

1 EXCERPT OF TOM HEWSON'S TESTIMONY

2

3 MS. McGRATH: Thank you.

4 I will introduce to the Zoning
5 Board of Appeals and to the public Tom Hewson who is
6 from Energy Ventures Analysis, Incorporated, and I
7 would provide to the zoning board one copy of these
8 for the record -- Mr. Hewson's resume, and he's got
9 a power point presentation that he's going to
10 present.

11 CHAIRMAN RUDOLPH: Mr. Hewson, I
12 need to swear you in. Raise your right hand,
13 please.

14 (Whereupon Tom Hewson was sworn
15 by the Chairman.)

16 CHAIRMAN RUDOLPH: State your name
17 and address.

18 MR. HEWSON: My name is Thomas A.
19 Hewson, Jr. I live at 3415 Alabama Avenue in
20 Alexandria, Virginia.

21 CHAIRMAN RUDOLPH: How do you spell

22 your last name?

23 MR. HEWSON: It's Hewson. It's up
24 there. It's H-e-w-s-o-n.

2

1 NARRATIVE TESTIMONY

2 BY THOMAS A. HEWSON, JR.:

3 I'd like to thank the board
4 and the applicant very much for accommodating my
5 schedule and allowing me to go out of turn.

6 It is a pleasure to be with
7 you all tonight, and what I'd like to do is share
8 with you some thoughts.

9 I was asked to review the
10 White Oak Wind Energy's application for a special
11 use permit. I have reviewed a number of
12 applications in my history.

13 For the past 30 years, I've
14 been energy and environmental consultant; past 25
15 years a principal at Energy Ventures Analysis. We
16 are a consulting firm located at Arlington, Virginia
17 right across the river from Washington, D.C.

18 I do a lot of electric
19 modeling and trying to figure out how we're going to
20 meet our future energy needs and electricity needs.

21 Our forecasts are used by the
22 Department of Energy in their annual energy outlook
23 as one of those they compare to.

24 I do work for most of the

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1 major utilities in the United States. I've been
2 involved in wind issues for more than five years.
3 I've been spending a lot of time on expert panels
4 trying to help citizens understand the issues
5 concerning wind development.

6 I also help Wall Street in
7 their investment decisions, some of which having to
8 do with renewable resource decisions.

9 I work for public utility
10 commissions and do a lot of speeches in front of
11 state legislatures.

12 So what I'd like to do today
13 is talk in particular about this particular project.

14 I'm sure members are very well

4 no documentation that shows that they are in or out
5 of compliance to be able to make a determination.

6 In doing models, obviously
7 it's very complex, and I don't profess to have done
8 all the complex modeling that is necessary. I do a
9 very simple approach, which I've looked at the
10 single turbine, looked at the frequency ranges for
11 these turbines, and looked at how far away do you
12 need to be before you would comply with a single
13 turbine and you would comply with these noise
14 regulations.

15 Keep in mind as you go
16 multiple units, obviously we're dealing with up to a
17 hundred here, there are certain places where the
18 noise is going to be a lot higher than if it was
19 just a single turbine.

20 For a source that's 750 feet
21 away from a residential property line, it would
22 exceed the frequency range up to 750 feet away or at
23 eight-meter per second wind speed given this
24 turbine.

1 I would address that according
2 to the application, some of the houses are within
3 700 feet in terms of the participating landowners,
4 and so according to my model, you know, a simple
5 model, a single turbine, that would be very
6 difficult to comply with noise regulation at
7 eight-meter per second wind speed.

8 Surprisingly at a lower wind
9 speed, the problem is even greater, and if you get
10 up to 1,200 feet away, we would end up with no
11 attenuation, and this is obviously a very simplified
12 assumption. You'd have to be at least 1,200 feet
13 away in order to achieve the standard for the
14 Illinois law.

15 It is important when you think
16 in terms of people being able to use their land, not
17 only are we looking at the houses themselves but
18 people in terms of use of their property aren't
19 always at their house. They like to perhaps use
20 other parts of their property, and so when you think
21 in terms of a nuisance, if these regulations are
22 designed by Illinois in order to say at what point
23 in time does something become a nuisance, it would

24 suggest that the way that we use these same

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1 standards is that within 1,200 feet of a turbine, we
2 would end up with a potential nuisance.

3 This is important to realize,
4 and, of course, some of these turbines are located
5 within 157 feet of property lines, but at 157 feet,
6 you will not be able to meet these noise
7 regulations, so if a person decides in the future
8 they would like to put let's say a building or
9 something on that piece of property along their
10 property line and you have this noise problem, in
11 essence, you're going to be intimidating them from
12 using that property in the future.

13 The other thing about noise is
14 that noise changes with different models but around
15 100 to 105 dBA is very typical, and obviously, at
16 that level it can be noticeable for long distances,
17 especially in areas of low ambient levels. We as
18 far as hearing can hear within three decibel levels
19 of a background level, and so depending upon how low

20 the levels are, you could determine at what point in
21 time it would be perceptible in terms of being able
22 to hear the turbine.

23 Taking this same approach and
24 just looking at the EPA which is a sort of blending

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1 of all the different frequency ranges or a
2 weighting, you can see that depending upon how close
3 you are, if you're at the 700 foot level which some
4 of the homes are within, you're talking about over
5 40 decibels, up closer to 50 decibel levels that
6 would be noticeable.

7 Given the background levels,
8 the question is what is the background levels. In
9 the Appendix B study that was done, there was no
10 documentation in terms of what the background levels
11 are here. There was a general discussion that it
12 tends to be in the low 40s in rural areas.

13 I was up in Vermont where they
14 did do background studies, and the background
15 studies in the rural area there was 25 decibels, and
16 since I just arrived here today, I don't have a

17 decibel meter so I have not looked at it, so I'm not
18 sure if it's more like 25 decibel levels or 30 or
19 35, but I leave that to you all to determine.

