of different approaches to
8 implement CAIR.

9 Q. And I think you mentioned in your
10 opening discussion that you had a concern about the
11 size of the CASA in Illinois as proposed; is that
12 correct?

13 A. Yes.

14 Q. Are you aware of whether any of the
15 nine states that are in -- the other nine states
16 that are in the process of adopting CAIR rules have
17 proposed set-asides of 25 percent or higher?

18 A. In my experience, there's no other
19 state that I've seen that's set-aside such a large
20 pool.

21 Q. What's the highest level of set-asides
22 for existing units that you have seen in the other
23 nine states?

24 A. If memory serves, the 7 percent

1 proposal for the Wisconsin DNR program would be the
2 largest, but I believe that's restricted to new
3 sources only.

4 Q. So in terms of the largest proposed
5 set-aside for existing units that you've seen, what
6 would that number be?

7 A. Can you clarify the question? When
8 you say set-asides for existing units, you mean the
9 portion of the pool dedicated to existing units not
10 considering new source and things of that nature.

11 Q. Right. We refer to it, I think, in
12 the Illinois proposal as NUSA and CASA. So my
13 question would be pertaining to the highest level
14 for existing sources in other states that's been
15 proposed that would be comparable to CASA in the
16 Illinois proposal?

17 A. I think 95 percent would represent the
18 largest proportion for main source allocation, the
19 main source pool.

20 Q. Maybe my question was unclear. Does
21 that mean that the set-aside -- the highest
22 set-aside that you've seen for existing sources
23 would be only 5 percent?

24 A. Well, no. The highest set-aside would

1 have been 7 percent for new sources indicating a
2 93 percent set-aside pool -- main pool. So if I
3 understood your question, you asked me largest
4 set-aside and then the largest main pool?

5 Q. I mean, the question I'm trying to get
6 to, and maybe I am not asking it clearly, is if you
7 look at just existing sources, and then we consider
8 the CASA type set-aside from allowances that
9 otherwise would be allocated to existing sources, in
10 Illinois that number I believe was 25 percent.
11 What's the highest number that you have seen in
12 another state that would be comparable to that CASA
13 set-aside?

14 A. Most of the other states don't have a
15 specific CASA set-aside program and a new source
16 set-aside program. My experience has been that
17 there's a more generic, if you will, set-aside
18 program -- set-aside pool that new sources and other
19 projects are allowed to request allocation for them.
20 So the concept of a bifurcated new source and clean
21 air source or clean unit source concept is -- I
22 don't know if it's unique to Illinois, but it
23 certainly is less frequent than other states.

24 Q. And then if I understood you

1 correctly, your testimony was that the highest total
2 combined set-aside that you have seen for both new
3 sources and existing sources combined set-aside with
4 7 percent?

5 A. That's correct. That's the best of my
6 knowledge at this point.

7 THE HEARING OFFICER: Mr. Goodwin?

8 THE WITNESS: Yes.

9 THE HEARING OFFICER: That 7 percent
10 are among the nine states that you're familiar
11 with? Or are you talking about all the states
12 in the country?

13 THE WITNESS: That's the --
14 the 7 percent represents the highest among the
15 various rule programs that I've seen.

16 THE HEARING OFFICER: That you've been
17 involved with?

18 THE WITNESS: Some of those I'm more
19 familiar with than others.

20 THE HEARING OFFICER: Okay. I was
21 curious whether you were limiting that to the nine
22 states you've been involved with or if you have
23 knowledge outside of that?

24 THE WITNESS: Our company, Calpine,

1 does a larger sense of zoning because the
2 facilities and states that are affected by CAIR in
3 ten states, so I'm covering nine of those. But
4 from what I recall, the largest percentage of
5 set-aside pool among those nine that I deal with
6 is 7 percent.

7 THE HEARING OFFICER: Thank you.

8 MR. JOHNSON: And the tenth is
9 Illinois?

10 THE WITNESS: No, actually, the tenth
11 would be Texas. Illinois is within that nine.

12 BY MR. BONEBRAKE:

13 Q. Mr. Goodwin, on Page 3 of your
14 testimony, please. At the top of that page there's
15 a paragraph starting with, "In particular." Do you
16 see that?

17 A. Yes.

18 Q. And then there's a sentence that
19 reads, "Therefore, such facilities face a
20 substantial risk to their ability to consistently
21 generate power during peak demand due to foreseeable
22 unit curtailments and shutdowns if Illinois EPA
23 reduces the overall NOX allowance pool or otherwise
24 retires NOX allowances pursuant to the proposed

1 rule." And then you have a sentence that starts,
2 "That is because." And as I understand what you're
3 writing here because is basically comprised of three
4 things that you list in the sentence. That is,
5 first, that additional controls will not be
6 possible. Second -- excuse me -- let me go back.

7 Are there essentially two factors
8 that you are relying upon in support of your
9 statement that starts in that sentence, "Therefore"?
10 I'm trying to understand how the two sentences in
11 that paragraph fit together.

12 A. There's actually three. The first
13 item refers to the concern about additional controls
14 and reductions being possible. That's, I believe,
15 the one you are referring to.

16 The second concern starting after
17 the comma and the following sentence with, "The
18 proposed rule limits NOX emission allocations to
19 national gas fired units."

20 And then the third item following
21 that, the following sentence, "The number of
22 remaining NOX allowances. That concern issue --
23 that concern related to the availability to
24 allowances in emission commodity market should

1 be --

2 THE REPORTER: Should be what? Sorry.

3 THE WITNESS: I'm sorry.

4 BY THE WITNESS:

5 A. The third point was related to concern
6 about the availability of emission allowances should
7 we need to go to the emission commodity market to
8 purchase allowances to cover our compliance
9 obligation.

10 BY MR. BONEBRAKE:

11 Q. I'll ask the question first about your
12 assertion regarding what controls will or will not
13 be possible. As I understand your statement here,
14 what you're saying, Mr. Goodwin, is that additional
15 NOX emission controls are not possible on
16 simple-cycle combustion turbines; is that correct?

17 A. Of this size, yes.

18 Q. I saw later in your testimony a
19 reference to some catalyst, typically, some
20 manufacturers that are touting as -- on having good
21 efficacy in this type of generator. Do you recall
22 that testimony?

23 A. Yes.

24 Q. And what is your view of the

1 assertion --

2 THE REPORTER: Of the assertion...

3 MR. BONEBRAKE: By those

4 manufacturers.

5 BY THE WITNESS:

6 A. In our knowledge and our experience,
7 those high temperature catalysts, which is what
8 they're referring to, how they're commonly referred,
9 they have not been effective in long-term
10 demonstrations and certainly have not been applied
11 to commercial with respect to F-class combustion
12 turbines.

13 BY MR. BONEBRAKE:

14 Q. Can you identify for us the
15 manufacturer or manufacturers that makes these
16 catalysts that may operate at high temperatures?

17 A. Not at this time.

18 Q. When you say long-term tests, what do
19 you mean, Mr. Goodwin?

20 A. Are you looking for a length of time
21 or test conditions or something along those lines?

22 Q. I think you use that term in your
23 testimony, if I understand too correctly, and I was
24 trying to get an understanding of what you intended

1 by the phrase?

2 A. By the phrase long-term tests?

3 Q. Right.

4 A. Tests beyond -- I haven't had any
5 particular experience with developing a test plan.
6 But on the number of projects that I have worked
7 with respect to working for BACT analyses and that
8 sort of thing, there's been no commercially
9 demonstrated tests, and there have been no tests
10 with corresponding emission determinations or
11 emission data to show that over a range of operating
12 conditions consistent with the expected operating
13 profile of this turbine that such reductions are
14 possible.

15 Q. Would you say that high temperature
16 catalyst are a developing technology?

17 A. I don't know that I'd characterize
18 them as developing. I'm not in the position to
19 speak to the market demand for those; and therefore,
20 I'm not able to make a determination about how much
21 interest there is in developing such technology.

22 What I could tell you is that, to
23 this date, Calpine, which operates a number of
24 combustion combined cycle and simple cycle, has not

1 seen effective demonstration of high temperature
2 catalyst.

3 Q. Do you anticipate that within the next
4 few years the high temperature catalyst with
5 efficacy will be developed and commercially
6 available?

7 A. I'm not in the position to say.

8 Q. I also have a follow-up question for
9 you regarding the last phrase in the paragraph that
10 we were referring to. The phrase reads, "Will
11 likely be severely limited and cost prohibitive."
12 Do you see that?

13 A. Yes.

14 Q. And you're referring there to NOX
15 allowances; is that correct?

16 A. Yes.

17 Q. And can you tell us the basis for the
18 assertions regarding severe limitations on costs
19 emissions concerning NOX allowances?

20 A. In what context?

21 Q. I'm just trying to understand what the
22 basis is for that statement, the kind of information
23 that you have in your possession, what kind of
24 calculations or analysis that you've done?

1 A. In terms of availability of
2 allowances?

3 Q. Sure. Let's start there.

4 A. Well, I think we can draw from the --
5 experience from the California energy market crisis
6 in 2000 and 2001, where a number of facilities
7 essentially had run out of allowances by the end of
8 years. And because of the construction of market
9 there, there was no opportunity for them to continue
10 to operate without violating the terms of their
11 requirements, the terms of the permits of
12 their emission control programs. So there's a
13 situation -- or there's a potential that -- and I
14 don't know that, necessarily, there will be -- there
15 would not be allowances available. My concern is
16 more along the lines of central cost excavation
17 considering that that would be our only option
18 available to comply with the program.

19 Q. Have you done any kind of calculation
20 or analysis to determine what the cost of NOX
21 allowances may be in the future under the CAIR
22 program?

23 A. I understand that as part of the
24 preamble for the federal rule, that EPA used a cost

1 per ton break point of approximately \$2,000 per ton
2 as their guidepost for represented highly cost
3 effective controls. And given the consideration of
4 weighing cost of installing controls versus cost of
5 purchasing allowances, I believe that's a reasonable
6 basis on which to base emission costs.

7 Q. Is it your testimony that you think
8 that number was going to be low as we move forward?

9 A. I have no way of telling you what the
10 costs are going to be.

11 Q. You just made the assertion regarding
12 limited and cost prohibited, so I'm trying to get a
13 sense of when you use the term cost prohibited, what
14 kind of economic --

15 A. Well, my statement was with respect to
16 the concern about the potential, and asking the
17 Agency to reconsider that portion because I'd like
18 to have that potential --

19 THE REPORTER: Potential what?
20 Litigated?

21 BY THE WITNESS:

22 A. Mitigated to the degree possible.

23 BY MR. BONEBRAKE:

24 Q. The concerns regarding the cost

1 allowances, which would apply as well, would they
2 not, Mr. Goodwin, to others in Illinois that
3 reported they are subject to compliance obligations
4 under the proposed Illinois CAIR, such as coal-fired
5 generating units?

6 A. I suppose the cost of controls versus
7 purchasing allowances would be a consideration
8 for (inaudible).

9 Q. The next page of your testimony,
10 Mr. Goodwin, at the top in the first sentence in
11 Section B, and the first sentence reads, "Zion
12 strongly supports the concept of annual review
13 redistribution of allowances in the years 2012 and
14 beyond." Are you aware of whether the Illinois
15 Environmental Agency has any difficulties in timely
16 determining NOX allowance allocations under the NOX
17 SIP call?

18 A. In terms of what specifically?

19 Q. In terms of making allocations.

20 A. In terms of calculating what
21 allocations are offered to a particular source?

22 Q. Correct.

23 A. No, I'm not aware of any concerns.

24 Q. If the Agency had a difficulty in

1 making timely allocations, would that create a
2 concern in your mind about annual review and
3 redistribution of allowances?

4 A. No, I think the Agency has plenty of
5 very bright people that can handle the process of
6 calculating emissions on an annual basis.

7 Q. My question assumes that they have
8 challenges making the annual allowance allocations.
9 And if they were unable to do so, would that cause
10 you concern if the regime was set up to require
11 annual allocations?

12 A. Presuming the Agency had problems with
13 figuring out the allocations, I think the correct
14 course of action would be to understand the cost and
15 concern. It certainly doesn't confuse the
16 legitimacy of an annual manually updated program.

17 Q. Page 6 of your testimony, Mr. Goodwin,
18 you talked some about fuel adjustment factors in an
19 area in your opening presentation.

20 Is it true that the Illinois
21 Environmental Protection Agency proposal uses the
22 same fuel adjustment factors that's set forth in the
23 federal CAIR model rule?

24 A. The Agency has exercised its

1 discretion to follow the example set by the federal
2 rule, yes.

3 Q. And is it also true that the United
4 States Environmental Protection Agency used those
5 fuel adjustment factors to derive the NOX state
6 budgets?

7 A. I believe that's the case, yes.

8 Q. Do the proposed fuel adjustment
9 factors have the affect of encouraging the use of
10 coal?

11 A. In terms of a hypothetical company
12 that we're deciding on whether to deploy a
13 particular generating technology fuel type; is that
14 the context?

15 Q. Sure.

16 A. I think decisions about fuel and
17 technology for generating sources are largely
18 independent of the consideration of whether
19 fuel-weighting factors would be applied to the CAIR
20 rule. Technologies and fuel choices are dependent
21 on -- more so, on market segment than they are
22 necessarily on whether or not there's a more
23 favorable allocation.

24 Q. You would agree, would you not, that

1 over time, if there was a significant difference
2 between the cost of generation with respect -- by
3 using coal versus gas, that we might start to see a
4 shift in generation from one fuel to another?
5 There's a possibility?

6 A. Potentially for a certain market
7 segment in the electric power industry mesh more
8 consistent with certain fuel types than others.

9 Q. Do you agree that the State of
10 Illinois has a legitimate interest in encouraging
11 the use of Illinois coal?

12 A. Well, I understand that certainly the
13 natural resources that the state is blessed with and
14 I would understand their interest in supporting --

15 THE REPORTER: In supporting?

16 THE WITNESS: That industry.

17 BY MR. BONEBRAKE:

18 Q. Is it true that if the fuel
19 adjustments were eliminated from the proposed rule,
20 that that would have the effect of decreasing the
21 rule's impact on the company of -- at whose benefit
22 you are testifying today, but on the other hand,
23 further decreasing allowances that otherwise would
24 be available to coal-fired units?

1 A. Under a revised and fuel neutral
2 allocation, as we suggest, yes, Zion Energy would
3 have the opportunity to have a larger allocation
4 that would provide for additional assurance that
5 compliance could be maintained.

6 Q. On Page 7 of your testimony, and it's
7 the middle paragraph that I'm interested in, it's
8 the third sentence in that paragraph, and it reads,
9 "While of fuel weighting seems to equalize certain
10 considerations, including baseline emission rates
11 and generating efficiencies, it does not equally
12 apply to peaking combustion turbine units." And my
13 question for you is, what does the statement mean,
14 "While fuel weighting seems to equalize certain
15 considerations," and I didn't understand what you
16 meant by that phrase?

17 A. Well, the statement was offered as a
18 response to the justification provided in support of
19 the fuel weighting, which indicated that fuel
20 weighting was offered to help equalize and consider
21 the inherent differences in emission rates between
22 different generation fuel types.

23 My comment here is with respect to
24 the fact that in many applications in many states

1 where my company does business, gas-fired facilities
2 are predominantly combined cycle. And the inherent
3 improvement or benefit with respect to the improved
4 efficiency in combined-cycle facilities, that could
5 be used to justify a fuel-weighting away from
6 gas-fired facilities and not for simple-cycle
7 facilities, which are not able to achieve those same
8 efficiencies.

