

The full text of Dr. Pierpont's testimony appears here.

Portions dramatized in the radio theatre performance are highlighted in orange.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

SKAMANIA COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT
LAND USE APPEAL HEARING

TRANSCRIPT OF PROCEEDINGS
LeAnna Toweill, Hearing Examiner
January 21, 2009
Stevenson, Washington

[Transcriber's note: Due to the method of recording,
this transcript contains indiscernible passages.]

1 APPEARANCES:

2 J. Richard Aramburu

3 Aramburu & Eustis LLP

4 Appearing on behalf of appellant

5 Save Our Scenic Area

6

7 Richard Arthur Poulin

8 SCOPE Law Firm, PLLC

9 Appearing on behalf of appellants

10 Friends of Columbia Gorge,

11 Gifford Pinchot Task Force,

12 and Columbia River Keeper

13

14 Peter S. Banks

15 Skamania County Courthouse

16 Appearing on behalf of Skamania County

17

18

19

20

21

22

23

24

25

1	GENERAL INDEX	
2		Page No.
3	JANUARY 21, 2009	6
4	Hearing Examiner Opening Comments	6
5	Opening Statement by Mr. Aramburu	11
6	Opening statement by Mr. Poulin	101
7	Opening statement waived by Mr. Banks	327
8		
9	JANUARY 22, 2009	268
10	Closing argument by Mr. Aramburu	368
11	Closing argument by Mr. Poulin	381
12	Closing argument by Mr. Banks	393
13		
14	--oOo--	
15		
16	WITNESS INDEX	
17		
18	FOR THE APPELLANTS:	
19		
20	KAREN WITHERSPOON	
21	Direct examination by Mr. Aramburu	23
22	Cross-examination by Mr. Poulin	63
23		
24		
25		

1	WITNESS INDEX	
2	FOR THE APPELLANTS:	Page No.
3		
4	HEATHER WATSON	
5	Direct examination by Mr. Aramburu	85
6	Cross-examination by Mr. Poulin	96
7		
8	NINA PIERPONT	
9	Direct examination by Mr. Aramburu	119
10	Cross-examination by Mr. Banks	147
11		
12	RICHARD JAMES	
13	Direct examination by Mr. Aramburu	161
14	Cross-examination by Mr. Poulin	189
15	Cross-examination by Mr. Banks	192
16		
17	KENNETH SMALLWOOD	
18	Direct examination by Mr. Poulin	211
19	Cross-examination by Mr. Aramburu	245
20	Cross-examination by Mr. Banks	246
21	Redirect examination by Mr. Poulin	256
22		
23		
24		
25		

1	WITNESS INDEX	
2	FOR THE APPELLANTS:	Page no.
3		
4	DEAN APOSTOL	
5	Direct examination by Mr. Poulin	270
6	Cross-examination by Mr. Banks	298
7	Redirect examination by Mr. Poulin	307
8		
9	NATHAN BAKER	
10	Direct examination by Mr. Poulin	316
11	Cross-examination by Mr. Banks	323
12		
13	FOR THE COUNTY:	
14		
15	KAREN WITHERSPOON	
16	Direct examination by Mr. Banks	328
17	Cross-examination by Mr. Poulin	340
18	Cross-examination by Mr. Aramburu	349
19	Redirect examination by Mr. Banks	365
20		
21		
22		
23		
24		
25		

1 HEARING EXAMINER: Yeah. Yeah. No. I don't
2 want an open-ended question.

3 MR. ARAMBURU: Okay.

4 HEARING EXAMINER: If you're finished with your
5 questions, Mr. Aramburu, I'll have -- allow
6 Mr. Banks to ask her some questions.

7 MR. ARAMBURU: Okay. So Dr. Pierpont, the next
8 person to ask you questions is the County attorney,
9 Mr. Banks.

10 THE WITNESS: Thank you.

11 MR. BANKS: Your Honor, do you want me to go
12 first, or do you want Mr. Poulin to go?

13 HEARING EXAMINER: My understanding that
14 Dr. Pierpont was not going to be one of your
15 witnesses.

16 MR. POULIN: I do not have questions.

17 HEARING EXAMINER: Okay. So go ahead,
18 Mr. Banks.

19 MR. BANKS: Thank you.

20 CROSS-EXAMINATION

21 BY MR. BANKS:

22 Q Can you hear me all right, Doctor?

23 MR. BANKS: I think for some reason, this is
24 unidirectional.

25 Q BY MR. BANKS: Hello?

1 A Yes.

2 Q Can you hear me all right, Doctor?

3 A Yes.

4 Q Let me ask a questions. Is there some division
5 with the American Medical Association that is
6 studying anything having to do with wind turbine
7 syndrome?