20 If you are indeed at the 25
21 decibel level such as what was found in Vermont, you
22 can be several miles away and you can still hear or
23 be able to discern a wind turbine.

24 If you're in a city, in

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1 Bloomington where there's probably a lot of traffic,
2 probably the background level is a lot higher, and
3 you're probably at a point where maybe in
4 Bloomington they might not be able to discern this,
5 you know, these levels, so it depends on how low it
6 is.

7 Besides the noise issue,
8 there's obviously the visibility issue.

9 According to the application,
10 it is in the range of 388 to 397 feet depending on
11 the turbine blades that they were using. I just
12 heard this evening 405 feet, so that's a little bit

13 different than what's in your application.

14 To put it in perspective, we
15 often talk about the Statue of Liberty which many of
16 us have been there and seen. That's only 305 feet
17 high, so these things are indeed very large and very
18 visible and so they can be seen from long distances.

19 I was involved in testimony in
20 Boone County where those turbines, which they
21 weren't dealing with a hundred, could be seen by
22 everyone in the county, and given how flat it
23 appears to be here, I'm sure that these will be seen
24 at very long distances and perhaps by a large

11

1 portion of your population here in the county.

2 In addition, of course, we
3 talk about night lights on structures for safety
4 reasons. Obviously, we do not know yet how many or
5 where, but obviously, you can see these slides are
6 going to be at the top of the turbines, and so
7 they're going to be visible for very long distances
8 and very far away.

9 I tried also to put in

10 perspective in terms of comparing, you know, these
11 turbines and how big they are to planes. You know,
12 you can put a 767 inside one of these turbines so
13 these things are huge.

14 And in the future, when we
15 deal with additional models, they'll be getting just
16 bigger and bigger as we try to increase the capacity
17 to above the one and a half megawatts that have been
18 proposed for this project.

19 In addition, there are other
20 issues that are involved, one of which is dealing
21 with aviation. There has been some discussion going
22 back and forth concerning radar interference.
23 There's obviously some concern with airplane safety
24 when you get these things close to airplane flight

12

1 path.

2 And my understanding, the
3 terms of the application suggest that there is a
4 landing strip within one and a half miles of the
5 locations of some of these turbines.

6 If so, I think you indeed have
7 a concern concerning an aviation hazard in terms of
8 these are very large and trying to come down and
9 being able to safely land your plane.

10 A lot of the aviation hazards,
11 the Illinois Crop Dusters Association as you
12 probably are aware has developed a policy. They
13 call themselves the Illinois Agriculture Aviation
14 Association, and they have adopted a resolution not
15 to serve areas inside or immediately adjacent to
16 wind turbine groupings.

17 So people that are located
18 within these turbine clusters would not be able to
19 be served by crop dusting yet that is a service that
20 they require concerning the Illinois Agricultural
21 Aviation Association members, and I'm not sure if
22 that is limited to just crop dusting planes, but I
23 assume that that also includes all their pilots,
24 those that fly helicopters as well.

13

1 In terms of ice throw, you
2 just heard a little bit that ice throw can

1 In some cases in California
2 what has happened in terms of mitigation measures is
3 that they require during certain periods of time or
4 when hills get to certain levels that the turbines
5 be turned off.

6 I'm not sure, given the way
7 the application is written, what the applicant is
8 planning to do.

9 Shadow flicker, strobe effect
10 is caused by shadows of moving blades. It does
11 create problems for certain health conditions. I
12 was surprised it wasn't part of the public health
13 and safety discussion. It is part of the same
14 modeling things that they were using for the noise
15 as the shadow flicker analysis. It talks about the
16 number of days or number of hours that certain
17 locations would be affected by shadow flicker.

18 I would suggest that you ask
19 the applicant for that in terms of the number of
20 hours that each of these individual homes may be
21 associated with flicker

15 they said 74 percent of the respondents would not
16 build or buy within a quarter of a mile of the
17 turbines, 61 percent within a half mile, 59 percent
18 within two miles.

19 So the indication in terms is
20 if I'm not willing to buy or build within a distance
21 of the turbine, it would suggest that if I am buying
22 a house, the amount that I'm willing to pay would be
23 affected.

24 There was a May 2000 County

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1 Guardian article "Case Against Wind Farms," which
2 looked at English surveyors who said that in their
3 opinion wind turbines significantly decrease
4 property values by 30 percent. This was a simple
5 survey. It also had the problem that there was no
6 transaction data provided in order to provide a true
7 statistical analysis.

8 1996, the Danish surveyed 342
9 people living close to wind turbines. They found
10 that 13 percent of the people living really close
11 considered it a nuisance and would be willing to pay

12 money in order to have the wind turbines go away.

13 The question was how much were
14 they willing to pay in order for these turbines to
15 go away and close shop.

16 Survey of houses in the area
17 did show a lower value close to single wind farms
18 and a much lower price near multi-wind farms.

19 Mackinaw City, there was also
20 one done by the assessor looking at property values.
21 It was a two-turbine outfit, and what they looked at
22 was the turbine value, the assessed value before and
23 after the turbines.

24 There were three other ones.

18

1 There was a study done by the Royal Institute of
2 Chartered Surveyors which found 60 percent of their
3 respondents thought a wind farm would decrease the
4 value of residential properties. Only 28 percent
5 thought it would decrease the value of surrounding
6 agricultural land while 9 percent thought there
7 would be a positive agricultural land value impact.

8 Once again, it was a survey
9 that didn't provide any analysis of the value change
10 or any supporting transaction data.