9 Q. At Page 7, again, and it's the next
10 paragraph down starting with the word, "First."
11 That first sentence in that first paragraph reads,
12 "First, as the NOX emission allowances are currently
13 proposed, peaking combustion turbine units will
14 barely receive enough allowances to cover
15 emissions." Is it true, therefore, Mr. Goodwin,
16 that Zion, under the Illinois Environmental Agency's
17 current proposal, would receive sufficient NOX
18 allowances to comply?

19 A. Based upon recent years, yes.
20 However, that certainly doesn't provide any sort of
21 firm indication about compliance status for future
22 years.

23 Q. And if Zion were to receive sufficient
24 NOX allowances to comply, the additional allowances

1 that might flow to Zion as a result of a fuel
2 neutral steam that may well be allowances that Zion
3 turn around and sell, and therefore, make some
4 money; is that correct?

5 A. Primarily, our focus would be to
6 utilize excess allowances, should there be any. And
7 other facilities that are affected by CAIR
8 throughout our other operations throughout the
9 history of the United States. So it's certainly to
10 mitigate shortfalls within our fleet first and
11 foremost.

12 Q. Whether they were used within your own
13 fleets or sold to third parties, they obviously have
14 an economic value to Zion; is that correct?

15 A. Presumably.

16 Q. Were you aware that a firm by the name
17 of ICF was commissioned by the Illinois
18 Environmental Protection Agency to perform an
19 economic analysis with respect to the CASA
20 set-aside?

21 A. I believe so, yes.

22 Q. And have you done any economic
23 analysis with respect to the economic impact of
24 removing fuel adjustment factors from the Illinois

1 proposal?

2 A. No, I haven't.

3 Q. A couple questions for you,
4 Mr. Goodwin, pertaining to your views on the
5 25 percent CASA set-aside. Is it correct it's your
6 testimony that the 25 percent set-aside in your view
7 is too high?

8 A. Yes.

9 Q. And do you have a view as to what the
10 CASA set-aside should be?

11 A. In terms of an actual percentage,
12 nothing specific. I don't have a specific
13 recommendation for the alternative size. My
14 comments and -- our comments were more intended
15 toward the overall sizing pool and the types of
16 sources that were allowed to request allocations
17 from that pool.

18 Q. And I had a follow-up question there.
19 It wasn't clear to me from your testimony to which
20 of the sources that would currently be eligible for
21 CASA set-asides are you asking to be eliminated from
22 eligibility?

23 A. Specifically the energy efficiency
24 demand side management related facilities. I

1 believe that additional investigation needs to be
2 done on any facility that would apply for an
3 allocation as an early adopter. My concern or our
4 concern there is that to the extent that facilities
5 may already be forced to comply with the NOX trading
6 program that, in many cases, emission reduction
7 opportunities and controls may already have been
8 installed. The concern there is with over applying
9 for facilities that are already compliant and
10 significantly below the emission reduction goals.

11 Q. I had a related question, I think, to
12 the answer that you just provided, and it relates to
13 your testimony on Page 11. And it's the last
14 sentence on that page, and it reads, "Therefore, the
15 Illinois EPA seems to have proposed a rule that will
16 incentivizes and reward sources for projects and
17 reductions that are already required by law to the
18 clear detriment of other types of EGUs in this
19 state." Is it your view, Mr. Goodwin, that the NOX
20 trading program requires sources to reduce NOX --

21 THE REPORT: To what?

22 THE HEARING OFFICER: Just for the
23 record, I think that's on Page 10.

24 MR. BONEBRAKE: Page 10. Sorry.

1 BY THE WITNESS:

2 A. You're asking about the last sentence
3 on Page 10?

4 BY MR. BONEBRAKE:

5 Q. The last sentence on Page 10 starting
6 with "Therefore"?

7 A. Yes. Okay.

8 Q. Let me put the question to you again
9 since I referred you to the wrong page.

10 There's a reference there to
11 projects and reductions that are already required by
12 law, what law is it that you're speaking of in that
13 phrase?

14 A. That goes back to the comment I made a
15 few minutes ago about our concern that under certain
16 portions of the CASA set-aside there may be an
17 opportunity for a company or facility that already
18 is required to make reductions, has already made
19 control technology upgrades or installations as a
20 result of complying with the NOX trading program,
21 that there may be an opportunity for obtaining
22 additional credits for reduction already made.

23 MS. BASSI: Just to follow-up on that
24 a bit. The NOX SIP call does not require any

1 particular -- that any particular reductions be
2 achieved; is that correct?

3 THE WITNESS: Yes, that's right.

4 MS. BASSI: And, in fact, the NOX SIP
5 call merely requires that a source surrender
6 allowances equal to its emissions in a given ozone
7 season?

8 THE WITNESS: Correct.

9 MS. BASSI: So then what emission
10 reductions would have been required by that law?

11 THE WITNESS: Well, it's for a company
12 that has a number of facilities that are affected
13 by the rule. There's certainly a system-average
14 approach, that's -- I think it's certainly a
15 reasonable way to approach things. Obviously,
16 controls are not meant to be installed on every
17 facility, otherwise there wouldn't -- they
18 wouldn't benefit to having a CAP and trade permit.

19 MS. BASSI: Is the system-average
20 approach required by the NOX SIP call?

21 THE WITNESS: Not in particular, but
22 it's the -- the net effect of reducing emissions
23 across the system of fleet that's selected in
24 emission control projects as the net effect of

1 having a system average for the affected
2 facilities.

3 MS. BASSI: I understand what you're
4 saying, but is that required by NOX SIP call? Is
5 that required by a law?

6 THE WITNESS: Just an average
7 acquiring controls on particular units, no.

8 MS. BASSI: And, in fact, does the
9 NOX SIP call require any kind of a system-wide
10 average within a state or within the eastern
11 United States or anywhere, does it not merely
12 require the surrender of allowances equal to
13 emissions during the ozone season?

14 THE WITNESS: Yes, that's correct.

15 MS. BASSI: Thank you.

16 BY MR. BONEBRAKE:

17 Q. In your opening presentation, I think
18 you referred to the fact that the Illinois proposal
19 would impact the electricity rates charged to
20 consumers. Did I understand you correctly?

21 A. I highlighted that as a potential
22 concern of the rule given as treatment for gas-fired
23 peakers.

24 Q. Is that because there's an expectation

1 on your part that gas-fired peakers will be required
2 to buy allowances under the proposal?

3 A. Yes.

4 Q. And, similarly, if coal-fired
5 generators were required to buy allowances under the
6 rule, that would increase their cost of generation;
7 is that correct?

8 A. Well, coal-fired facilities would have
9 the option of installing technological feasible
10 controls versus the cost of purchasing allowances.
11 My concern here is that simple-cycle peakers don't
12 have that opportunity.

13 Q. Whether coal-fired generators install
14 controls by allowance, they still incur costs in
15 either event, do they not?

16 A. They would incur costs, but they would
17 be allowed to decide which cost was cheaper.

18 Q. But none the less, incurring
19 additional costs?

20 A. Sure. Anyone that's having to make
21 reductions is presumably making -- is incurring some
22 sort of an additional cost.

23 Q. And those additional costs, likewise,
24 you would be expected to be passed onto consumers;

1 is that right, Mr. Goodwin?

2 A. Presumably, yes.

3 Q. Have you made any calculation of the
4 cost of the Illinois proposal to your client Zion?

5 A. I'm sorry. I didn't get the last part
6 of your question.

7 Q. Have you made any projections or
8 calculations of the cost of the Illinois proposal to
9 the company on whose behalf you are testifying
10 today?

11 A. No, I haven't.

12 Q. Have you made any calculation of the
13 CASA as a proposed impact on consumer cost for
14 electricity in Illinois?

15 A. No, I have not.

16 BY MS. BASSI:

17 Q. Could you walk us through
18 Attachments 1 and 2 to your testimony, please? Tell
19 us what information these attachments are providing
20 to us.

21 A. Yes. Attachment 1 is a printout from
22 USEPA's technology transfer network clearing house.
23 That database includes emission control technologies
24 present with respect to permits for facilities

1 throughout the US. Attachment 1 deals with an
2 electric peaking facility located in Rock Springs
3 Maryland. It was submitted for the purpose of
4 demonstrating a recent BACT determination for a
5 comparable and, in fact, identical facility to Zion
6 Energy.

7 Q. And I see a couple of dates on that
8 page. What -- when was this particular facility
9 added to the list?

10 A. This facility was added on Page 2
11 of 3. The application acceptance date was noted as
12 August 9, 1999.

13 Q. So does that mean that this Model --
14 GE Model 7FA was BACT or LAER?

15 A. Actually, this is LAER determination.

16 Q. A LAER?

17 A. Yes.

18 Q. And what is the emission rate?

19 A. Nine parts per million of NOX.

20 Q. What does that transfer into --

21 A. It depends on how you're asking it.

22 If you're asking for a pound per million from a
23 combustion turbine, it's point 0332. Now, it's
24 different compared to other types of generating

1 units because the calculations are different for a
2 boiler compared to a combustion turbine.

3 Q. And is that all about Attachment 1?

4 A. Yes, unless you have additional
5 questions.

6 Q. Attachment 2?

7 A. Attachment 2 is a BACT determination
8 for a facility proposed by gas electric, again,
9 using the GE 7FA combustion turbine. The emission
10 limit for that facility is indicated at 12 parts per
11 million NOX, which --

12 Q. Where does it tell us that?

13 A. For which attachment?

14 Q. Two.

15 A. For Attachment 2 it is on -- it is
16 actually two groupings -- actually three groupings.
17 We have a set of three pages. We have a single
18 page, and the final set of groupings, which is a set
19 of two.

20 Q. Okay.

21 A. If you look on Page 1 of 2, the third
22 grouping down towards the bottom.

23 Q. And you said this is a BACT
24 determination?

1 A. Yes, this is a BACT determination.

2 Q. Going back to Attachment 1, where is
3 this particular project located, the Rock Springs?

4 A. Rock Springs, Maryland is northeast of
5 Baltimore approximately 40 miles.

6 Q. So it's in that Baltimore
7 nonattainment area?

8 A. Correct.

9 Q. And then I had a couple questions
10 about your presentation.

11 MR. BONEBRAKE: If I may?

12 MS. BASSI: Oh, I'm sorry.

13 MR. BONEBRAKE: I had a follow-up
14 question for you on Attachment 2. You mentioned
15 the 12 part per million emission limit?

16 THE WITNESS: Yes.

17 MR. BONEBRAKE: And what I didn't see
18 in here and was wondering about is, do you know
19 what technology was identified by the Agency as
20 the technology that could be utilized or installed
21 to achieve that emission rate?

22 THE WITNESS: Yes, that's combustion
23 controls.

24 MR. BONEBRAKE: Is that specified

1 somewhere in Attachment 2? That's what I was
2 looking for.

3 THE WITNESS: Let me see. It doesn't
4 look like Attachment 2 has such an indication.

5 I believe Attachment 1 may have
6 that. Let me look. No, it's not indicated on
7 here. What I can tell you is, is that the 9 ppm
8 limit on Attachment 1 and the 12 ppm limit on
9 Attachment 2 are consistent with the emission
10 guarantee limits provided by General Electric on a
11 combustion turbine.

12 MR. BONEBRAKE: Is that the type of
13 combustion turban used by Zion?

14 THE WITNESS: Yes.

15 MR. BONEBRAKE: And I think you
16 referred to the combustion controls in your answer
17 as well. What type of the specific combustion
18 controls were you referring to?

19 THE WITNESS: The combustion controls
20 used for these facilities are what's called a
21 (inaudible) NOX combustion. It's an advanced
22 combustor technology that does a very good job of
23 mixing fuel and air during the combustion process,
24 which reduces the formation of NOX. So,

1 essentially, you prevent the formation of NOX in
2 the first place. So you don't have to actually
3 remove it through a post combustion technology.

4 MR. BONEBRAKE: And do you know if in
5 the case of either the facility addressed in
6 Attachment 1 or Attachment 2, whether USEPA made
7 an express determination that alternative
8 technologies were not available? And if so, do
9 you have a document to that affect?

10 THE WITNESS: Well, with respect to
11 the Rock Springs facility, I actually was the
12 permit engineer for the line energy, which was one
13 of the parts necessary on the project. So I'm
14 familiar with the control process. I believe that
15 EPA issued a determination indicating that
16 combustion controls, in fact, did represent LAER
17 through this type of technology.

18 BY MS. BASSI:

19 Q. I had a couple questions on your
20 presentation. And the first one is on Page 3 of the
21 presentation. This is the one that begins comments
22 focussed on the NOX portion of CAIR.

23 A. Yes.

24 Q. And I believe at this point in your

1 discussion of the shorter time frames, that was with
2 this particular slide, wasn't it?

3 A. Yes, I believe so. Shorter baseline.

4 Q. And as I understood it, what you were
5 saying was, with the shorter time frames for rolling
6 new sources into the existing source baseline, that
7 that was a good thing in your opinion; is that
8 correct?

9 A. Yes.

10 Q. With the shorter time frames for the
11 new source set-aside or the new unit set-aside, does
12 the new unit set-aside then need to be 5 percent?

13 A. I believe that a large new source pool
14 is not a bad thing. I believe, conceptually and
15 admittedly, Calpine has a great deal of new
16 facilities that have met bad requirements, and
17 therefore, we have very advanced pollution controls
18 in a vast majority of our fleet. So from our
19 perspective, certainly, we think that the newest and
20 cleanest facilities ought to have an adequate
21 opportunity to have enough additional allowances to
22 cover their obligations.

23 What we have seen in other
24 situations is that the new source pool is under

1 subscribed and leftovers, which would be in the
2 process of tipping roll back into the main pool for
3 distribution. We take no position on whether or not
4 that happens, but we do feel like the new source
5 pool is an important factor to have.

6 Q. Is your facility at Zion the only one
7 that Calpine has in Illinois?

8 A. Yes, it is.

9 Q. And is it correct that your
10 allocations will come from the, quote, existing pool
11 as opposed to the new pool?

12 A. Correct.

13 MS. BASSI: That's all I have.

14 THE HEARING OFFICER: Mr. Bonebrake,
15 are you finished?

16 MR. BONEBRAKE: I'm finished for now.

17 THE HEARING OFFICER: Yes, sir.

18 UNIDENTIFIED SPEAKER: Yes, if I
19 could, I'd like to direct your attention to --

20 THE REPORTER: I don't know who that
21 is.

22 THE HEARING OFFICER: Could identify
23 yourself for the court reporter, please?

24 MR. FORCADE: Bill Forcade,

1 Jenner & Block.

2 THE REPORTER: Thank you. I see your
3 card here.

4 BY MR. FORCADE:

5 Q. Page 12 of your prepared testimony,
6 the first full paragraph. I believe you identified
7 two sources of potential increase and electric
8 power prices to consumers. The first one is
9 the 25 percent NOX emission allocation set-aside for
10 CASA. And the second one is the complete retirement
11 of the compliance supplement pool. Is that correct?

12 A. Yes.

13 Q. And I believe you've made a statement
14 in your testimony in your outline that you believe
15 the CASA set-aside should be returned if unused.
16 You made that comment on the CASA pool?

17 A. Yes.

18 Q. I did not see a comment on the
19 compliance supplement pool. Do you support the
20 language in the Agency proposal relating to the
21 retirement of the compliance supplement pool?

22 A. If I understand correctly, the
23 compliance supplement pool is a pool of allowances
24 that is set aside and made available additionally as

1 needed for facilities that may have allocation
2 shortfalls; is that correct?

3 Q. Early reductions.

4 A. I'm not familiar with that pool. And
5 on the various rule-makings with respect to CAIR, we
6 have not taken a position on compliance supplement
7 pool retirement. So I'm not in the position right
8 now to comment effectively.

9 THE HEARING OFFICER: Anything
10 further? Anybody else have any questions for this
11 witness?

12 MS. BUGEL: I have questions, but you
13 go ahead.

14 THE HEARING OFFICER: Ms. Doctors?
15 BY MS. DOCTORS:

16 Q. Rachel Doctors for the Illinois
17 Environmental Protection Agency.

18 MR. FORCADE: I'm sorry. I can't hear
19 you.

20 MS. BASSI: You got to yell, Rachel.

21 MS. DOCTORS: Okay.

22 THE HEARING OFFICER: I think the only
23 one that heard you was the court reporter there.

24 MS. DOCTORS: Good.

1 BY MS. DOCTORS:

2 Q. Mr. Goodwin, did you or any other
3 representative of Zion attend the stakeholder
4 meetings on the proposed CAIR rule in January and
5 February of this year?

6 A. No, we did not.

7 Q. If no, why not?

8 A. Our company had filed for Chapter 11
9 Bankruptcy Protection late in 2005, and as a result
10 of that, our travel budgets were highly restricted.
11 And I requested an opportunity to attend and was
12 declined that opportunity by company management.

13 Q. Did you or any other representative of
14 Zion submit comments prior to this prefiled
15 testimony of the proposed CAIR rule either at the
16 stakeholder meeting via e-mail, in writing or
17 regular mail or at the first hearing on the proposed
18 rule in Springfield?

19 A. I believe we did. I apologize. I'm
20 trying to search for the comment letter in my head
21 for whether we submitted one to the Agency.
22 Obviously, we submitted written testimony, and I
23 can't recall specifically if we submitted comments.

24 Q. Would it surprise you if the Agency

1 hadn't received any comments from Zion?

2 A. No. And the reason being is that my
3 understanding of the process was that the former
4 rule-making process went -- moved very quickly from
5 the stakeholder process to the draft rule stage. I
6 had a conversation with Mr. Kaleel subsequent to
7 that, and he indicated to me that the administrative
8 process was -- would be moving forward soon
9 thereafter, and that that would be an opportunity
10 where we could submit comments on the rule-making.

11 Q. What NOX controls are currently
12 employed at Zion's gas turbine -- on Zion's gas
13 turbine units?

14 A. For natural gas combustion, our
15 facility uses dry, low NOX combustors. For periods
16 where we fire distill oil of water injections, we
17 usually use NOX emissions.

18 Q. Emissions data for Zion that Zion has
19 reported to use EPA Cambi shows that Zion's gas
20 turbines over the years from 2002 to 2005 have
21 average emissions between 0.05 and 0.06 pounds per
22 MMBTU, and that two of the three turbans have
23 achieved emission rates as low as 0.04 pounds MMBTU
24 on an annual basis. Would you characterize these as

1 relatively low emission rates?

2 A. In what context?

3 Q. In the context of the other units that
4 are required to comply with the CAIR rule?

5 A. Well, it's certainly lower compared to
6 a coal-fired unit. And I think within the context
7 of comparable emission sources and degenerating
8 technologies, it's fairly consistent.

9 Q. On average, how many tons of NOX have
10 Zion's turbines admitted since beginning operation
11 in 2002?

12 A. I don't have that data in front of me
13 right now.

14 Q. Would you be surprised that Cambi
15 reports that it's 20 on an annual basis, 20 tons of
16 NOX?

17 A. If you have the data, then you're
18 having the advantage, so...

19 Q. With respect to fuel-weighting,
20 each state's budget in both the annual and seasonal
21 programs were calculated using these fuel-weighting
22 factors -- the fuel-weighting factors
23 (inaudible) -- the CAIR final rule at Page 25231,
24 dated May 12, '05, it's Agency Exhibit A, also

1 states with respect to the fuel-weighting, "It's not
2 expected that this decision to include
3 fuel-weighting would disadvantage states with
4 significant gas-fire generation. One reason is that
5 the calculation of the adjusted heat input for
6 natural gas generation generally includes
7 significant historic heat input and emissions from
8 older, less efficient and dirtier steam gas units.
9 These units capacity factors are declining and are
10 expected to decline further over time as new,
11 cleaner and more efficient combined-cycle gas units
12 increase their generation." In light of this
13 information from USEPA on how state budgets were
14 calculated, wouldn't an output based regulation,
15 such as Illinois', be beneficial in the long-term to
16 gas-fired turbine units?

17 A. We have not taken issue with the
18 output based concept. In fact, we've supported
19 output based allocations in other opportunities. So
20 we don't take issue with the output based concept.

21 Q. I guess it was alluded to -- and maybe
22 I'll just follow-up with one more question on
23 fuel-weighting.

24 In Illinois, isn't it true that

1 the base load generation is coal-fired rather than
2 gas?

3 A. Yes.

4 Q. So the burden for emission reductions,
5 as well as the inherent financial burden, is on
6 coal-fired base load units?

7 A. The burden and the opportunity, I
8 believe, both lie with the coal-fired portion of the
9 generating fleet.

10 Q. Based on the answers -- on your answer
11 and in your testimony, a natural gas-fired peaker
12 would not need to add controls to meet the rule?
13 Because on Page 7 of your testimony you indicated
14 you get barely enough allowances; is that correct?

15 A. Based on the historical data that we
16 have, and as you indicate, historically designed
17 facility had a low capacity factor, we would
18 anticipate having a marginal excess above historical
19 values. However, should emissions increase
20 substantially in a short period of time, Zion could
21 be put in a position of having a significant
22 shortfall.

23 MR. COOPER: Do you foresee that as a
24 likely scenario? I mean, what would cause you to

1 think that sometime in the future there would be a
2 large ramp up of emissions?

3 THE WITNESS: Well, with respect to
4 development of PGAM market design, with respect to
5 development of the midwest independent system
6 operator and with our restructuring through
7 bankruptcy, we're hopeful that that would provide
8 additional opportunities for additional run time
9 and additional dispatch opportunities from the
10 Zion facility.

11 THE HEARING OFFICER: Ms. Bassi?

12 MS. BASSI: I'd like to follow-up on
13 that.

14 If there's additional run time,
15 would you also then be allocated additional
16 allowances based on your gross electrical output?

17 THE WITNESS: Yes, that would be a
18 consideration and a factor in the calculation.
19 However, what we're concerned about is that should
20 some -- at some point down the road EPA and IEPA
21 and other agencies determine that clean air goals
22 are not being met, there could be a situation to
23 where the state budget would be rationed down, and
24 in fact, reducing the emission allocation

1 opportunity for Zion and putting us in a position
2 where additional reductions were not feasible.

3 THE HEARING OFFICER: Ross Cooper?

4 MR. COOPER: I didn't glean this from
5 your testimony until you spoke now. The
6 impression I got from your testimony was that Zion
7 would be required to install an SCR. What I think
8 I've heard you state is that your concern is not
9 that you are being required to install an SCR,
10 it's that you have no option to install an SCR?

11 THE WITNESS: Correct.

12 MR. COOPER: So your concern is that
13 the structure of the rule has effectively
14 eliminated one compliance choice, and now you feel
15 your only option is to buy from the market?

16 THE WITNESS: In summary, yes.

17 BY MS. DOCTORS:

18 Q. As we've discussed -- I believe
19 Mr. Bonebrake brought this up, that the average cost
20 of allowances of 2000 tons is what they were
21 using -- \$2,000 per ton was the average figure so --
22 of cost effectiveness. So that's the same cost
23 effectiveness figure that a coal-fired unit would
24 also be subject to that they have to make the

1 decision about whether to install additional
2 controls or pay \$2,000 a ton for allowance, if they
3 didn't receive enough allowances; isn't that
4 correct?

5 A. Well, from the perspective of the cost
6 of the allowance, if you're assuming that the cost
7 is fixed, then certainly that'd be a comparison made
8 between the control cost. My assertion here is, is
9 that the consideration of the control cost is not an
10 option for us. We are totally required to -- we
11 have one option and one option only and are subject
12 to the whims of the emission credit market. If a
13 substantial shortfall were to develop through
14 reduction in state pools or some other factor, then
15 we are at the mercy of the market and would have to
16 bear those costs.

17 MR. COOPER: Admittedly, not a great
18 body literature, but most of the literature I've
19 looked at suggests that future allowance rates
20 somewhere between 2,000 and 2,500, do you think
21 purchasing a 2,500 would be an unduly burdensome
22 form of compliance, in lieu of, perhaps,
23 installing, say -- what does an SCR cost?
24 Millions?

1 MS. BASSI: Gazillions.

2 BY MR. COOPER:

3 Q. Gazillions. Thank you.

4 A. Well, I think with respect to most of
5 the air planning programs that I've been associated
6 with and experience with is that the cost per ton
7 reduction is the common metric for which to
8 determine whether certain measures are feasible and
9 others are not, and certainly in terms of grading of
10 those terms of preference. Obviously, there's a
11 bigger bang for the buck by installing controls on a
12 facility where we can get a 2,000 per ton on
13 reduction versus say a combined-cycled facility
14 brand new, which costs \$7 and \$8,000, and offers a
15 significantly lower corresponding --

16 Q. In speaking about Zion's -- these
17 particular facilities, even under worse case
18 scenario, say, \$2,500 a ton, and you had to purchase
19 all 20 tons worth, are we still not talking about,
20 perhaps, a reasonable dollar amount?

21 A. And I guess maybe I misunderstood your
22 question. I think, fundamentally, we are opposed to
23 being required to purchase emission credits when our
24 facility represents the best available technology

1 for our particular generating type. So, no, I don't
2 believe it's a reasonable --

3 Q. As your own testimony states, though,
4 you'll receive barely enough. And as Ms. Bassi
5 pointed out, which was a follow-up to mine, for
6 every additional megawatt you generate to --
7 hopefully, through PGAM, you folks do well. Every
8 additional megawatt you generate, you'll be given
9 more allowances. I think it balances out.

10 A. Well, presuming that the rule stay
11 static and never changes, presuming that the
12 emission pool is never reduced, presuming that the
13 state CAP is never reduced, presuming that there's
14 no --

15 Q. Have other trading programs
16 historically been reduced on a whim?

17 A. I believe that the Title IV SO2
18 program implemented a CAP reduction.

19 Q. Is this a common event? I mean, is
20 this something that your business planning people
21 would not -- wouldn't account for?

22 A. I think it's incumbent upon any
23 company to plan for things of that nature, but
24 certainly, it's difficult to foresee air quality

1 goals and success with achieving those goals and be
2 able to project what's going to happen ten years
3 from now. So we're trying to insulate against that
4 type of concern.

5 Q. Sure. Onto a slightly different
6 topic.

7 A short time ago, we spoke briefly
8 on the 5 percent NUSA. I believe the question was,
9 is a 5 percent NUSA necessary, and I believe you
10 answered something to the effect of, yes, newer
11 plants are typically better, and therefore, we would
12 support somewhat larger NUSA. Did I paraphrase that
13 correctly?

14 A. I believe my comment was addressed to
15 the conceptual validity of the NUSA pool. And both
16 Zion and Calpine, both, strongly support the concept
17 of the NUSA pool.

18 Q. So if Illinois has several EGU
19 projects, either on the books now or in the near
20 future, a larger NUSA pool then would assist those
21 particular projects in actually coming on live; you
22 then would agree with that?

23 A. I believe the larger pool would
24 certainly help mitigate the control costs and

1 compliance costs.

2 MS. BASSI: What do you mean by larger
3 pool?

4 MR. COOPER: 5 percent versus
5 1 percent.

6 BY MR. COOPER:

7 Q. On Page 7 of your testimony, I
8 believe, the second paragraph, last sentence,
9 "Consequently, the fuel-weighting issue does not
10 have as devastating an impact on those combined
11 cycle sources." Can you describe to me what you
12 mean by that devastating in that context?

13 A. Well, from the perspective of having
14 control options and post combustion control
15 opportunities versus not having those. Combined
16 cycle, obviously, is well-suited to install an SCR
17 post combustion control technologies. Certainly,
18 with respect to a particular emission limit, SCR
19 provides the ability to incrementally reduce from a
20 starting point. And so that was the purpose of that
21 statement.

22 MR. RAO: I have a follow-up.

23 Does Zion have any plans to
24 convert the combined cycle in the near future?

1 THE WITNESS: No.

2 BY MR. COOPER:

3 Q. Page 10 of your testimony, the first
4 full paragraph, "However, such lower level
5 set-asides for renewable energy projects should
6 provide some encouragement in the Illinois'
7 regulated community." I'm curious why you feel that
8 the regulated community wouldn't be encouraged. I
9 would think a set-aside for a specific thing, such
10 as Wind, for example, would be an encouragement for
11 the regulated community. A perfect example of that
12 would be City Water, Light and Power in Springfield,
13 who I believe is somewhere in the stages of actually
14 contemplating installing Wind Power. It would seem
15 to me that the installation of the Wind Power --

16 MR. MURAWSKI: I want to stop right
17 here. Are we getting testimony, or are we getting
18 a question?

19 MR. COOPER: No, I asked a question.

20 THE HEARING OFFICER: Is that an
21 objection?

22 MR. MURAWSKI: Well, yes. Objection.
23 Ask a question.

24 THE HEARING OFFICER: Ms. Doctors, do

1 you have any response to the objection?

2 MS. DOCTORS: He'll rephrase.

3 BY MR. COOPER:

4 Q. Without elaborating, I want to know
5 why you believe the Illinois regulated community has
6 no encouragement through the set-asides?

7 A. I don't think that was -- that wasn't
8 how the comment was intended. I think that -- I
9 think that the comment was intended toward
10 indicating that there's a place in consideration for
11 new set-aside pools and encouraged development set
12 sources. However, I don't think it should be such a
13 large percentage of the pool or such a large
14 incentive that it becomes a substantial component of
15 revenue. It should be, in our opinion, offered as
16 an incentive, not as -- it may just be the way that
17 the statement was worded.

18 Q. That may be.

19 I have just a couple more. In the
20 next paragraph, it looks like the one, two, three,
21 fourth line, unreasonably drive up costs, is a
22 specific phrase I've got some interest in. Have you
23 done some studies to determine what that would be?

24 A. In terms of quantitative studies of

1 the specific financial impact?

2 Q. (Nonverbal response.)

3 A. No. This was offered more from a
4 quantitative standpoint of -- a qualitative
5 standpoint of saying that, obviously, if you take a
6 significant portion of the allowances away, simple
7 supply and demand indicates that remaining
8 allowances would be much more valuable.

9 Q. The next sentence, "Specifically, the
10 Illinois EPA's proposal will further remove
11 available NOX emission allowances from the overall
12 pool." Are those allowances that you're referring
13 to retired?

14 A. They could be.

15 Q. They could be, but are they?

16 A. Not necessarily.

17 Q. Do you have any feel --

18 A. Well, the intent of that was to remove
19 them from being allocated to the effected source
20 community and being used for a compliance purpose as
21 opposed to being sold to a source or facility or
22 company that will not need them for compliance and
23 be able to use them for a profitable venture.

24 Q. Exactly the point then. That

1 particular company who does not need those
2 allowances for compliance, who then would they
3 likely sell them to?

4 A. Well, typically, if you have excess
5 emissions to emission allowances to sell and you
6 don't need them for compliance purpose elsewhere --

7 Q. Let's pretend it's a Wind farm.

8 A. You'd sell them to an emissions broker
9 typically.

10 Q. Emissions broker or directly to a
11 company --

12 A. Yeah. Sure.

13 Q. -- a generating unit?

14 So then those -- again, based on
15 my reading, that's the much more likely scenario
16 than retirement. You then would characterize those
17 as not removed from the pool?