11 In Nantucket Sound, in 2004,
12 there was a survey of landowners from six towns on
13 Cape Cod. Homeowners were asked, and they thought
14 that the project would reduce their property
15 values -- this was a proposed project -- by four
16 percent, and that waterfront households with
17 waterfront property were believing that they would
18 lose about 11 percent on average of their values

19 Overall, if you applied Cape
20 Cod's survey results -- and obviously that's a very
21 expensive place to live -- they concluded it would
22 be about \$1.3 billion loss in property values which
23 was greater than the cost of the wind project that
24 they were looking at

19

1 But once again, this is a
2 survey of homeowners and asking them, and also real
3 estate agents, asking them what they thought the
4 effect would be.

1 economic end of it, you know, that there may not be
2 a devaluation.

3 One was the telephone survey
4 of tax assessors' views of two proposed Washington
5 projects -- "The Economic Impacts of Wind Power in
6 Kittitas County" which is in Washington, the State
7 of Washington, which was a survey of two wind
8 projects in Washington. It concluded that there
9 were no property impacts, and they didn't provide
10 any transaction data either in this study for this
11 survey.

12 There was a study done in May
13 of 2003 by the Renewable Energy Policy Report which
14 was submitted or I understand was submitted as part
15 of the record here which stated the property values
16 within five miles of nine large wind farms and
17 concludes presence of commercial scale wind turbines
18 does not appear to harm property values.

19 However, in talking to the
20 authors of the study, it was roughly a \$10,000
21 study. They had limited resources, and they did not
22 look or elect to look at property values within one
23 mile due to limited data, and they did not compare

24 like properties, and roughly 70 percent was related

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1 party transactions, and 72 percent of their data did
2 not actually have views of the turbines.

3 So this particular study also
4 had significant limitations given the limited
5 resources that it was spending.

6 In looking at Poletti's
7 study, it examined property sales records in Lee
8 County, Illinois and Kewanee County, Wisconsin, had
9 discussions with two town assessors, and reviewed
10 two prior wind property studies above and reviewed
11 property value impact studies of sanitary landfills.
12 Concludes that the "Forward Wind Energy Center is so
13 located as to minimize the effect on the value of
14 the surrounding property."

15 It didn't really say that
16 there wasn't an effect. It was saying that they
17 picked a location as to minimize the effect.

18 There is also limitations, of
19 course, to this study given the times and the
20 pairings over time of sample sites of this study as

17 Madison County was what he called
18 nondiscretionary housing which is located in
19 portions of town where there were lower property
20 values or where people were there because that's
21 what they could afford.

22 So he cautions you or cautions
23 anyone in using and applying his conclusions. It
24 was good for his particular study but to be cautious

23

1 about applying to any other situation.

2 Sorry. There's a lot of
3 studies, and they're not perfect, but there are
4 seven studies that say there is a problem and four
5 studies that say there isn't.

6 In looking at environmental
7 health and safety issues, obviously there is the
8 fact of noise, visibility, shadow flicker and
9 safety.

10 And some of these, as you
11 could imagine, different counties have different
12 limitations. I was surprised in terms of yours how
13 close that you allow turbines to property lines.

14 All the various county ordinances that I've seen,
15 and obviously I can't possibly see, you know, tons
16 of them, but in terms of the projects and counties
17 that I have seen, yours was by far the ones that
18 allowed some closest to the property lines, the
19 closest ones that I've ever seen.

20 Some areas, as you know, have
21 height restrictions and also exclude areas from
22 development and in that way protecting the nature of
23 the area.

24 There are also requirements

24

1 requiring bonds to cover the cost of renewable and
2 site restoration.

3 I just heard obviously the
4 prior speaker talk about the cost of scrap iron will
5 be more than enough to cover the cost.

6 I would say that as far as
7 some of the counties have elected, well, if that's
8 true, it won't cost you very much money then to give
9 us a bond instead of we don't take the technical

10 risk of what happens to the cost of decommissioning.
11 We'd leave that up to you, and if indeed you're
12 correct, that's fine. You can keep the money, but
13 we want to have the net impact in terms of it to
14 return to its former condition.

15 There is some interference
16 with navigational systems, staying away from flight
17 paths and locking mechanisms to limit airport radar
18 interference.

19 And then there's
20 non-compliance penalties. One of the things I would
21 caution you on is what happens if -- these are
22 expensive. They're very expensive. You know, we're
23 talking about roughly two and a half million dollars
24 per turbine. What happens if these things cannot

25

1 meet whatever requirements if you elect to give them
2 the special use permit? Are you going to remove a
3 two and a half million dollar turbine?

4 I would suggest that you be
5 very careful in terms of your consideration about
6 giving the permit because once it's up, it's going

7 to be very difficult to bring it down.

8 Obviously we're all enthralled
9 about bringing sources of power. I'm in the
10 environmental business, and I've always marveled in
11 terms of when we get into discussions about avoid
12 emissions. It seems very simple, doesn't it? Hey,
13 this doesn't produce any air emissions, and it
14 displaces something that has air emissions, and so
15 in the end, we're going to have less air pollution.

16 Well, unfortunately, the way
17 actually it works in terms of our environmental
18 requirements is power plants are only allowed to
19 emit so many tons of pollution. They get allowance
20 credits, and everyone gets a credit, so if your wind
21 turbine is able to displace someone, you can then
22 take that credit and sell it to someone else

23 So in the end, what happens
24 is that -- we're in the cap and trade system such as

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1 what we have for NOx and what we have for SO2.

2 Anything that is displaced will not be avoided.

1 there is no difference in CO2 emissions associated
2 with the project.

3 I often also hear people talk
4 about reduced dependence on fossil fuel. You know,
5 there are some natural gas facilities that are on
6 margin. If you really aren't displacing, you really
7 are in a special set aside market

8 In that wind receives very
9 little capacity value, it really is not displacing
10 the need to build for regular conventional fossil
11 fuel plants as conventional sources of power
12 capacities, building new power plants.