18 A. Well, again, I think the comment was
19 intended to speak to the issue of taking allowances
20 away from sources that need them for compliance.

21 Q. The allowances, though, are still
22 available?

23 A. They'd still be available for purchase
24 by others.

1 Q. Thank you.

2 THE HEARING OFFICER: Ms. Bassi?

3 BY MS. BASSI:

4 Q. Even though those allowances are still
5 available, wouldn't the cost of those allowances
6 essentially be doubled, in that the source is not
7 allocated the allowance valued at \$2,000, and then
8 the source was paid \$2,000 to get it?

9 A. I don't know if it's doubled, but I
10 think I understand your point, which is that there's
11 a shortfall when you compare the allocation versus
12 the compliance obligation, and then there's an
13 additional requirement to go and purchase allowances
14 to make up the shortfall.

15 Q. And would there be broker fees on
16 that?

17 A. Typically, when you work with an
18 emissions broker, there are fees associated.

19 BY MR. COOPER:

20 Q. I've got one last question for you.

21 The last sentence in that
22 paragraph, "Therefore, the Illinois EPA seems to
23 have proposed a rule that will incentivize and
24 reward sources for projects and reductions that are

1 already required by law." I think Mr. Bonebrake
2 already somewhat touched on this. That CAIR is a
3 CAP and trade; correct?

4 A. Yes.

5 Q. So there is no mechanism in CAIR or
6 Illinois CAIR that strictly imposes an effected
7 source to install controls; correct?

8 A. Right. No particular source --

9 THE REPORTER: No particular source,
10 what's that? I'm sorry.

11 THE WITNESS: Has to make a
12 specific -- meet a specific emission limit.

13 THE REPORTER: Thank you.

14 BY MR. COOPER:

15 Q. So if a source were to choose the
16 position of strictly purchasing allowances, those
17 allowances could come from any other effected state;
18 correct?

19 A. Potentially, yes.

20 Q. So from a policy-making standpoint,
21 with local attainment issues in mind, would
22 providing incentives that provide for local
23 reductions not be a good decision?

24 A. Could you repeat that question?

1 Q. Sure.

2 In light that allowances a/k/a
3 reductions could come from any other affected state,
4 specifically from a policy-making standpoint,
5 specifically taking into account local attainment
6 issues here in Illinois, would then providing
7 incentives, like through the CASA, specifically,
8 pollution control upgrades, for example, to provide
9 for local incentives not be a good decision?

10 A. Well, assuming that the control
11 technologies that you speak of would have an impact
12 on attainment issues that you're referring to, as
13 you said, there's no source specific requirement to
14 install controls, so there's no guarantee that a
15 facility or a project that applied for an allocation
16 under this program would actually be affecting
17 attainment in Chicago, for example. So I don't know
18 that I necessarily agree that there's a linkage.

19 Q. Thank you.

20 THE HEARING OFFICER: Mr. Bonebrake?

21 BY MR. BONEBRAKE:

22 Q. I have a follow-up.

23 Do you know, Mr. Goodwin, is the
24 federal CAIR program directed at local attainment

1 issues, or instead is it directed at regional issues
2 including regional transport?

3 A. I understand it's primarily a regional
4 transport issue.

5 THE HEARING OFFICER: Ms. Bugel?

6 BY MS. BUGEL:

7 Q. First of all, can you just tell me in
8 terms of energy generated, electricity generated,
9 what is cleaner, natural gas or coal?

10 A. Well, inherently, there's --
11 obviously, any type of facility can be controlled,
12 but inherently, if you're just talking about a
13 qualitative, obviously, natural gas is --

14 THE REPORTER: Don't forget about me.

15 THE WITNESS: I'm sorry. I said,
16 qualitatively, natural gas is a cleaner generating
17 technology for fuel than coal.

18 BY MS. BUGEL:

19 Q. And would you agree that one of the
20 benefits of a fuel neutral role is that it creates
21 incentives that lean in favor of cleaner fuels, such
22 as natural gas?

23 A. I would agree, yes.

24 Q. On Page 12 of your testimony, you

1 quote Illinois EPA's statement of reasons quoting
2 good environmental policy to provide more allowances
3 to sources that operate more efficiently, install
4 air pollution control equipment and upgrade their
5 equipment. I want to try to understand, by quoting
6 that in the context in which you quote it, are you
7 indicating that you're supportive of that policy?

8 A. Yes, we are.

9 Q. Why do you believe that is a good
10 environmental policy?

11 A. This statement coincides very strongly
12 with Calpine's emission statement. Zion Energy
13 certainly is a part of that. Our company has
14 centered its business plan on providing clean
15 efficient reliable electric power. And the vast
16 majority of our fleet has involved either
17 simple-cycled or combined-cycled combustion
18 turbines, which are primarily using natural gas. So
19 this statement is very consistent with our model.
20 We believe that it's -- we certainly don't -- well,
21 we believe that this is a consistent strong basis
22 for how environmental regulatory programs should be
23 structured.

24 Q. The section of your testimony in which

1 you include this quote is related to the Clean Air
2 Set-Aside Program, but do you feel that that good
3 environmental policy we just discussed also applies
4 to removing fuel-weighting from the rule and making
5 the rule fuel neutral?

6 A. Calpine and Zion Energy has
7 consistently taken the position in all of our state
8 level rule-makings on CAIR that we believe fuel
9 neutral is the appropriate way to structure
10 allocations, and that is consistent with this
11 statement. So, yes, we would support fuel neutral,
12 and that's the appropriate way to handle it.

13 Q. But would you then believe that it is
14 a good environmental policy to have a fuel neutral
15 rule?

16 A. Yes, we do.

17 Q. I'd like to now ask you a few
18 questions about your testimony on the Clean Air
19 Set-Aside. Specifically, we were just discussing
20 that quote on good environmental policy. Doesn't
21 your reasoning behind supporting the good
22 environmental policy also make the Clean Air
23 Set-Aside a good environmental as well?

24 A. I think conceptually we agree, and we

1 have no opposition to a clean unit set-aside or a
2 clean air set-aside. Our issue is with respect to
3 the size of the set-aside itself.

4 Q. I believe earlier in your testimony
5 you did not provide a percentage in terms of the
6 size of the set-aside that you would support; is
7 that correct?

8 A. Correct, we did not provide an
9 alternative percentage.

10 Q. And did you state that in terms of
11 current assessments of Zion's emissions, Zion, at
12 this time, will not need any additional allowances;
13 is that correct?

14 A. Based on historical generation and
15 based on projected allocations that I believe the
16 Agency has provided, we expect to have a marginal
17 surplus above our expected emissions.

18 Q. So if the size of a Clean Air
19 Set-Aside were reduced and the initial allocation
20 pool were increased, correspondingly, it would
21 simply provide Zion with additional excess
22 allowances above and beyond its emissions levels at
23 the current time; is that correct?

24 A. Based on our existing projections, it

1 would provide an additional surplus that could be
2 used to offset any unanticipated increases and
3 demand for compliance.

4 THE HEARING OFFICER: Mr. Goodwin, let
5 me just remind you when you're facing Ms. Bugel,
6 will you speak up for us?

7 THE WITNESS: I'm sorry.

8 THE HEARING OFFICER: We heard you.
9 It's just cautionary.

10 MS. BUGEL: I have no further
11 questions. Thank you.

12 MR. JOHNSON: Do you think that the
13 availability of those excess allowances then in
14 that scenario from a policy standpoint is a good
15 thing because it's rewarding you for having used
16 this best available control technology in the
17 first place?

18 THE WITNESS: To be blunt, yes. We
19 believe that by virtue of the fact that our
20 facilities, which are predominately new and
21 predominately constructed in the last ten years,
22 feature the best emission control technology
23 available, we believe that it's appropriate that
24 facilities like us and companies like us should

1 have primary consideration and allocations.

2 MR. RAO: In response to one of the
3 earlier questions, you mentioned that there were
4 eight or nine states that were in the process of
5 CAIR rule-making.

6 THE WITNESS: Yes.

7 MR. RAO: How many of these states are
8 using the fuel-weighting as a way to allocate NOX
9 allowances?

10 THE WITNESS: Let's see.
11 Fuel-weighting, there's --

12 MR. RAO: Are there any states that
13 are eliminating fuel-weighting?

14 THE WITNESS: There are three that I
15 can think of that have either implemented or in
16 the process of implementing the fuel neutral
17 regulation. Alabama EEM has implemented their
18 rule. Essentially, there's a carry rule from
19 their SIP call rule, which is a fuel neutral
20 basis. Wisconsin is pursuing a fuel neutral base
21 regulation, which is finished, I believe, and
22 public notice at this point, and is working toward
23 the legislative approval process. And Arkansas
24 has submitted a fuel neutral rule and their public

1 hearing process is next week.

2 MR. RAO: Are you aware of any states
3 that are considering fuel-weighting, which is not
4 different from what the CAIR model rule?

5 THE WITNESS: Yes, I believe that --
6 and I can't speak to specific details, but I
7 believe the Texas rule worked out -- the
8 stakeholders worked out a combination for
9 gas-fired units.

10 I can speak to the issue for the
11 rule developed for South Carolina. That process,
12 public notice ended on Monday. There was an
13 excessive stakeholder process that Calpine
14 participated in. The consensus agreement was that
15 fuel-weighting would be changed to a two-tier
16 system. It was 1.0 applied to coal-fired units
17 and 0.6 applied to fuels other than coal.

18 So, essentially, it was a
19 compromised position between coal and gas fired
20 interests, and it had the effect of avoiding some
21 sort of stakeholder controversy in the public
22 hearing process.

23 MR. RAO: You have recommended that
24 the Board eliminate fuel-weighting in this

1 proposed rule. Is there an alternative, like a
2 compromise weighting factor that you'd be willing
3 to support? If so, you can give us comments as to
4 what that would be or you can respond now?

5 THE WITNESS: I think we're certainly
6 willing to entertain a discussion with respect to
7 an alternative, in our view, a more equitable
8 balanced consideration. In terms of the specific
9 recommendation, I think we may need to evaluate
10 that and respond back formally.

11 THE HEARING OFFICER: Mr. Bonebrake --
12 could you identify yourself down there at the EPA?
13 Mr. Davis has been trying to ask a question for
14 awhile.

15 MR. DAVIS: You testified earlier in
16 response to Mr. Bonebrake about some other states
17 CAIR rules that Illinois has the largest set-aside
18 involvement.

19 THE WITNESS: Yes, largest CASA
20 set-aside.

21 MR. DAVIS: Sure.

22 Did any of these states that you
23 were involved with, did any of them have a
24 set-aside that was intended primarily for the

1 existing EGU units, or the majority of the CASA
2 was intended for the existing EGUs.

3 THE WITNESS: Not to my recollection.
4 I seem to recall it being the Wisconsin process at
5 a provision that had a portion of the allowance
6 pool set aside for early reductions. And,
7 certainly, there's the customary compliance
8 supplement pool concept. But if memory serves, I
9 don't recall any other specific provisions
10 dedicated to EGUs.

11 MR. DAVIS: Did any of them have
12 categories of their set-asides for pollution
13 control upgrades and existing EGUs for emission
14 reductions?

15 THE WITNESS: I think, perhaps, the
16 early reduction concept for the Wisconsin rule
17 would have been defined such that those such
18 projects could be included there. That's the only
19 concept that I can recall at this time.

20 MR. DAVIS: Did any of them -- of the
21 other states, were any of them -- the set-asides,
22 did they make the existing EGUs eligible for
23 demand side or supply side in the conservation
24 project?

1 THE WITNESS: The Illinois rule is the
2 only rule that I've seen that included energy
3 efficiency or demand side.

4 MR. DAVIS: Were any of the states --
5 have a category for IGCC or clean coal
6 technologies with generation, be it existing or
7 new?

8 A. Not distinct from any of the normal
9 new source set-aside pool.

10 Q. So comparing the numbers of
11 percentages between different types of set-asides
12 from other states being five, seven, I think 11 was
13 in there, it's not really comparing the same types
14 of set-asides to Illinois' 25 percent where the
15 majority is intended for existing EGUs to have
16 allocated them?

17 A. I think that's correct. I would like
18 to clarify. My understanding, and tell me if I've
19 got this wrong, is that the energy efficiency in
20 renewal energy portion is 12 percent; is that
21 accurate?

22 Q. Yes. And that's actually -- well, I'm
23 not testifying, but the renewable and energy
24 efficiency portion, which is also available to

1 existing EGUs --

2 THE HEARING OFFICER: We could swear
3 the Agency in, if you'd like? Because there has
4 been, as Mr. Murawski pointed out earlier, some
5 exceptionally detailed questions that borderline
6 testimony. So if you have things that you want to
7 say, we'd like them on the record and we'd like
8 them to be being said by people who have been
9 sworn in.

10 MR. DAVIS: He asked me a question.

11 THE HEARING OFFICER: Well, yeah. And
12 when you're asked a question, you're testifying.
13 So let's swear the Agency witnesses in. Unless,
14 Ms. Doctors, you have an objection to that? If
15 you have an objection, you can make it for the
16 record, but I'm going to ask that they be sworn in
17 anyway.

18 MR. KIM: I think that the Agency's
19 preference would be, aside from Mr. Davis
20 attempting to be helpful on directing to provide
21 the witness to the provision he was referring to,
22 unless we have questions that are specifically
23 posed to us, I would prefer we not have our people
24 sworn in unless it becomes necessary at that time.

1 THE HEARING OFFICER: Okay. It's duly
2 noted for the record, but I'm going to have them
3 sworn in now. Can you guys raise your hands?
4 Mr. Ross, Mr. Davis, Mr. Cooper and Mr. Kaleel.

5 (Witnesses sworn.)

6 THE HEARING OFFICER: And I do want to
7 note for the record that if you guys have -- you
8 guys, and by you guys, I, of course, mean the
9 Agency, have any problems with these people being
10 sworn in and offering testimony, you can direct
11 them not to speak. So, I mean, Ms. Doctors, you
12 can ask the questions as opposed to your
13 witnesses, if you'd like. If you don't want to
14 run the risk of them testifying unduly.

15 MS. DOCTORS: Okay.

16 THE HEARING OFFICER: Mr. Russell?

17 MR. RUSSELL: (Inaudible.)

18 THE HEARING OFFICER: And you're going
19 to have to speak up as well. I'm sorry.

20 MR. RUSSELL: If I may, our witness
21 came in from Omaha today for the hearing, and he
22 plans to return tonight, so --

23 THE HEARING OFFICER: You're
24 Mr. Kunkel; correct?

1 MR. RUSSELL: Yeah.

2 THE HEARING OFFICER: Yeah, I think
3 we're wrapping up with --

4 MR. RUSSELL: Well, if we're going to
5 get into Agency testimony, then --

6 THE HEARING OFFICER: No, that's not
7 my intention at all.

8 Mr. Davis, you were finished?

9 MR. DAVIS: Yeah.

10 THE HEARING OFFICER: Mr. Bonebrake?
11 He had his hand up, Ms. Doctors.

12 MR. BONEBRAKE: If I may just raise a
13 point of process. I think at the mercury hearing,
14 we sometimes had fellas who were asking questions
15 who were also, in my view, testifying, and it
16 became very difficult to know when they were
17 taking off one hat and putting on the other one.
18 So now that some folks have been asking questions
19 and can testify, can we make an effort to -- so
20 that everybody understands when they're doing
21 which of those functions? It would make the --

22 THE HEARING OFFICER: I would be all
23 for any clarification that we could get along
24 those lines. Do you have a suggestion along those

1 lines?

2 MR. BONEBRAKE: I think maybe we can
3 point those issues out as they arise.

4 THE HEARING OFFICER: Okay. And if
5 you think that anybody from the Agency is offering
6 testimony and is not just asking questions, I'd be
7 happy to hear that.

8 BY MR. BONEBRAKE:

9 Q. And as to my question, Mr. Goodwin,
10 you have pointed out a couple of times now that Zion
11 has installed what you'd view to be BACT; is that
12 correct?

13 A. Yes, we've installed BACT in
14 accordance with the emissions of the IEPA permit.

15 Q. And when was the Zion facility
16 constructed?

17 A. Construction began in August 2001 and
18 was completed in September 2003.

19 Q. So at the time that the facility was
20 constructed, it was subject to new source review?

21 A. Yes.

22 Q. And new source review regulations
23 dictate the use of BACT; is that correct?

24 A. Yes.

1 Q. So Zion had no choice, but to utilize
2 BACT; is that correct?

3 A. Correct.

4 Q. And you also mentioned, I think, that
5 there were a number of other peakers that have been
6 constructed in Illinois over the last several years;
7 is that correct?

8 A. Yes.

9 Q. And have they all been subject to new
10 source review, and therefore, subject to dictate the
11 BACT requirements of that program?

12 A. For the facilities that are considered
13 major source for new source review, yes.

14 Q. Do you know what BACT is with respect
15 to NOX emissions for coal-fired electric generators?

16 A. BACT in terms of the emission
17 limitation or the technology?

18 Q. Well, we can take either. If you know
19 the answer to the question in either respect, that
20 would be fine.

21 A. Well, BACT is an emission limitation
22 that's determined based on the considerations of
23 technical feasibility, cost effectiveness and
24 various other factors. So it would depend on the

1 particular application.

2 Q. Do you know if SCRs have been
3 identified in any other coal-fired electric
4 generating units as BACTs by state or federal
5 permitting agencies?

6 A. For new sources, yes. The Wisconsin
7 energy zone load generating facility requires SCR to
8 coal unit expansion.

9 Q. Do you know if companies subject to
10 the NOX SIP call in Illinois have installed NOX
11 controls?

12 A. Presumably some have, yes.

13 Q. And, again, that would have been
14 optional with respect to that program whether they
15 install controls or purchase allowances?

16 A. Absent any other requirement, yes.

17 Q. So there may well be many coal-fired
18 electric generating units in the state, as far as
19 you're concerned, that installed controls at their
20 option already to control NOX; is that correct?

21 A. Yes.

22 THE HEARING OFFICER: Yes, sir?

23 BY MR. FORCADE:

24 Q. Mr. Goodwin, I believe at one point

1 you indicated that the Zion plant installed
2 technology to represent BACT?

3 A. Yes.

4 Q. And I believe you also stated that
5 Zion objected to the concept of additional
6 reductions for a (inaudible) facility that had
7 installed BACT; is that correct?

8 A. I'm sorry?

9 Q. That the Zion facility objected to the
10 concept of additional NOX reduction facilities,
11 which installed the best available coal technology?

12 A. Conceptually, yes.

13 Q. Would that same concept apply to a
14 coal-fired power plant that installed the best
15 available coal technology?

16 A. It depends on when the BACT
17 determination was issued.

18 Q. Current BACT determination.

19 A. The current BACT determination isn't
20 above the -- I guess the question is how that
21 complies or works with the basis for issuing
22 allocations. If it's a BACT determination that's
23 twice the basis for issuing allowances, then no.
24 And certainly not if there's an opportunity to make

1 supplemental reductions based on installation of
2 controlled technology.

3 Q. But your original statement, am I
4 correct, was simply that Zion objected to additional
5 reductions because it installed BACT controlled
6 technology?

7 A. BACT controlled technology, which
8 cannot be improved upon based on the existing
9 technology of the facility. There's a distinction
10 that needs to be clarified.

11 THE HEARING OFFICER: Mr. Zabel?

12 BY MR. ZABEL:

13 Q. Mr. Goodwin, do you know, by chance,
14 which is more expensive on an output basis, natural
15 gas required by generation or coal-fired generation?

16 A. Well, based on the -- well, I'm going
17 to have to ask you to clarify the question. There's
18 a lot of different factors that configure into
19 that --

20 Q. Within Illinois?

21 A. Within Illinois, the only example I
22 could point to is a comparable case. Calpine
23 submitted and intervened on We Energies' process.
24 We offered a combined cycle gas-fired facility

1 generating product as an alternative to the
2 new-build coal-fired generation suggested by
3 We Energies. And the public service commission
4 staff report indicated that on a dollars per
5 megawatt basis, Calpine's combined cycle project
6 was, in fact, cheaper.

7 Q. On an output basis?

8 A. On a dollars per megawatt basis.

9 Q. Capital cost?

10 A. This was an all-end cost. This was an
11 all-end cost of capital plus fuel cost plus --

12 Q. And that's for a new facility?

13 A. Yes.

14 Q. And you don't know what the
15 differential cost is for electrical supply as
16 constructed in Illinois?

17 A. Meaning comparing a new source -- a
18 new-build combined cycle versus an existing
19 coal-fired facility?

20 Q. No. I'm talk about comparing one
21 existing facility to another right now.

22 A. Without any additional context, I
23 don't think I can answer the question.

24 Q. If gas were more expensive on an

1 output basis -- an electric output basis,
2 encouraging the use of gas would increase, with
3 other things being equal, the cost of electricity,
4 would it not?

5 A. Fuel cost is one component of the
6 question. Certainly, it's not the only
7 consideration. There's emission control policies.
8 There are equipment upgrades to older facilities
9 that are necessary by virtue of a higher -- or a
10 less favorable efficiency, then it becomes a less
11 clear question.

12 Q. My question was a hypothetical, is on
13 an output basis, which assumes some carrying charge
14 for the capital, cost of fuel, whatever other costs
15 go into that, assuming natural gas is more
16 expensive, is it encouraging the use of gas going to
17 result in other things being equal than an increase
18 in the cost of electricity to the consumer?

19 A. I'm afraid I can't answer the
20 question. I don't think that -- I don't agree that
21 absent of any other factors, that an increase in
22 natural gas prices is an encouragement to use
23 additional natural gas for power generation
24 necessarily means that it would cause natural gas

1 prices to go up.

2 Q. The other factors I was excluding
3 would be something such as the pending CAP or a
4 freeze on electric rates in Illinois, nothing
5 considering the cost of electricity, would your
6 answer be the same?

7 A. I'm afraid I can't answer that
8 question.

9 THE HEARING OFFICER: Any further
10 questions for Mr. Goodwin?

11 Ms. Doctors?

12 BY MS. DOCTORS:

13 Q. I just have a couple. I wanted to
14 follow-up on the set-aside. Wasn't your testimony
15 that you believed that Wisconsin had a high
16 set-aside at 7 percent?

17 A. That's my recollection at this point,
18 yes.

19 Q. Are you familiar with the set-asides
20 that Minnesota has proposed?

21 A. Minnesota, at last word, had declined
22 the additional pursuit on the state level
23 implementation and appears to be heading toward a
24 federal program implementation.

1 Q. So they've given up their state
2 program?

3 A. Our understanding is that the Agency
4 has declined to pursue that at this point based on
5 recent results.

6 Q. What had they proposed in terms of
7 their set-aside?

8 MS. BASSI: Objection. What's the
9 relevance?

10 THE HEARING OFFICER: Ms. Doctors?

11 MS. DOCTORS: We don't have any
12 knowledge of what he's saying happened, but we do
13 have knowledge of what was going on in Minnesota.

14 THE HEARING OFFICER: I'll allow the
15 question.

16 BY THE WITNESS:

17 A. The last effort that we participated
18 in with respect to the stakeholder process in
19 Minnesota was in June, that was the last turn of the
20 document. And, honestly, because the process had
21 bogged down at that point, and we really hadn't done
22 any additional work, I can't recall exactly what
23 their set-aside -- or their proposed set-aside pool
24 was.

1 BY MS. DOCTORS:

2 Q. Does 11 percent sound reasonable?

3 MR. MURAWSKI: I object. He just said
4 he didn't know.

5 THE HEARING OFFICER: I'll sustain
6 that one.

7 BY MS. DOCTORS:

8 Q. I've got a couple other questions, and
9 then we'll be done.

10 You addressed the potential of
11 increased (inaudible) throughout your testimony; is
12 that correct?

13 A. I'm sorry, the first part?

14 Q. You addressed the potential of
15 increased cost to peaker plants several times
16 throughout your testimony; is that correct?

17 A. Yes.

18 Q. You also state that the Illinois EPA
19 should consider these additional costs in
20 development of the rule; correct?

21 A. Yes.

22 Q. Are you aware that there's a cost
23 benefit analysis done for CAIR that demonstrated
24 substantial net economic benefits to society from

1 the emission reductions under CAIR and BACT. The
2 cost benefit analysis found that the benefits of
3 CAIR outweighed the cost. The USEPA estimates that
4 by 2015 the benefits --

5 MR. MURAWSKI: Again, I object.

6 Where's the question?

7 MS. DOCTORS: It's here.

8 BY MS. DOCTORS:

9 Q. Are you aware that the benefits are 85
10 to 100 million while the costs are only 3 -- billion
11 while the costs are only 3.6 billion?

12 A. I'm aware that economic studies have
13 been conducted. I'm not aware of the details of
14 those.

15 MS. DOCTORS: That's all the questions
16 I have.

17 THE HEARING OFFICER: Any further
18 questions for Mr. Goodwin?

19 MR. MURAWSKI: I just have one
20 clarifying a question by Mr. Cooper.

21 During Mr. Cooper's questioning,
22 he suggested a high end of \$2,500 for the NOX
23 allowances. Is it your understanding that that
24 is, in fact, a high end that will be definitely

1 going forward once the CAIR rule is implemented?

2 THE WITNESS: To my knowledge, I know
3 of no such indication that there is any sort of
4 topic --

5 THE REPORTER: I'm sorry?

6 THE WITNESS: Purely a function of
7 supply and demand.

8 MR. MURAWSKI: That's all I have.

9 THE HEARING OFFICER: Thank you very
10 much for your time. You may -- I stand corrected.
11 Mr. Ross?

12 BY MR. ROSS:

13 Q. Very quickly. I mean, we've been
14 focusing on cost here; correct?

15 A. Yes.

16 Q. I assume you're also aware that USEPA
17 has estimated there would be substantial
18 health-related benefits as a result of the
19 implementation of CAIR and the SO2 and NOX
20 reductions; correct?

21 A. I know that EPA conducted studies and
22 assessed the value of the expected health benefits.
23 I'm not aware of the details.

24 Q. And with any health benefits, there

1 are some associated cost benefits; correct?

2 A. Presumably so.

3 Q. So these should also be considered by
4 the policy maker in the development of the rule
5 along with the cost to peaker plants and other
6 effected sources; correct?

7 A. Sure. But I think the health benefits
8 are based upon -- if I understand correctly, upon
9 the overall state pool of allowances and not on any
10 specific bases for how the allocations are going to
11 be divided up among the affected sources.

12 Q. So have you reviewed how the health
13 benefits were determined --

14 A. No, I haven't.

15 MR. ROSS: That's it.

16 THE HEARING OFFICER: Anything
17 further? Is there any follow-up to that? I see
18 none. So, again, thank you for your time and you
19 may step down. Let's take a short recess before
20 we talk to Mr. Kunkel. Let's do 15 minutes.

21 (Whereupon, a break was taken,
22 after which the following
23 proceedings were had.)

24 THE HEARING OFFICER: We are back on

1 the record after a short recess. We finished the
2 testimony of Jason Goodwin, and we are moving on
3 per the pre-hearing status conference we had with
4 the testimony for Gregory Kunkel for Christian
5 County Generation. Mr. Russell?

6 MR. RUSSELL: Mr. Hearing officer,
7 respectfully, as I mentioned before, Mr. Kunkel
8 came in from Omaha for today's testimony. He was
9 second on the list by agreement pre-hearing
10 conference call. And I would ask for an order or
11 an agreement or an understanding that his brief
12 testimony, which everyone has a copy of, not be
13 allowed questions that are going to take him over
14 into tomorrow so that he can get back to Omaha
15 tonight. I believe he has a 7:00 or 8:00 plane,
16 but the building closes at 5:00. And I guess I
17 think that it wouldn't be good considering the
18 substantial latitude of questions that was given
19 and allowed in the prior witness, and I say this
20 respectfully and understandingly that that operate
21 to Mr. Kunkel's detriment.

22 The other thing is, Mr. Kunkel
23 does not have the Agency's motion filed yesterday,
24 and that's my fault. I have a copy of it, and

1 there may be a change in here of which we are
2 unaware of. But that's my error for not pulling
3 up that motion. That would be my request, though,
4 on time for questions.

5 THE HEARING OFFICER: Well, let's see
6 if we have any response to Mr. Russell's request
7 or motion, I would take it. Anybody?

8 MS. DOCTORS: The Agency doesn't have
9 that many questions and really appreciates the
10 effort they've made to come and participate in
11 this hearing today.

12 THE HEARING OFFICER: Mr. Bonebrake?

13 MR. BONEBRAKE: And I don't have any
14 questions either. So I don't think we're going to
15 run into a problem, so...

16 THE HEARING OFFICER: Yeah. Let's
17 just take it under advisement for now. We'll see
18 what we can do. I do want to note that this is a
19 public proceeding, and by statute, anybody can ask
20 a question of any witness, and that's laid out in
21 the Environmental Protection Act as well as the
22 Board of Rules, so I hate to limit it, and I don't
23 think we're going to have to.

24 MR. RUSSELL: I understand.

1 MR. JOHNSON: I would only express my
2 amazement that you want to leave Chicago to get
3 back to Omaha.

4 THE WITNESS: It's a long story.

5 THE HEARING OFFICER: Let's swear him
6 in.

7 (Witness sworn.)

8 THE HEARING OFFICER: Mr. Russell, do
9 you have any preliminary questions?

10 MR. RUSSELL: I do not. Except that I
11 would like to move that Mr. Kunkel prefiled
12 written testimony be admitted as file.

13 THE HEARING OFFICER: I take it you
14 would want to admit that as if read?

15 MR. RUSSELL: As if read.

16 THE HEARING OFFICER: Can we label
17 that Christian County Generation Exhibit No. 1?

18 MR. RUSSELL: That would be good, but
19 if Mr. Kunkel could read it?

20 THE HEARING OFFICER: Oh, you want him
21 to read through his testimony?

22 MR. RUSSELL: Yes.

23 MS. BASSI: Well, I'll object to that.
24 I mean, if we're in the process of saving time,

1 I'm not sure why that's necessary.

2 THE HEARING OFFICER: Generally, what
3 we do -- and I will let you have your response,
4 Mr. Russell. But generally what we do is we
5 attach this to the transcript, and it's admitted
6 as if read by the witness.

7 MR. RUSSELL: If everyone has a copy,
8 and I have plenty of extra copies, that's fine.

9 THE HEARING OFFICER: That being said,
10 if you want your witness to read the testimony --

11 MR. RUSSELL: No, no. If someone is
12 without a copy, that's different.

13 THE HEARING OFFICER: And I have made
14 copies of all the prefiled testimony as well.
15 Does anyone need a copy? I'm seeing no -- just
16 for the record that nobody in the room here has
17 noted that they don't have a copy or are lacking
18 one.