13 In that, in PJM the wind
14 project initially gets up to 20 percent of its
15 capacity value, so I would say that this project, if
16 it was in PJM, would get 30 megawatts and it
17 would be able to displace a 30-megawatt power plant.
18 That's insufficient in order to avoid building a new
19 power plant. They generally are much bigger sizes
20 than that.

21 In MISO, the rules aren't as
22 distinct as they are in PJM, and I believe the last

23 time I looked that the credit would likely be less.

24 There is a benefit to property

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1 owners. As I understand, we were talking about
2 roughly \$5,000 per turbine per year, and, of course,
3 the property owners often lose the ability to
4 develop their property during the lease period
5 depending upon how long the lease is.

6 And in this case, what's
7 interesting of course is that they're talking about
8 giving a payment for property owners,
9 non-participating property owners within a third of
10 a mile which may be in recognition that there is a
11 nuisance or potential loss of property values.

12 There are jobs that are
13 created in terms of temporary construction jobs and
14 maintenance jobs. Those have to be offset, of
15 course, depending on what happens to energy costs.

16 And then finally, there's a
17 contribution to county property taxes. In Illinois,
18 you have a law that allows them to exempt

19 energy-producing equipment from property taxes, and
20 so what that means is the turbine itself would
21 likely be exempt from property taxes given Illinois
22 state law, so you're looking at only a small portion
23 of probably the total value of the project, you
24 know, that would be subject to your county property

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1 taxes.

2 In many cases, and I don't
3 know whether they in this case have, but in many
4 cases, they ask for additional property tax relief,
5 and as I understand it, there is no request in this
6 county.

7 That concludes my
8 presentation. I tried to be quick because I know
9 you all are getting tired, and I'd be more than glad
10 to answer any questions you might have.

11 CHAIRMAN RUDOLPH: Thank you.

12 I do think we need to take a
13 short little break, about ten minutes, and we will
14 be again adjourning the hearing at 10 o'clock.

15 (Recess taken.)

16 CHAIRMAN RUDOLPH: Mr. Hewson, I
17 just have one technical question first.

18 Will there be paper copies of
19 your power point presentation provided as evidence?

20 MR. HEWSON: Yes. As I stated,
21 there were some copies that were already made.

22 MR. HUG: Sally, the power point
23 presentation has been marked as Objector's
24 Exhibit 13 for the board.

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1 CHAIRMAN RUDOLPH: Thank you.

2 Just another really kind of
3 technical thing.

4 You were talking about
5 providing studies from the -- one particular study,
6 you said you would provide that.

7 When will that be provided? I
8 think you said the ice throws, the Danish study.

9 MR. HEWSON: Yeah, if you were
10 interested in that particular issue, I said I would
11 be more than glad to provide it.

12 I am heading back to Virginia
13 tomorrow for meetings, so that I could probably, if
14 you could be where I could fax it, or I could
15 probably give you the -- it's also available on the
16 Internet.

17 CHAIRMAN RUDOLPH: I would suggest
18 the best way would be for you to provide it to
19 Ms. McGrath in some form, and then she can bring it
20 in.

21 MR. HEWSON: I will be more than
22 glad to do that.

23 CHAIRMAN RUDOLPH: Okay. Now,
24 questions from members of the board?

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1 CROSS-EXAMINATION

2 BY MR. ZIMMERMAN:

3 Q. You mentioned the Danish study. It
4 was mentioned in the studies that we got up here the
5 variation in the value of the houses there.

6 Would you recall those from
7 the before and after?

8 A. You mean from the 1996 report?

9 Q. Yeah, 1996 report, 1995 study.

10 A. I would say... First of all, you
11 can download the study, and you can see it in its
12 entirety.

13 Q. Okay.

14 A. And it does provide that specific
15 information.

16 I must admit that although I
17 remember lots of things, I do not remember terms in
18 baseline before and after. Obviously, I talk about
19 the differences here.

20 Q. I think you might find it on Page 5
21 of the Poletti study which is being prepared by
22 Invenergy Wind, LLC, bottom of Page 5.

23 This '95 Danish study
24 indicated the lower prices for homes near an

32

1 operating wind farm was 94 kroners less. That's 17
2 bucks is what they're getting at.

3 CHAIRMAN RUDOLPH: Do you have a
4 copy of this, Mr. Hewson?

5 MR. ZIMMERMAN: Do you have a copy
6 of this?

7 MR. HEWSON: The Poletti study?

8 MR. ZIMMERMAN: Yes.

9 MR. HEWSON: I have the Poletti
10 study, and I also have the Danish study. The
11 Poletti study, if it's indeed the one, and I'll ask,
12 in terms of the May 2005, is that the one?

13 MR. ZIMMERMAN: Yes.

14 MR. HEWSON: I do have a copy.

15 MR. ZIMMERMAN: Well, I point to
16 this in that it may just all be dodgy, this
17 information, but thanks a lot for providing that.

18 MR. KINSELLA: I have a question on
19 your fear factor of throwing the ice off the blades,
20

21 CROSS-EXAMINATION

22 BY MR. KINSELLA:

23 Q. It's my understanding when they're
24 iced up they're not going to be turning.

1 Now, maybe they do it

2 different in different countries, but here, if
3 they've got that much money invested, that much
4 weight is going to throw it off balance, so I don't
5 think it will be running.

6 CHAIRMAN RUDOLPH: Ask your
7 question, Dave.

8 Q. My question is where did you come
9 up with this as far as how far it's going to throw
10 the ice?

11 A. First of all, I think I was
12 suggesting that you read a study that was done on it
13 which was a European study that I was going to
14 provide you.

15 Q. You're giving us testimony tonight
16 though.

17 A. Yes, and I said that if you look at
18 the study that evaluated ice throw and looked at the
19 risk and evaluated the risk in terms of what was the
20 chances of someone being hit at different distances,
21 it was a risk profile that was the conclusion of the
22 study.