19 MR. RUSSELL: Okay. Then we would
20 move to admit it as --

21 THE HEARING OFFICER: Are there any
22 objections to this testimony being admitted as if
23 read? I see none. This will be so admitted, and
24 that's Christian County Generation No. 1.

1 Does anybody have any questions
2 for Mr. Kunkel? Or do you want to provide a
3 summary or anything before we get started on
4 questions?

5 MR. RUSSELL: I don't believe so. I
6 think the testimony speaks for itself. And if
7 we're moving along at this pace...

8 THE HEARING OFFICER: Any questions
9 for Mr. Kunkel?

10 MR. BONEBRAKE: I guess I will start
11 again.

12 THE HEARING OFFICER: Mr. Bonebrake.
13 BY MR. BONEBRAKE:

14 Q. Hello, Mr. Kunkel. My name is Steve
15 Bonebrake.

16 My first question for you is that
17 on Page 1 of your testimony, you refer to somebody
18 by the Taylorville Energy Center?

19 A. Yes.

20 Q. And is that -- I have been thinking of
21 that as a project that's kind of in the works in
22 terms of construction. Can you give us a brief
23 description of the status of the Taylorville Energy
24 Center?

1 A. Well, I'm pleased to remark that
2 yesterday the PSD permit was -- the drafted PSD
3 permit was issued by the Illinois EPA, and that kind
4 of represents the status of it. There's also, and
5 Jim is holding it up, kind of a fact sheet about the
6 project. It is a proposed project, an IGCC project
7 near Taylorville, Christian County.

8 MS. BASSI: I'm sorry. You said IGCC?

9 THE WITNESS: Yes.

10 THE HEARING OFFICER: Mr. Russell has
11 just handed me something called Taylor Energy
12 Center-Facts. Mr. Russell, you want this for
13 distribution, you said?

14 MR. RUSSELL: This is in response to
15 Mr. Bonebrake's general question about the
16 facility.

17 THE HEARING OFFICER: These look to be
18 just general facts about the facility?

19 MR. RUSSELL: They are.

20 THE HEARING OFFICER: Are you offering
21 this as Christian County Exhibit No. 2?

22 MR. RUSSELL: We can.

23 THE HEARING OFFICER: Let's do that.

24 Take a look.

1 MR. RUSSELL: We would move that as
2 Exhibit No. 2.

3 THE HEARING OFFICER: Let's give
4 Mr. Bonebrake and everyone else a chance to look
5 this over real quick.

6 BY MR. BONEBRAKE:

7 Q. Just a preliminary question on this,
8 if I may. Mr. Kunkel, can you tell us who drafted
9 this document?

10 A. Well, I work for Tenaska, Inc., based
11 in Omaha, Nebraska. And as you may know, we're a
12 power generation developer, build, own and operate
13 power plants across the United States and some
14 international locations. We became involved earlier
15 this year with a group called ERORA here in
16 Taylorville in this IGCC development project, and
17 since that time, we've been working on that project.
18 But really it's both the people from that group,
19 that have changed their name to MDL Holdings, and
20 Tenaska personnel, like myself, that have been
21 involved in preparing this document.

22 Q. And have you had a chance to review
23 this document?

24 A. Yes.

1 Q. And is it correct, to your knowledge?

2 A. To my knowledge, yes.

3 MR. BONEBRAKE: I have no objections
4 to it.

5 THE HEARING OFFICER: Anybody else
6 have any objections to this document? Seeing
7 none, this will be admitted as Christian County
8 Generation No. 2.

9 BY MR. BONEBRAKE:

10 Q. Mr. Kunkel, I think you mentioned that
11 the Taylorville project had just received a draft of
12 the PSD permit today; is that correct?

13 A. Yes, yesterday.

14 Q. And I'm assuming that means, at this
15 point, there's been no construction activity at the
16 facility?

17 A. That's correct.

18 Q. And from your perspective, are there
19 additional hurdles that need to be overcome in order
20 for this project?

21 A. Yes, indeed, there's a have variety of
22 additional hurdles: Development hurdles,
23 development of design, cost estimates and so on.
24 It's a very complicated undertake. And so, yes,

1 there's a lot to do.

2 Q. So at this point, is it true that it
3 is possible that construction in the facility would
4 not take place?

5 A. It's entirely possible that it could
6 not take place if all the right economic and other
7 factors come into alignment.

8 Q. Have any IGCC facilities -- and
9 actually, let me stop here.

10 Can you tell us what IGCC is short
11 for?

12 A. That's Integrated Gasification
13 Combined Cycle, which is a mouth full. And just for
14 those not familiar with the technology, the simplest
15 idea is that we, under high pressure and
16 temperature, convert a coal feed stock into a gas, a
17 synthetic gas, and that's one whole process. We
18 cover heat from that process and make steam. We
19 clean up that gas, which is a whole series of
20 equipment. And then we utilize that gas in what you
21 may be more familiar with is essentially a
22 combined-cycle electric generation power item. But
23 there's integration, and that first part, the
24 integration in IGCC is important because steam from

1 the gasification process also goes to the power
2 generation and so on, and it's fundamental to
3 achieving efficiencies.

4 Q. And are there any IGCC plants
5 currently in operation in the United States?

6 A. There are two that I know of
7 currently. There have been others in the past, and
8 there are currently various other internationally,
9 although, I probably can't list them all off the top
10 of my head. Germany, Spain, South Africa, there's
11 Wabash in Indiana and at the Polk (phonetic) plant
12 in Florida.

13 Q. And are those both in commercial
14 operation at this point in time?

15 A. They are in commercial operation.
16 They're smaller plants and of an older vintage than
17 what we have in mind today.

18 Q. You mention in your testimony at
19 Page 1 that the IGCC technology removes sulfur and
20 mercury from the coal derived gaseous fuel?

21 A. Yes.

22 Q. Is it also true that electric
23 generators burning coal in cyclone and pulverizer
24 units can remove sulfur and mercury through add-on

1 control technologies?

2 A. Yes. I think the distinction that's
3 useful, anyway, is that in integrated gasification
4 combined cycle, you can clean the fuel as a gaseous
5 fuel, and there's a smaller volume of it. And so
6 you can achieve a greater removal, and it's -- you
7 know, it has different technical characteristics in
8 trying to clean all the exhaust post combustion. So
9 it's a precombustion, generally, although not
10 entirely. But, generally, we're looking at
11 precombustion control of mercury and sulfur. Post
12 combustion control of NOX. So it's a little
13 different than a boiler.

14 Q. You mentioned earlier a draft PSD
15 permit. Does that draft permit set a BACT emission
16 rate for NOX?

17 A. Yes, it would.

18 Q. And do you happen to know off-hand
19 what the specified emission rate is for NOX?

20 A. I would refer you to the draft permit,
21 rather than to try to cite it from my memory.

22 MR. RUSSELL: And we have copies.

23 THE WITNESS: Do you have it handy?

24 MR. RUSSELL: Yes. We got this

1 yesterday.

2 MR. BONEBRAKE: You got a lot of
3 things yesterday.

4 MR. RUSSELL: We didn't get the
5 Agency's motion yesterday.

6 BY THE WITNESS:

7 A. Some of these numbers have four digits
8 so I'm hesitant.

9 MR. BONEBRAKE: Do you have just a
10 single copy of the --

11 MR. RUSSELL: This is -- that's all I
12 have, Steve. I'm sorry.

13 THE HEARING OFFICER: What is it, just
14 for the record, that we're looking at?

15 THE WITNESS: Table 3 of the
16 attachments to the draft PSD permit.

17 THE HEARING OFFICER: For?

18 THE WITNESS: Taylorville Energy
19 Center.

20 THE HEARING OFFICER: Ms. Doctors, do
21 you have a clarification?

22 MS. DOCTORS: Yes. It's available
23 in the Agency's -- my understanding is that copies
24 of these draft permits are available in the

1 Agency's website.

2 MR. BONEBRAKE: Which Agency?

3 MS. DOCTORS: Our agency, Illinois

4 EPA.

5 BY THE WITNESS:

6 A. So on account per million BTU basis,
7 the value for NOX is 0.034. And this is million
8 BTUs of synthesis gas, not coal, but per million BTU
9 of synthesis gas entering the combustion turbines.

10 BY MR. BONEBRAKE:

11 Q. Does that standard apply to the
12 process that generates the gas from coal?

13 A. I'm sorry. I didn't quite hear you.

14 Q. I was trying to understand how that
15 standard applied, whether that -- whether that
16 emission rate applies to the process, which results
17 in the gas generation -- does that emission rate
18 apply to that process?

19 A. It applies to the stack of the
20 combined cycle of units. There's two units. It
21 applies to the emissions from that stack. There's
22 two stacks.

23 Q. Two stacks.

24 Mr. Kunkel, you mention in your

1 testimony, I believe, that you're in favor of an
2 output based allocation methodology; is that
3 correct?

4 A. That's one of the features in my
5 testimony I would support, and we've been supportive
6 in other locations, but yes.

7 Q. If I understand it, at least part of
8 the reason for that support was a concern about how
9 to identify heat input for an IGCC; is that correct?

10 A. Yes, I think so. I mean, I think
11 that's -- it does make that simple to address.
12 Although, I realize it might make -- there's some
13 complexities to deal in combined heat and power
14 facilities, for example. But I think there's merit
15 in awarding allowances from the state on the basis
16 of what the people of the state receive from the
17 generators, which is output.

18 Q. The fuel feed stock for IGCC is coal;
19 is that correct?

20 A. The feed stock is coal or use Illinois
21 Number 6 coal.

22 Q. And if the feed stock is coal, would
23 the coal simply be used as the basis for a heat
24 input calculation to avoid the complexity of trying

1 to assess input for IGCC?

2 A. It would introduce -- because of the
3 complexity of the process, it would -- you're
4 essentially -- it would be difficult, I would say,
5 and not straightforward. I can explain that a
6 little bit. But essentially, you'd be measuring an
7 input to this unit and measuring emissions from this
8 unit over here, which is in another place in the
9 facility. And a synthesis gas might be used not
10 just for generating power over here, but for other
11 purposes. So these inputs here may not all be going
12 over to here. So there's not necessarily a
13 straightforward relationship there.

14 Moreover, the gasification process
15 has various alternatives that affect its efficiency,
16 which are unrelated to this regulated emission unit
17 over here. So if you start regulating emission unit
18 based on this other fuel source, if you just think
19 of this as a source for generating clean fuel, then
20 there is a continuous relationship between an input
21 here and an output there.

22 MS. BASSI: May I follow-up, please?

23 THE HEARING OFFICER: Yes.

24 MS. BASSI: Mr. Kunkel, are you aware

1 that there's a formula for converting heat input
2 into gross electrical output included in the
3 proposed rule?

4 THE WITNESS: Yes.

5 MS. BASSI: Would that formula or
6 some -- would that formula not work in the reverse
7 as well, in other words, convert gross electrical
8 output to heat input?

9 THE WITNESS: Well, the accurate
10 conversion, obviously, it is highly specific to a
11 given facility. If all the facilities were the
12 same, it would be, you know, not much of an issue,
13 I suppose. But we, in particular, I suppose, have
14 a facility that's not at all like some other
15 facilities. And I suppose the more unlike the
16 facilities we are, the more inaccurate just using
17 one fixed number ends up being.

18 MS. BASSI: Would it be possible to
19 develop such a formula to convert the gross
20 electrical output to heat input?

21 THE WITNESS: Not as just a single
22 number to represent all facilities. I just --

23 MS. BASSI: No. For your facility.

24 THE WITNESS: Not reliably. I mean, I

1 think --

2 You're essentially asking about
3 heat rate?

4 MS. BASSI: Yes.

5 THE WITNESS: But in your case, for
6 example, we're considering using some of the
7 synthesis gas to make synthetic natural gas. So
8 the gasification plant heat inputs don't go to
9 power generation at all. So, you know, you can't,
10 in our instance, just simply use heat input to
11 represent what's going on in the power house.

12 MS. BASSI: So what you're saying is,
13 is that there's not a relationship between the
14 electricity generated and some measure of heat
15 input that goes into generating that electricity;
16 is that correct?

17 THE WITNESS: Not necessarily. Under
18 a single mode of operation, there would be. There
19 would be a heat rate, you know. And we hope to be
20 able to contract on the basis of a heat rate.

21 MS. BASSI: You will?

22 THE WITNESS: Yes, we would hope to do
23 that. But when you're operating in another mode
24 when the synthesis gas is going in another

1 direction and not to power, obviously, that would
2 undue that relationship.

3 MS. BASSI: Are the emissions from
4 your facility -- are all of the emissions from
5 your facility related to the generation of
6 electricity?

7 THE WITNESS: It depends. If we only
8 make electricity, yes. If we also make a
9 synthetic natural gas product, no.

10 MS. BASSI: Do you know whether all of
11 the emissions from your facility, which will sell
12 electricity, as I understand it, are subject to
13 this rule regardless of the mode that you're
14 operating in?

15 THE WITNESS: That's a good question.
16 The regulated -- by CAIR, the stack of the
17 combustion turbines will be regulated. But there
18 are other emission sources in the plant that are
19 not covered by CAIR.

20 MS. BASSI: You said earlier there
21 were two stacks. Are those both the stacks with
22 the -- related to the generators or the --

23 THE WITNESS: To the combustion
24 turbines.

1 MS. BASSI: The combustion turbans.

2 THE WITNESS: You know, there's
3 combustion turbines, heat recovery generators and
4 then a stack in that order. Two stacks.

5 MS. BASSI: And those are regulated by
6 the CAIR?

7 THE WITNESS: And those are regulated
8 by the CAIR and represent the great, you know,
9 majority of the emissions of the plant.

10 MS. BASSI: One other question along
11 this line. I understood you to say that there
12 are -- that you could not reliably determine heat
13 input, and the purpose that we're talking about
14 this, of course, is determined allowance
15 allocations at your facility you're converting
16 from gross electrical output. And if this is
17 outside the realm or the scope of your experience
18 and expertise, then fine. Would that same lack of
19 liability apply to converting heat input to gross
20 electrical output for the additional coal-fired
21 power plant?

22 THE WITNESS: Well, in my experience,
23 I've evaluated when we look at acquiring
24 coal-fired power plants, one of the -- maybe the

1 main thing we studied, is its heat rate, how
2 efficient is it in generating electricity, and
3 there's a lot of variety, as you know. So heat
4 rates, you know, the conversion rate of coal or
5 different kinds of coal to electricity are highly
6 variant among those plants.

7 MS. BASSI: Would it be more prudent
8 then if there was going to be a conversion from
9 heat rate -- or heat input to gross electrical
10 output, then the formula reflect the type of fuel
11 that's used?

12 THE WITNESS: I know this about
13 calculated heat rate is that it's a very
14 complicated business. And, moreover, we monitor
15 it constantly for operating plants that we've
16 known and lived with for years, and it's changing
17 all the time. And it has to do with wear and tear
18 on the equipment, 100 other factors. So I can
19 understand in a rule-making where somebody would
20 want to just pick a number and go with that,
21 because if you don't, it's a very complicated
22 business.

23 MS. BASSI: Thank you.

24

1 BY MR. BONEBRAKE:

2 Q. Mr. Kunkel, if you could turn with me
3 to Page 3 of your written testimony. There is a
4 section about two-thirds of the way down on that
5 page labeled Effect of Illinois CAIR on Use of
6 Illinois Coal; do you see that?