23 Q. So you don't have the stuff here
24 tonight though?

1 A. No. I said if anybody was
2 interested, I would provide it.

3 CHAIRMAN RUDOLPH: I just have one
4 question in your testimony about emissions. I want
5 to be sure I understand it.

6

7 CROSS-EXAMINATION

8 BY CHAIRMAN RUDOLPH:

9 Q. So you were saying that there's
10 really no net decrease in emissions because the coal
11 burning electricity will still be sold somewhere
12 else? Was that your testimony?

13 A. What I said from an emissions
14 standpoint is that when we looked at something that
15 is subject to cap and trade programs such as sulfur
16 dioxide and nitrogen oxides, that let's say if you
17 were to displace a source at one ton of emissions
18 let's say of sulfur dioxide emissions, that source
19 would no longer be consuming the one allowance that
20 he would have used, and he could sell that allowance

21 to another source who then could emit one ton more
22 than what he would have because now he has an
23 allowance, he had one more allowance than what he
24 had before.

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1 Q. Would you agree that wind power in
2 the long run, if it could possibly displace or make
3 it so that coal burning plants were not built, then
4 there would be less total emissions?

5 Does that make sense?

6 A. No. It has to do a lot with, first
7 of all, coal-burning utilities tend to be
8 base-loaded utilities. They tend to be operated at
9 a large portion of the hours or very high capacity
10 factors because of their very low internal cost.

11 When we talk about a wind
12 project, what happens is you displace the highest
13 cost source of generation that would have been on
14 had it not been for the wind project, and so the
15 question is what type of generation would that be in
16 any given -- and it depends upon, you know, the time
17 of day, hour of day, and the load.

14 found is that you can get a negative price of power
15 because it's hard because they are needed the next
16 day and you can't just simply shut down a power
17 plant and then turn it back on. It takes several
18 hours in order to ramp up and ramp down, and since
19 some people turn on their lights the next day and
20 they're welcome to turn on their air conditioning,
21 you know, we tend to operate our system in order to
22 optimize and provide power at all times for
23 everybody.

24 MR. KURITZ: I have a question

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1 concerning the noise levels and approximately how
2 close they are to the residences and all that type
3 of thing.

4

5 CROSS-EXAMINATION

6 BY MR. KURITZ:

7 Q. What my question is is considering
8 the proximity of Interstate 74 to Carlock and
9 Interstate 39 to Hudson which are two of the
10 communities affected by this, which level is going

11 to be the loudest -- interstate highways or the
12 turbines?

13 A. That's an easy one to answer. It
14 all depends on where you are. Obviously, and you
15 are very correct, interstates can be very noisy, and
16 so, yes, they are a source of noise, and when you
17 get closer and closer, it gets louder and louder.

18 And so the question would be,
19 to answer your question correctly which is at any
20 given location, eventually, you'll get to a point
21 where if you're far enough from the wind turbine,
22 you'll hear the interstate more, but as you get
23 closer, there will be a point at which you'll hear
24 the wind turbine more than the interstate.

38

1 It's all a matter of distance.

2

3 CROSS-EXAMINATION

4 BY MR. ZIMMERMAN:

5 Q. Following on to your SO₂ and NO_x
6 emissions may be displaced but not avoided, are

7 there credits with this project that are going to be
8 sold or transferred someplace else?

9 This might not be a question
10 for you but is that an issue here?

11 A. When you talk about credits, now,
12 let's talk about what type of credits are we talking
13 about.

14 Q. Displaced generation can
15 sell/transfer their emission credit to other
16 station/units.

17 That's reading from your
18 slide.

19 A. Right. What I'm talking about is
20 that source of power, high cost power that was no
21 longer operating because of a wind turbine would not
22 be emitting and, therefore, would be able to sell
23 their allowance that they didn't use to someone who
24 would use it.

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1 Q. Okay. So help me out here.

2 If you've got wind power
3 that's displacing the high emission power, then

4 where is the loss, where is the detriment here?

5 A. Well, all I'm saying is that what
6 happens is that that credit may not be used by a
7 source that's been displaced, but it would be used
8 by someone else.

9 Q. So you say that if they've got wind
10 power generating up here, your next point down,
11 we've got wind power up here generating. It's the
12 marginal Texas plants, natural gas plants that are
13 relatively high emitters will not need to function
14 for our overall power. Then they have credits that
15 they then sell?

16 A. First of all, the wind project here
17 does not displace the Texas plant in the way the
18 grid works, but if, let's say you were able to
19 displace let's say an oil project for a few hours
20 and it had one ton of emissions that it would have
21 emitted, that oil plant could then transfer or sell
22 their credits to another station wherever in the 48
23 states. They can sell it to anybody. They can sell
24 it to someone in Texas. They can sell it to someone

1 in New Jersey. They could sell it to someone in
2 Illinois.

3 Q. So you're suggesting that if a
4 plant doesn't operate for an hour and it's a dirty
5 plant, it can transfer or sell its credits to
6 someplace else?

7 A. What will actually happen is
8 instead of operating let's say at close to full
9 capacity for that given hour, it might operate at
10 less than its full capacity. It would operate at a
11 portion of its capacity, so it would not be emitting
12 as much as it did when operating at full capacity.

13 Q. And it gets credit for not
14 operating --

15 A. And what would happen is it would
16 then not burn as many credits.

17 You'd have to have allowances
18 in hand to cover all their emissions at the end of
19 the year, and so if they don't use it, they don't
20 sell it.

21 Q. If they don't use it, they can
22 transfer it to somebody else and let them do it?

23 A. Correct. It's sort of a big pie
24 that they've divided up, and so if you don't eat it,

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1 someone else will.

2 Q. Okay. So when you explain this,
3 I'm quoting from your presentation, "Wind projects
4 would displace some Texas natural gas facilities on
5 the margin," what's that mean?