7 A. Yes.

8 Q. And the opening phrase, "Illinois CAIR
9 will promote, not discourage, the use of Illinois
10 coal." Is it correct that you're in favor of
11 promoting the use of Illinois coal?

12 A. I think it's a state interest to
13 develop that industry, that's my understanding, and
14 that I think the rule has been crafted to assist to
15 that.

16 Q. You were here for the earlier
17 testimony of Mr. Goodwin, were you not?

18 A. Yes.

19 Q. And we discussed with Mr. Goodwin, in
20 some detail, the proposed use of fuel adjustment
21 factors. Is it true then that you agree that the
22 proposed rule -- the rule that should be adopted
23 should contain the proposed fuel adjustment factors?

24 A. I think it's -- you know, I don't know

1 if Christian County Generation has a policy position
2 on this. But looking at Illinois and its history
3 and the coal industry history here, certainly
4 there's an interest in coal in Illinois and finding
5 ways to utilize it in the future that are compatible
6 with environmental policy.

7 Q. The second paragraph above the heading
8 that I just read, and the paragraph starts,
9 "Frequent updating of the baseline data." The
10 second sentence reads, "In the federal model rule,
11 retiring units receive a windfall of surplus
12 allowances because of obsolete baseline data and the
13 time it takes for a new allowance to be actually
14 used." Do you see that sentence?

15 A. Yes.

16 Q. Is it true that the absence of
17 updating, and thus, the continued inclusion of
18 retired units in the allocation pool has the effect
19 of encouraging the retirement of older and perhaps
20 therefore less efficient and less controlled units?

21 A. Give me this question again, please.

22 Q. Sure.

23 Does the absence of updating, and
24 I think you referred in that sentence to the absence

1 of updating in the federal model rule?

2 A. Right.

3 Q. Does the absence updating, and thus,
4 the continued inclusion of retired units in the pool
5 also have the affect of encouraging the retirement
6 of older and perhaps less efficient and less
7 controlled units?

8 A. Okay. I think this, if you have a
9 1950s vintage coal unit, and it's not controlled,
10 that CAIR -- and your emissions are high, that CAIR
11 presents an obstacle to a cost of operation for
12 continued operation of that unit, and it may be such
13 a burden that you'd consider retiring it. And that
14 will be true whether or not the owner of that unit
15 receives allowances.

16 In fact, generally, in the
17 operation of all units, the cost of operating them
18 really are kind of one issue, but quite separate
19 from the allocation of allowances on the other.
20 People will need allowances and have a cost for
21 expending them based on their emissions no matter
22 what we do in this ruling. But the allocation of
23 allowances is probably unrelated to the decision to
24 retire or not retire that unit.

1 And, you know, we have looked at
2 acquiring units, what we would do with them, would
3 we retire them, can you clean them up, what's the
4 cost effectiveness of that, it's a very complicated
5 set of questions, as you must know. And it
6 doesn't -- that calculation does not, in my
7 experience, involve consideration of what your
8 allocation is going to be. Allocation is just some
9 grant that you're being given. It has nothing to do
10 with your costs.

11 MS. BASSI: Is a consideration of
12 allocations part of the decision-making in whether
13 or not to proceed with a new plant?

14 THE WITNESS: It can be very much so
15 because it can effect the economic -- it's an
16 economic factor. These allowances are worth
17 money. And so if there is that support in
18 allowance allocations for a project, then it makes
19 the economics of that project more feasible, less
20 feasible, depending on that branch. I mean, if
21 you're saying if I was going to put this income
22 into this project or not, would it effect the
23 feasibility of the project and its construction
24 cost and its desirability as an investment?

1 Absolutely. But does it effect the cost of that
2 operation? No. The costs are just related to
3 what its emission rates are.

4 BY MR. BONEBRAKE:

5 Q. In the section that we had referred to
6 entitled, Effective Illinois CAIR on Use of Illinois
7 Coal, the last sentence reads, "Please also consider
8 this: If the regulation is stringent enough to
9 force the installation of scrubbers, then it further
10 expands the market for Illinois coal, not just in
11 Illinois, but in other states as well." Do you see
12 that?

13 A. Yes.

14 Q. And I didn't understand that sentence
15 because the SO2 portion of the CAIR rule is a CAP
16 and trade portion, is it not?

17 A. Yes.

18 Q. So is the SO2 portion of the CAIR rule
19 in any way imposing an emission rate on any
20 particular unit?

21 A. No.

22 Can I help you understand that? I
23 mean, I think what I'm trying to say there is that
24 when we have the acid rain program, you know, across

1 a lot of coal units, it turned out that the cost
2 effective solution for reducing sulfur dioxide
3 emissions for many plants was conversion to western
4 coal and away from Illinois coal, and it impacted
5 the coal industry in Illinois.

6 If scrubbers are installed in more
7 locations, it's going to create -- those are the
8 market for Illinois coal, not the unscrubbed units,
9 but the scrubbed units. So to the extent that this
10 rule stimulates the investment in scrubbers at those
11 existing units and new units, then it expands the
12 market for Illinois coal. That's the intent of my
13 remark.

14 Q. So you're suggesting that to the
15 extent a company goes through an economic
16 calculation and says it's economically advantageous
17 to install scrubbers, then that decision promotes
18 the use of Illinois coal?

19 A. Part of their calculation coal prices,
20 and if it broadens what coals to use. And everybody
21 who owns coal units knows that.

22 Q. I think you mentioned in your
23 testimony something to the affect that you expect
24 that the new source set-aside would be

1 oversubscribed. Do you recall that testimony?

2 A. Yes.

3 Q. Can you tell us the basis for that
4 conclusion?

5 A. Well, it's really related to
6 uncertainty. I think, as I look at the incentives
7 that are in this program, one of the concerns I have
8 is going to the lending community, the investing
9 community, and convincing them to invest in our
10 project. And to the extent, I can, I'd like to say,
11 here is a source of allowances that I can rely on.
12 And the thing that makes me uncomfortable about the
13 new source pool is it's relatively small compared to
14 the 95 percent of the rest of the pool, and I don't
15 know what other proposals will come up in Illinois,
16 and so I can't rely on it. So the longer I am in
17 that pool and the more I have those uncertainties,
18 the less I can rely on that stream of allowances in
19 my financing. So it makes my project more difficult
20 to finance and more expensive.

21 Q. So you have a concern, but your
22 particular statement about expectations being
23 oversubscribed is based upon some speculation on
24 your part in terms of other projects that might also

1 be undertaken and eligible in the future?

2 A. That's right. I just think that it
3 may be oversubscribed. I don't know that it will be
4 oversubscribed.

5 MS. BASSI: But you say it would be
6 almost certainly oversubscribed.

7 THE WITNESS: Well, I guess I was
8 pretty confident that it would be.

9 BY MR. BONEBRAKE:

10 Q. But you're less confident today, are
11 you not?

12 A. Well, I think it's -- I'm reasonably
13 confident that it could be oversubscribed. If you
14 look at the demands of new coal-fired facilities,
15 and it doesn't take many to oversubscribe that pool,
16 and I think anyone can do that calculation.

17 THE HEARING OFFICER: Ms. Bassi?

18 BY MS. BASSI:

19 Q. You said in your testimony on Page 1
20 that Tenaska has announced that it plans to acquire
21 two additional electric generation facilities in
22 Illinois. Could you tell us, are these existing
23 facilities?

24 A. Yes.

1 Q. Can you tell us which ones they are?

2 A. Tenaska Power Plant, which is an
3 affiliate of the Tenaska, Inc., and one of the main
4 affiliates, is in a process to acquire two plants
5 that are formally owned by Constellation of
6 Illinois.

7 Q. So are they peaker plants?

8 A. One is, and one is combined cycle,
9 both are natural gas-fired.

10 Q. Going to a different topic. Could you
11 tell me, please, how IGCC technology removes
12 mercury?

13 A. As I have studied this technology, I
14 realize that there is a lot of ways to skin a cat,
15 and so I will say right now there must be more than
16 one answer to this question.

17 The way we intend to do it is that
18 at the back end of the acid gas removal systems,
19 there will be a relatively cool synthesis gas stream
20 that will subject to an activated carbon bed filter.
21 And if the mercury survives the acid gas removal
22 systems, which probably will be very effective in
23 removing a very large percentage of the mercury
24 themselves without any active carbon, but in

1 addition to that acid gas removal system, you have
2 activated carbon removal system in our design at the
3 present time.

4 Q. Do IGCC plants work best using
5 high-sulfur coal, or does it make a difference?

6 A. Actually, it would be better to have
7 lower sulfur content. The sulfur removal is a cost,
8 and the more there is, the more costs.

9 Q. So then does this entity, I don't know
10 if I should say Tenaska or maybe I should say TEC,
11 does it have then some relationship with the
12 Illinois coal company; is that why you're using
13 Illinois coal?

14 A. Well, the entire business of fuel
15 selection is a complicated question, I would say.
16 And even within Illinois, there is a lot of
17 variation in quality. And we have to design the
18 facility around a specific range of coal qualities.
19 This gets to be a very complicated question for
20 something as complex as an IGCC plant. So you have
21 to focus on a limited range of possible coal
22 characteristics, and so we're doing that in our
23 design work. And, you know -- but we are still
24 looking at a variety of coals from various sources

1 within Illinois. And we want to keep competition in
2 our potential coal suppliers so that we can get the
3 lowest price for the fuel.

4 Q. At Page 4 of your testimony, you say,
5 "For early adopters, eliminate pro-rata reduction of
6 CASA allocations for the life of the project, or for
7 at least ten years." Could you explain this?

8 A. I think this is kind of my concern.
9 I'm one of the guys on the environmental team that
10 has to convince bankers that our project works. And
11 to the extent that these incentives are going to be
12 considered by our investors and lenders, then they
13 need to be able to predict what we're getting. So
14 what I'm suggesting is modifying the rule so that I
15 or any independent engineer who looks at this thing
16 can predict, okay, this is roughly the amount of
17 allowances you're going to get under this particular
18 incentive for a period of time. Now, if there's a
19 small portion of an incentive pool, and I don't know
20 who in the future who else would be in that pool,
21 then the value of the incentive diminishes because
22 of our uncertainty, and we just don't know what the
23 benefit of that would be. And, you know, there's
24 other uncertainties, like the price of allowances

1 and so on, and this just adds to.

2 So, anyway, it would help me, is
3 what I'm saying, to make a case to our lenders and
4 investors that this is a solid proposal. If we
5 didn't have to adjust that share of a given pool, at
6 least for some period of time, like ten years, so
7 that the lenders and so on could look at that and
8 say, okay, we know basically what you're going to
9 get. This isn't just some variable who-knows
10 benefit.

11 Q. So what you would like -- if I
12 understand you correctly, what you would like --
13 when you apply and you're granted CASA allowances,
14 you would like the Agency to say you're going to get
15 1,000 allowances over ten years or something to that
16 effect?

17 A. That would be helpful.

18 Q. As opposed to, it might change from
19 year to year. And is that then consistent with your
20 view that a source should be in a new unit set-aside
21 for as short a period of time as possible, which is
22 also a pro-rata?

23 A. Yes, yes, because the new unit
24 set-aside also has lot of uncertainty among them.

1 So the more uncertainty there is there, the less
2 anyone will rely on it for financial purposes.

3 Q. If the new unit set-aside also said
4 you're going to get a thousand allowances for
5 three years, does that eliminate that concern?

6 A. It would be helpful. It would be
7 helpful.

8 Q. I don't know why I'm asking that.
9 Sorry, wrong hat.

10 A. I mean, anything that increases the
11 certainty of what it is that this is going to do to
12 us, then I think that's helpful.

13 MS. BASSI: Thank you. That's all I
14 have.

15 THE HEARING OFFICER: Mr. Bonebrake?

16 MR. BONEBRAKE: Nothing further at
17 this time.

18 THE HEARING OFFICER: Ms. Bugel?

19 BY MS. BUGEL:

20 Q. I have a couple questions.

21 Is it correct to conclude from
22 your testimony that you are supportive of the size
23 of the CASA as it's set now?

24 A. We are. And we admit, I think in our

1 testimony, that it is helpful to us in what we're
2 doing, and if it was -- and we think it's materially
3 helpful to -- in a financial analysis of this
4 proposed technology. And if it was less, it would
5 be less materially helpful. If it was more, it
6 would be more materially helpful.

7 Q. So is it correct then to say you would
8 also then support an increase in the size of the
9 clean air set-aside?

10 A. I think this is a balance that, you
11 know -- is a state interest balance that I'm not in
12 a position to just, but I think the Agency is trying
13 to make a judgment in this case, and we're
14 supportive.

15 Q. And you indicated in your testimony
16 that the clean air set-aside creates an incentive
17 for things like IGCC and use of Illinois coal and
18 clean modern technologies; is that correct?

19 A. Yes.

20 Q. And in your view, these are all
21 beneficial things?

22 A. Yes.

23 Q. I'd like to turn to this fact sheet,
24 and I believe this was Taylorville Energy Center

1 Exhibit 2.

2 MR. RUSSELL: Christian County
3 Generation Exhibit 2.

4 MS. BUGEL: I'm sorry.

5 BY MS. BUGEL:

6 Q. And could you tell me again, I didn't
7 hear the answer of who wrote this fact sheet?

8 A. I think someone in our public
9 relations department drafted something, and then a
10 whole bunch of people gave them a whole bunch of
11 comments. And it's very much of a joint effort
12 here. There must have been ten or 12 people who
13 commented on this. And it was an interesting
14 process, what can we say -- well, we're not one to
15 say, but I think this is what we wanted to say.

16 Q. Were you involved in that process?

17 A. I was involved in this process.

18 Q. Are you familiar with what is stated
19 on this sheet under public policy, particularly the
20 first paragraph about Governor Rob Blagojevich's
21 efforts?

22 A. Yes.

23 Q. Are you then familiar with Governor
24 Rob Blagojevich's efforts to promote his energy

1 policy in Illinois?

2 A. We're certainly aware of certain
3 aspects that affect our project. I doubt if I'm
4 aware of everything that he's doing.

5 Q. Are you familiar that his energy
6 policy promotes the development of renewable energy
7 and energy efficiency?

8 A. Yes.

9 Q. And is it your -- do you believe that
10 the proposed CAIR rule should be consistent with the
11 Governor's efforts regarding energy in Illinois?

12 A. I think it's in the discretion of the
13 state to control certain parts of the CAIR rule,
14 which this rule-making is all about. And I think
15 it's appropriate for the state to exercise that
16 discretion, and we're supportive of their approach
17 to it.

18 MS. BUGEL: Thank you. I have no
19 further questions.

20 THE HEARING OFFICER: Anything from
21 Ms. Doctors?

22 BY MS. DOCTORS:

23 Q. I have a couple questions. I'm
24 (inaudible.)

1 MR. JOHNSON: Speak up, Rachel.

2 MS. DOCTORS: I'm sorry if you can't
3 hear me.

4 BY MS. DOCTORS:

5 Q. Could you briefly explain how IGCC
6 allows for combustion of high-sulfur coals, such as
7 Illinois', while still achieving superior
8 environmental performance?

9 A. We don't actually burn it. We convert
10 it through a chemical process, basically, but it's
11 not simple combustion. There is a certain amount of
12 combustion that goes on in a gasifier, but it's very
13 controlled combustion in a situation where there's
14 limited oxygen supply so that complete combustion
15 cannot occur. So that's step one, I guess.

16 The other part of that answer is
17 that this gasified product, synthesis gas, is
18 subjected to sulfur removal systems that are really
19 conventional sulfur removal systems that are used in
20 the natural gas industry for removing sulfur, for
21 example.