6 A. Well, what happens is you're going
7 to, as it states, displace.

8 The way a power plant works is
9 you go from the lowest cost generation to the
10 highest cost generation. Any wind project that is
11 in the queue or online would have zero incremental
12 cost and therefore would be part of the ones that
13 would displace a high cost source, and often the
14 highest cost sources in PJM tend to be gas-fired
15 facilities.

16 MR. ZIMMERMAN: Thank you.

17 MR. HEWSON: That's natural gas by
18 the way as opposed to gasoline type.

19 CHAIRMAN RUDOLPH: Any further

20 questions from members of the board?

21 Any questions from staff?

22 CROSS-EXAMINATION

23 BY MR. HUG:

24 Q. Mr. Hewson, I guess you talked

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1 about the long, broad range of issues for the Zoning
2 Board of Appeals.

3 What would you say is your
4 expertise?

5 A. Well, I've been in the energy
6 environmental consulting business for 30 years, so I
7 would say I deal a lot with the power business, and
8 I deal a lot with the environmental issues dealing
9 with power business.

10 Q. Is there an area within that
11 business that you have a particular expertise?

12 A. I testify on environmental issues
13 dealing with the power industry. I have been
14 published several times.

15 Q. I guess, is wind power your

16 expertise or is all power your expertise or is gas
17 or coal one of those areas of your expertise?

18 A. When you deal with electricity,
19 it's important to understand all the different forms
20 of electricity.

21 I would say that if you asked
22 me the question seven years ago, I hadn't been
23 exposed to wind because it was an extremely small
24 portion. However, subsequently, it seems that wind

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1 accounts for 23.6 percent of our total U.S. energy
2 supply.

3 It takes up more than 23.6
4 percent of my time unfortunately.

5 Q. You've clearly testified before in
6 a number of situations.

7 A. I have.

8 Q. Have you always testified against
9 wind power or have you testified for wind power?

10 A. Obviously, in dealing with the
11 people in Wall Street, there are people who are
12 interested in investing in renewable energy sources

13 including wind power, and that isn't testimony.

14 That would be in terms of consulting.

15 Q. You've consulted on behalf of wind
16 power companies?

17 A. I have consulted on behalf of Wall
18 Street, people who are interested in investing in
19 assets, and many people believe that investing in
20 renewables is a way in which they can make more
21 money for their shareholders.

22 Q. Would you say then that you are in
23 favor of wind power or you're opposed to it?

24 A. As an expert, what I hope to do is

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1 give you the information so you can decide what side
2 you're on.

3 Q. You've testified elsewhere in
4 Illinois.

5 Have you testified in favor of
6 wind power in Illinois or opposed to wind power in
7 Illinois?

8 A. In Boone County, I presented a

9 presentation dealing with the types of issues just
10 like here that are facing wind power. I did the
11 same in Ogle County.

12 In both cases, I was hired by
13 groups of citizens, and I would say that they were
14 both opposed to wind projects.

15 Q. Is there anything about this wind
16 project that could be done that would satisfy in
17 your mind that it would be an appropriate project
18 for McLean County?

19 A. Well, I think in terms of if you
20 take the issues, looking back at your requirements,
21 you know, one issue that I'm sure you need to deal
22 with is one dealing with the noise issue and dealing
23 with the property devaluation issue and how do you
24 address that or can you address that.

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1 Q. Is there a distance from the homes
2 or the lot lines that you would recommend the board
3 adopt to satisfy the sound issues?

4 A. Well, if I were trying to
5 accomplish getting to a point where there was no

6 noticeable noise, I would suggest one distance.

7 If I'm trying to achieve let's
8 say a 30 or a 45 level decibel, there would be
9 another level that you could assign.

10 I would say obviously the
11 farther away you are, the less of a nuisance it is.

12 And so what I've observed from
13 people in your situation is that some have taken the
14 tack by putting it just 2,500 feet away and some at
15 1,500 feet away.

16 I'm not trying to make policy.
17 I'm just trying to be an engineer.

18 Q. Do you have any other
19 recommendations, specific recommendations regarding
20 this project?

21 A. All I would say is that right now I
22 have not seen any evidence that's been supplied by
23 the applicant to date where I would be able to
24 address the issues in your criterion for special use

1 permits.

2 Right now, the way this
3 appears to me, in that it cannot meet the noise
4 regulations at the property lines, it would be
5 probably very difficult for you to meet the proposed
6 use and it will not be detrimental to or endanger
7 the health, safety, morals, comfort or welfare to
8 the public.

9 Given the issues concerning
10 property values, I do believe that there's an issue
11 in terms of how close you are, and so I would say
12 that if anything, perhaps the only area to address
13 other than not doing the project would be to set
14 farther setback provisions.

15 CHAIRMAN RUDOLPH: Mr. Wetzel,
16 questions?

17 MR. RODER: Madame Chairman, I'll
18 ask the questions.

19 CHAIRMAN RUDOLPH: I'm sorry.
20 Could you introduce yourself?

21 MR. RODER: Yes.

22 My name is Raymond Roder. I'm
23 one of the attorneys representing Invenergy and in
24 this case White Oak Energy, LLC.

1 CHAIRMAN RUDOLPH: Thank you.

2 MR. RODER: Good evening,

3 Mr. Hewson.

4 MR. HEWSON: Good evening.

5 MR. RODER: I'll try and make the
6 number of questions that I have as short as
7 possible.

8

9 CROSS-EXAMINATION

10 BY MR. RODER:

11 Q. I'd like to follow up on a question
12 that Attorney Hug asked.

13 Have you ever testified in
14 favor of a wind power project?

15 Now, I'm not asking you about
16 advice you may have given or consultation you may
17 have given to someone who is on Wall Street. I'm
18 talking about testimony.