22 So there's conventional natural
23 gas removal systems for removing sulfur, H₂S really.
24 It's not SO₂ in this case, but H₂S, from this

1 synthesis gas. So those conventional technologies
2 are used downstream in a gasifier to remove the
3 sulfur before the fuel is then combusted in a
4 combustion turbine. So when the fuel arrives in the
5 combustion turbine, the sulfur is not in it. So
6 that's, basically -- I mean, how does any other
7 combined cycled natural gas-fired plant -- why do
8 they have such low sulfur emissions? There's no
9 sulfur in the fuel.

10 Q. Your testimony states that IGCC has
11 greater capital cost than conventional pulverized
12 coal generation. Can you provide a comparison?

13 A. I would -- well, this is a complicated
14 question and probably a moving target given
15 construction cost changes today.

16 General Electric, which is one of
17 the leaders of the technology providers in this area
18 and which would be our technology provider, has
19 talked about in public a 10 percent differential
20 relative to pulverized coal combustion, super
21 critical. Others have talked about 15 percent and
22 20 percent differential. We don't have fixed price
23 bids from contractors yet. And when we get them,
24 we'll know.

1 THE HEARING OFFICER: Mr. Rieser?

2 MR. RIESER: I'm sorry.

3 Differential, which way?

4 THE WITNESS: It's higher, I assure

5 you.

6 MR. RIESER: Thank you.

7 BY MS. DOCTORS:

8 Q. Could this higher cost of capital be
9 the major reason why we have not seen more of these
10 advanced coal combustion processes built?

11 A. That's one reason, and there are other
12 reasons, technical reasons.

13 Q. Would providing incentives like NOX
14 allowances through the CASA, which can be translated
15 into a financial subsidiary, would that lower the
16 barrier entry?

17 A. Yes, I believe that would be a
18 meaningful assistance to the development and
19 implementation of this technology.

20 Q. Have you made any estimates under the
21 CASA how many allowances the facility could
22 potentially be eligible for?

23 A. I have. And there was a useful
24 exercise because I quickly ran into this

1 uncertainty: You're part of a pool. You don't know
2 what other babies are in the pool with you. So, you
3 know, who are you sharing this thing with? And so
4 you can't know how high the water is until you know
5 how many babies are in the pool. And that's our
6 situation. We just have an estimate based -- you
7 can make some assumptions about how many other
8 projects there are, but that's something we cannot
9 know. So that's the difficulty I'm having with
10 taking this incentive to finance it.

11 Q. I guess my follow-up would be,
12 assuming that you were able to go into the pool, and
13 it wasn't a competitive pool?

14 A. Yeah, in that case, we could approach
15 the analysis with more certainty because we would
16 know at least our point in a queue, let's say. And,
17 you know, in this case, I think we're the first IGCC
18 project in the queue. So we would have the benefit
19 of that. And so then we'd know how much of the pool
20 is available and what portion of it we would qualify
21 for. So that would give us more certainty.

22 Q. Have you made that calculation?

23 A. We've made that calculation.

24 Q. Would you be willing to share it?

1 A. It's a spreadsheet, and I don't have
2 it with me. And I was -- it's a complicated
3 spreadsheet. And it's probably based on some
4 assumptions too, and I'm not sure I've rigorously
5 looked at this. But I just kind of ran into the
6 uncertainties and focused on those.

7 Q. Is it a significant incentive?

8 A. It's a significant incentive.

9 Q. I'm going to switch to a couple
10 questions concerning output based allocations.

11 Does an output-based allocation
12 account for the operating efficiency of an IGCC as
13 compared to a heat input based allocation system?

14 A. Does it account for the variation in
15 efficiency; is that what you're saying?

16 Q. Yes.

17 A. It depends on -- well, there's two
18 places you could measure heat input. And it's
19 really the way the regulation is set up. It would
20 only be measured at the input to the combustion
21 turbans, not coal, synthesis gas. We'd be the only
22 people measuring synthesis gas heat input. So I
23 don't know what it means relative to everybody else.
24 But it would be a very different thing, you know.

1 But the output is the same as everybody else is
2 producing. So I think, you know, there you have an
3 equal basis with us.

4 But if you put us on a synthesis
5 gas basis, it would put us at a disadvantage because
6 there's a cost of conversion of coal. This heat
7 input number here for coal is probably 30 percent
8 larger than the heat input of the combustion
9 turbines. In other words, there's a cost. There's
10 an energy cost of gasification. The way the rule
11 operates, we would have to use the heat input to the
12 combustion turbines to the units under this rule.
13 That's synthesis gas. So we would be at a
14 disadvantage to another coal unit, okay, that is
15 measuring up here at the coal end, okay, and we'd be
16 disadvantaged by 30 percent.

17 MR. COOPER: Do you know the relevant
18 efficiency in producing power in terms of an IGCC
19 versus a pulverized coal boiler?

20 THE WITNESS: Which boiler? An
21 average boiler, I mean, let's say -- these are
22 normally discussed in terms of heat rate, and
23 probably other people can chime in here, but you
24 have a range of the modern newest super critical

1 units getting, you know, below 10,000, 9,500,
2 maybe even below 9,000, as the technology develops
3 here for a heat rate. 9,000 British thermal units
4 per kilowatt hour of electricity. So that's how
5 much fuel per kilowatt, and then they go up to
6 12,500 or 13,000 in the old timers, BTUs per
7 kilowatt hour of electricity produced.

8 So the IGCC is going to be on the
9 lower end of that range. It's going to be maybe
10 500 or -- when we get to our final design, I'll
11 tell you what we think it's going to be, but it
12 should be a somewhat improvement over super
13 critical. Although, super criticals are getting
14 pretty good, so...

15 MS. DOCTORS: The Illinois EPA
16 appreciates that the Christian County Generation,
17 LLC, generally supports its output based
18 allocation method frequently updating baseline
19 utilization of --

20 THE HEARING OFFICER: Ms. Doctors, can
21 you speak up a little bit, please? Give it your
22 all.

23 MS. DOCTORS: The Illinois EPA agency
24 appreciates that Christian County Generation, LLC,

1 generally supports an output based allocation
2 method frequently updating the baseline and the
3 utilization of allowance. That is all the Agency
4 has.

5 MS. BASSI: Is that a statement?
6 She's not sworn in.

7 MR. RUSSELL: Yes, she is.

8 THE HEARING OFFICER: She's not sworn
9 in. I'm going to allow her statement to stand.

10 Any other questions? Mr. Rieser?

11 MR. RIESER: With respect to this
12 issue of the eliminating the pro-rata reduction
13 for early adopters, if -- in your analysis of what
14 happens if that is done for -- if it's eliminated
15 for -- let me ask it this way.

16 How are the allocations allocated
17 among all of the earlier adopters who submit
18 projects in a given year?

19 A. I don't think I've gone that far,
20 other than to think that it might be on a first come
21 first serve basis, you know, and that the Agency
22 would receive an application, analyze it, and make
23 an allocation that is fixed for some period of time
24 in some way. And I don't know what all the rule

1 language has to be to accomplish that, but it
2 doesn't seem too complicated to me, and that it
3 would be first come first serve.

4 Q. So it's first come first serve within
5 a given year?

6 A. Well, or just in general, over any
7 number of years.

8 Q. So the -- what you're proposing would
9 have the impact of reducing allowances available for
10 other early adopters just because when they submit
11 their request for allowances?

12 A. It would be a benefit to the earliest
13 and less beneficial to later entries. But I guess
14 what I'm saying is that if we don't make some
15 commitment to people who are trying to invest in new
16 technologies, we may not get these new technologies.
17 There is some expense here that has to be dealt with
18 and some support is needed, and it's not going to
19 count for much if we can't quantify it.

20 Q. Would the same uncertainty be present
21 with respect to other areas of CASA where the
22 allocations were dependent on the number of people
23 in the pool?

24 A. What other areas? I mean, why don't

1 you discuss them one by one?

2 Q. Well -- and this is just an example,
3 with respect to new technology, approaches new
4 technology?

5 A. Right. I guess my suggestion was that
6 if you qualify for this early adopter provision,
7 then an aspect of that provision is that in your
8 initial allocation, you get a fixed amount for some
9 period of time, and that you not be subject to
10 pro-rata reduction for whatever CASA categories that
11 early adopter qualifies for.

12 Q. So this fixed amount would translate
13 not just to the early adopter pool, but to whatever
14 pool this particular control -- whatever the control
15 strategy is being proposed by the early adopter. It
16 would translate throughout the life of a project
17 through whatever CASA categories it happens to fall
18 in?

19 A. Yeah. And I don't know about life of
20 a project because that might be 30 years or
21 something. But for some period of time, so that we
22 can count on it for some period of time, so it's
23 defined. If it's not defined, we won't count on it,
24 we won't be able to.

1 Q. And so -- thank you.

2 THE HEARING OFFICER: Yes,

3 Mr. Bonebrake?

4 BY MR. BONEBRAKE:

5 Q. I had a couple follow-ups.

6 You were asked a question earlier
7 about why there hadn't been more IGCC, and I think
8 you identified economics as one of the reasons. And
9 so my follow-up is what are the others because you
10 suggested there were more than the economics?

11 A. I think, in part, it's technology
12 development. And the refiners, for example, have
13 been involved in this area of technology
14 development. Technology has come a long way.
15 There's greater experience now in use of these
16 gasification units. But, you know, we have to
17 realize there's only two of these operating in the
18 United States. There's these other selected
19 facilities around the world. There's quite a few
20 gasification facilities that refineries -- so
21 there's a fair amount of experience with
22 gasification technology, and that has matured over
23 the years. But in the -- the utility industry is a
24 conservative engineering group. And the experience

1 with these smaller Wabash plants and so on, these
2 are somewhat developmental, experimental exercises,
3 and they've encountered a lot of problems that no
4 one foresaw. And so all those issues have to be
5 addressed as this technology moves forward.

6 Q. Mr. Rieser asked you a couple of
7 questions about the mechanisms that might be used to
8 establish a better sense of what allowances would be
9 under CASA. And I think you described a scenario,
10 perhaps, where they could be fixed based upon who
11 would apply first. And that would be a way then for
12 you to know what your allowances would be. Doesn't
13 that compare (inaudible) because how do you know
14 you're going to be first?

15 A. Well, we don't know that we're going
16 to be first. But let's say that in IGCC, Illinois
17 today stands at zero. There's only two others in
18 the whole country, and they're smaller, much smaller
19 than what we have in mind. So these proposals --
20 although there's a lot of discussion of IGCC, this
21 is one of the very few proposals that's as advanced
22 as it is. And, you know, we don't have hundreds of
23 opportunities like this. I think an overabundance
24 of good IGCC proposals is not Illinois' problem. I

1 think assisting selectively some good projects that
2 can move forward successfully is something that has
3 to be focussed on. But there's an issue if we just
4 divide up the incentives, or in some indefinite way,
5 so that the developers can't really count on them.
6 We have to make it real and concrete for financing
7 purposes.

8 MR. JOHNSON: Is Future Gen (phonetic)
9 one of your competitors in the same?

10 THE WITNESS: I don't know if we would
11 regard them as an a competitor. I think they're
12 doing the entire industry a great service by just
13 kind of pushing all these technical issues, and
14 there's a whole variety of them, and seeing what
15 this technology can do. So this is more of a
16 common effort across the industry, cooperative
17 effort to try to resolve many of the technical
18 issues of this technology.

19 MR. JOHNSON: Essentially involved in
20 the --

21 (Simultaneous speaking.)

22 THE HEARING OFFICER: Can you hold on
23 a second?

24 THE REPORTER: Yeah, I can't get two

1 people talking at once.

2 MR. JOHNSON: I talked over you. I
3 apologize.

4 Essentially, involved in the same
5 business.

6 THE WITNESS: We're generating power.
7 We're gasifying it in the same way and using the
8 same feed stock in Illinois.

9 THE HEARING OFFICER: Ms. Bassi?

10 MS. BASSI: I wanted to you ask a
11 question that you nicely evaded before.

12 MR. RUSSELL: Excuse me. Can I object
13 to that comment and move to strike it?

14 THE HEARING OFFICER: Mr. Bassi?

15 MS. BASSI: That's fine.

16 THE HEARING OFFICER: I think we'll
17 allow that.

18 MS. BASSI: Going back to your
19 spreadsheet where you estimated the number of
20 allowances that you might be able to use up for
21 CASA for your project. Looking at the rule at
22 Section 225-460-C2, it appears that IGCC plants
23 are a form of clean coal technology. Do you -- in
24 your estimate, did you anticipate that you would

1 use up the 4,573 allowances that are included for
2 that category?

3 THE WITNESS: No.

4 MS. BASSI: Thank you.

5 THE HEARING OFFICER: Mr. Bonebrake?

6 MR. BONEBRAKE: With respect to the
7 Future Gen project Mr. Johnson asked you about, do
8 you know if department of energy is providing any
9 funding for that?

10 THE WITNESS: For Future Gen.

11 MR. BONEBRAKE: Yes.

12 THE WITNESS: I think the status of it
13 is that Texas and Illinois are in the running. Is
14 there anybody else? I'm not sure.

15 MR. RUSSELL: (Nonverbal response.)

16 THE WITNESS: No? So there's two
17 states in the running, two cites in the running
18 for citing it, and that decision process for
19 deciding of it is something like a year away.

20 MR. BONEBRAKE: But do you know if the
21 department of energy is providing any funding?
22 Has it made any commitments to provide funding for
23 the project?

24 THE WITNESS: I'm not familiar with

1 Future Gen funding by the department of energy, I
2 mean...

3 MR. BONEBRAKE: Well, do you know if
4 the department of energy views IGCC to be
5 experimental technology?

6 THE WITNESS: I don't think -- well, I
7 don't know if they have a policy -- I guess I
8 would say I don't what their policy is or whether
9 they would label it that way. I don't think we
10 would label it an experimental technology. I
11 think -- because you have operating facilities of
12 substantial size that have been operating for
13 decades. So this is proven technology, but that
14 doesn't mean it's not without technical challenges
15 or that it's common.

16 THE HEARING OFFICER: Mr. Russell?

17 MR. RUSSELL: I could supply counsel
18 with some information later on DOA's involvement.

19 THE HEARING OFFICER: Anything further
20 from the Agency?

21 MS. DOCTORS: Not at this time, no.

22 THE HEARING OFFICER: Anything further
23 from anybody? Thank you, Mr. Kunkel, you can step
24 down.

1 THE WITNESS: Thank you.

2 THE HEARING OFFICER: Off the record
3 for a second, please.

4 (Whereupon, a discussion
5 was had off the record.)

6 THE HEARING OFFICER: We're back on
7 the record after a short recess. We're going to
8 close things up for the day and start tomorrow.
9 And that will be with, and I've said the name
10 wrong twice, Mr. Saladino's testimony at
11 9:00 a.m. tomorrow here in this room. So we'll
12 see you all then. Thank you very much for your
13 attention and time.

14 (Whereupon, there were no
15 further proceedings had
16 at this time.)

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1 STATE OF ILLINOIS)
2) SS
3 COUNTY OF COOK)
4

5 JULIA A. BAUER, being first duly
6 sworn on oath says that she is a court reporter
7 doing business in the City of Chicago; that she
8 reported in shorthand the proceedings given at the
9 taking of said hearing and that the foregoing is a
10 true and correct transcript of her shorthand notes
11 so taken as aforesaid and contains all the
12 proceedings given at said hearing.

13

14

15

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18

19 SUBSCRIBED AND SWORN TO
20 before me this 4th day
of December, A.D., 2006.

21

Notary Public

22

23

24