19 A. My testimony in terms of public
20 forums have tended to be about technical issues
21 dealing with evaluating claims made by developers,

22 and I would say that I would characterize them as in
23 most cases, the data that was provided by the wind
24 developer was insufficient in order to justify the

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1 claims that they were making.

2 Q. Well, let me paraphrase what I
3 think you just said.

4 You've been a devil's advocate
5 against wind power, is that correct?

6 A. I think I've tried to be a person
7 who tries to keep with what the facts are, and I
8 don't think in terms of a devil's advocate.

9 Q. You indicated that it's been about
10 seven years now that you've really paid some
11 attention to wind power as a source of electrical
12 energy.

13 During that seven years, has
14 most of your income in that regard been to provide
15 testimony such as you are tonight?

16 A. No. Most of my income in terms of
17 consulting is dealing with how to address

18 environmental issues.

19 Q. I think at one point you suggested
20 that the locations of the towers might be such that
21 they would cause a nuisance and that the zoning
22 board should take that into account.

23 Are you aware of the fact that
24 there is an ordinance which does have actual

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1 setbacks?

2 A. I did not review the McLean County
3 ordinance.

4 Q. And I think you've eschewed any
5 effort to set policy earlier when you said you
6 weren't going to tell the board what was the right
7 setback that they should have?

8 A. I believe he was asking me what I
9 would do if I was in his shoes, so I think he was
10 asking me for a policy.

11 Q. And you decided you didn't want to
12 offer anything different to the board than the
13 setbacks they already have?

14 A. I said... I think I'm on the

15 record in terms of how I answered that question was
16 that you do setbacks to achieve certain goals, and
17 depending upon the goals that one was trying to
18 achieve, you would set the setbacks accordingly.

19 Q. If I'm not mistaken, in your
20 testimony, it might have been because you were
21 rushing through, you indicated that in terms of
22 lighting and visibility issues that the lights would
23 be at the top of the turbine.

24 Did you mean at the top of the

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1 nacelle or at the end of the blade?

2 A. The turbine or the towers I mean.

3 Q. The top of the nacelle?

4 A. That's correct.

5 Q. Is it your suggestion that pilots
6 who might be spraying pesticides or herbicides
7 wouldn't necessarily be precluded because of this
8 IAA policy that you suggested was followed by some?

9 A. I was saying that there was an IAA
10 policy that was adopted.

11 Q. That's not anything that the
12 members are required to follow, is it?

13 A. I don't believe that it is binding
14 on members. I do not know if it was a binding
15 resolution. The resolution was pretty generic.

16 Q. There was testimony last night --
17 and I realize that you weren't here -- to the effect
18 that at the present time, there are 107 megawatts of
19 power produced in this state by wind power, and that
20 the goal is to get at least up to 2,000 megawatts
21 from wind power.

22 Take that as a given, and then
23 my question would be this.

24 If that is indeed the goal,

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1 where in Illinois is it best to achieve the
2 additional 1,900 megawatts in your opinion?

3 A. First of all, I'm uncertain whether
4 it has to be in Illinois first of all.

5 Am I to assume that this 2,000
6 megawatts has to be in Illinois?

7 Q. I think that's the state's plan.

8 A. And is this a goal or is this -- as
9 I remember, the renewable portfolio standard in
10 Illinois is that it is a goal of up to eight percent
11 as long as it does not increase the cost of
12 electricity by more than two percent.

13 And so if it costs more than
14 two percent, then they would not be required to go
15 above whatever that level is.

16 But if you're saying then
17 that's 2,000 megawatts and where would I put it, the
18 first place you'd try to look at is obviously where
19 the wind resources are the greatest, and then look
20 to trying to pare down to what areas are most
21 appropriate for a wind farm.

22 Q. In advising clients to determine
23 where the wind strength was best, would you advise
24 them to rely solely on the NREL information?

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1 A. No.

2 Q. Wouldn't it be better to rely on
3 site specific meteorological data?

4 A. I can tell you that your lenders
5 would require site specific information.

6 Q. Have you ever negotiated a power
7 purchase agreement on behalf of a wind energy
8 facility?

9 A. I have not.

10 Q. Where in your analysis did you take
11 into account the fact that coal-fired plants produce
12 solid waste as a consequence of their operation but
13 wind power does not?

14 A. Can you ask that question again,
15 please?

16 Q. Sure.

17 You told us that one of your
18 principal efforts is to examine the environmental
19 consequences of different types of energy
20 production, electric energy production.

21 A. That's correct.

22 Q. And I was wondering why in your
23 slides you didn't mention the fact that wind power
24 does not produce solid waste but coal-fired plants

1 do.

2 A. I think it's pretty evident that
3 wind projects do not produce solid waste and coal
4 plants do.

5 I was trying to focus on just
6 those criterion for this specific application as it
7 deals with McLean County.

8 Q. And what about the fact that your
9 analysis looked, as I could tell it, only at nitrous
10 oxides and sulfur dioxide in terms of your avoidance
11 versus displacement argument. Why did you not
12 consider hazardous air pollutants?

13 A. Well, SO₂ and NO_x are the two
14 pollutants that are subject to cap and trade
15 programs today. You mentioned hazardous air
16 pollutants and mercury. That also would be subject
17 to a cap and trade program.

18 Q. I'd like to see if we can't look a
19 little bit into this avoidance versus displacement
20 argument that you've made here this evening.

21 First of all, are you saying
22 that if a utility purchases a credit that would
23 amount to being able to produce one megawatt of

24 power that that utility will use that credit,

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1 produce the one megawatt of power at the same time
2 the wind turbines or in the same year the wind
3 turbines are producing that one megawatt of power?

4 A. Let me understand, sir.

5 So I'm buying one megawatt of
6 power from a wind person, okay?

7 Q. Correct.

8 A. I'm that far, and therefore, I'm
9 not buying from supplier B.

10 Q. No. The wind turbine produces one
11 megawatt of power.

12 A. Okay.

13 Q. A utility, let's say it's in New
14 Jersey, has purchased a credit as a consequence from
15 the wind facility here in Illinois.

16 A. You're talking about a renewable
17 energy credit?

18 Q. Right.

19 Now, my question is, is it

20 your assumption that both megawatts would be
21 produced, one in Illinois and one in New Jersey in
22 my example?

23 A. Well, as it turns out, in your
24 example, you're talking about one is a renewable

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1 energy credit which is its green attributes you're
2 selling to a person in New Jersey, and you're
3 selling I assume the power to someone in Illinois.
4 That's two different things.

5 Q. So if someone in the cap and trade
6 program sells credits and they're purchased by a
7 utility in another state, that utility isn't
8 necessarily going to use that megawatt of power that
9 it has the right to produce or the consequent
10 pollutants that are associated with that.

11 A. Now we're talking about a different
12 type. Now we're talking about allowances, and, yes,
13 if I don't use my allowance, I can sell it to
14 someone who can use my allowance.

15 Q. But that someone won't necessarily
16 use it, will they?

17 A. Well, yes, they will.

18 Q. Is it your testimony that people
19 who are in the utility business purchase -- they use
20 every credit that they purchase, every allowance
21 that they purchase?

22 A. In the credit programs, they're
23 allowed to, for example, for sulfur dioxide, they're
24 allowed to carry over the credits into future years.

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1 Q. Well, you didn't answer my
2 question.

3 A. I thought I just did.

4 Q. My question was do they actually
5 use the credit?

6 A. They do.

7 Q. They don't always do it, do they?

8 A. What do you mean they don't always
9 do it?

10 They will eventually use all
11 their credits or they wouldn't have bought it.

12 Q. Well, isn't it a fact, Mr. Hewson,

13 that in the electric industry, there is a
14 requirement to have reserve capacity?

15 A. There is.

16 Q. And the ability to produce
17 pollutants up to that level?

18 A. You're getting things mixed up.

19 You're talking about reserve capacity which deals
20 with reliability power and amount of megawatts that
21 I need in addition to what my projected peak demand
22 is in order to operate a reliable system.

23 That's completely independent
24 from the environmental framework in terms of how

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1 much allowances that I need in order to emit.

2 Q. So you're saying that you can have
3 a reserve capacity but without the allowances to
4 emit?

5 A. When we say reserve capacity, I'm
6 hung up by -- I'm thinking of reserve capacity as it
7 deals with the power industry.

8 Are you talking about a bank
9 of allowances?

10 Q. No.

11 A. In which I have a bank of
12 allowances that I can use and emit greater than my
13 annual allocation because I have a surplus bank that
14 I could draw upon?

15 Q. You indicated in your testimony
16 that -- I think it was maybe in response to a
17 question -- that a power plant wouldn't necessarily
18 shut down completely. It might reduce the amount of
19 power that it was producing so it didn't have to
20 ramp up completely.

21 Is that an accurate summary of
22 what you said I think in response to one of the
23 supervisors or, I'm sorry, one of the board members?

24 A. I said what you tend to do is you

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1 would ramp it down. You wouldn't necessarily take
2 it off line necessarily.

3 Q. And in the ramping up process,
4 isn't that where these power plants tend to be very
5 inefficient in terms of pollution capture?

6 A. I would disagree with that
7 assumption.

8 When a plant operates and when
9 it ramps up and when it ramps down, plants have to
10 achieve certain emission rate limitations that are
11 very strict, and so, in fact, probably as you ramp
12 up as you use the plant more, you probably can
13 operate more optimally than if you're operating at a
14 lower capacity utilization.

15 CHAIRMAN RUDOLPH: Mr. Roder,
16 excuse me. Can you give me an approximation of how
17 many more questions you might have, just a ballpark?

18 MR. RODER: I probably have a good
19 15 or 20 more minutes.

20 CHAIRMAN RUDOLPH: Ms. McGrath, are
21 you going to have any questions for this witness?

22 MS. McGRATH: I don't anticipate
23 any right now.

24 CHAIRMAN RUDOLPH: Okay. Let me

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1 ask if there are any others here, interested
2 parties, objectors or supporters that will have

3 questions for Mr. Hewson. Raise your hands or stand
4 up would be better.

5 MR. RODER: Madame Chairman, I'm
6 just wondering on this. Isn't this someone
7 questioning their own witness in effect?

8 CHAIRMAN RUDOLPH: I'm trying to
9 get a feel for the timing of the hearing because
10 we're going to adjourn at 10 o'clock and continue
11 this hearing, so what I'm trying to determine from
12 Mr. Hewson is when he would be available to come
13 back.

14 MR. HEWSON: Unfortunately,
15 tomorrow I'm supposed to be up on the hill, and I
16 have meetings on Friday. It would have to be next
17 week.

18 CHAIRMAN RUDOLPH: Okay. I think
19 we can work this out because Mr. Roder has more
20 questions, there are others who want to ask
21 questions, and we want to be sure that everyone gets
22 a chance to ask any questions, so if you could make
23 arrangements maybe with Ms. McGrath as to when that
24 might be.

1 Thank you.

2 MR. HEWSON: Is there any chance we
3 might go a little bit later than 10?

4 CHAIRMAN RUDOLPH: No, because I
5 know what happens when the flood gates open, and I
6 know ten years down the road, there will be
7 people sitting here at 11 o'clock and midnight, and
8 nobody wants to do that.

9 A lot of people go to work
10 tomorrow too, and they want to be awake.

11 Okay. So what we're going to
12 do is we're going to adjourn now and we're going to
13 continue this hearing until 6 o'clock tomorrow
14 evening in this room.

15 Thank you.

16 (Whereupon the hearing was
17 continued to January 18, 2006 at
18 6:00 p.m.)

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