8 A In the American Medical Association?

9 Q Yeah.

10 A No. They usually study things that have to do
11 with delivering health care.

12 Q And you don't feel that wind turbine syndrome
13 would be something that the Medical Association
14 would be interested in delivering medical
15 services for?

16 A There are divisions within the specialties that
17 are very interested. A particular specialty
18 that's interested is called neurotology, and
19 that's a specialty within otolaryngology, which
20 is ears, nose, and throat.

21 So otology means ear, and the people who do
22 neurotology do the stuff that has to do with the
23 inner ear, like the cochlea, that sends the neuro
24 signals for sound, and the vestibular system,
25 that sends the neuro signals as part of the

1 balance system. And then neurotologists are also
2 very interested in the way that the brain puts
3 together the signals for the balance system.

4 Q And are you --

5 A Neurotologists see people who are dizzy or who
6 have vertigo. And this is a range of problems
7 that doctors in general, internists,
8 pediatricians, family practitioners don't have a
9 great deal of knowledge of. And when I sent out
10 my manuscript, these were to be read and
11 refereed. These were the specialist who were
12 highly interested in this area. They're
13 interested it for different points of view.

14 HEARING EXAMINER: Ms. Pierpont, I -- Mr. Banks
15 is going to move on to the next question.

16 Go ahead.

17 MR. BANKS: Thank you.

18 Q BY MR. BANKS: You indicated that you studied 10
19 families; is that correct?

20 A Yes.

21 Q And a total of 38 people?

22 A Yes.

23 Q Ages 10 to 85, I believe?

24 A Zero to 85.

25 Q Zero?

1 A Zero to 75.

2 Q All right. You studied someone in utero?

3 A No. Zero means an infant, prior to the age of
4 one. There actually was one in utero, but there
5 were two infants in the study, so that's what
6 zero is.

7 Q That's fine.

8 HEARING EXAMINER: Thank you, Ms. Pierpont.

9 MR. BANKS: Now, how many people lived in the
10 town in which you conducted this study?

11 A None.

12 Q I'm sorry?

13 A I'm sorry. I thought you were asking in my town.

14 Q No. I'm -- you studied 10 families from a town;
15 is that correct?

16 A No. They were from all over the world.

17 Actually, not all over the world. There were two
18 families from Ireland, one from the United
19 Kingdom, one from Italy, one from the United
20 States, and five from Canada.

21 Q And as part of your study, did you examine the
22 topographical maps for each one of the locations?

23 A No, but I got descriptions from the subjects of
24 what the topography was like.

25 Q All right. So you did not study any

1 topographical maps with regards to any location,
2 other than Skamania County; is that correct?

3 A (No audible response.)

4 Q Did you hear the question, ma'am?

5 A Yes, I did. I would say that I've looked at a
6 map of Skamania County. I didn't study the map
7 for any place.

8 Q Oh, I'm sorry. I was under the impression that
9 you were provided topographical maps and that you
10 reviewed them. Is that an inaccurate statement?

11 A Yes.

12 Q In the families that you studied from Ireland, in
13 the town in which they lived, how many people did
14 you not interview?

15 A I didn't do an epidemiologic study. That's
16 beyond my capacity as an individual practitioner.
17 What I did is a kind of medical study called a
18 case series, and I developed comparisons in --
19 because I didn't have a control group, I
20 developed comparisons in two other ways.

21 One is that each person in the study was
22 their own control, in that they lived near
23 turbines, then they lived -- I'm sorry. They
24 lived without them, then they lived near them,
25 then they lived without them again. So it was a

1 before, during, after comparison.

2 HEARING EXAMINER: Okay. Thank you,
3 Dr. Pierpont.

4 Q BY MR. BANKS: Then you didn't talk with anyone
5 who had lived next to a wind turbine project to
6 see if they were affected or not affected? The
7 only people you talked to are people who
8 admittedly were affected by the sound; is that
9 correct?

10 A Again, that's right. I did not do an
11 epidemiologic study, which means a sample of an
12 entire population or a regular part of that
13 population within a certain distance, for
14 example.

15 HEARING EXAMINER: Thank you, Dr. Pierpont.

16 Q BY MR. BANKS: Now, when you say that your report
17 was published on the Internet, who published it?

18 A The short reports I wrote before this study of
19 the 10 families are posted on the Internet.

20 Q So you posted them?

21 A We have, and other sites that are interested in
22 the problems with wind turbines.

23 Q Did they post it or did you post it, Doctor?

24 It's a very simple question.

25 A Both. You can post something in multiple

1 locations. And we also published some things in
2 our local newspaper.

3 Q With any of the other 10 families, did you do
4 studies with regards to the wind pattern where
5 those people were located?

6 A Again, my study was entirely by interview of the
7 families, so we talked about patterns of -- like
8 which direction the wind might be blowing from
9 when they got symptoms, because their symptoms
10 came and went. And the typical pattern is that
11 when the wind is blowing from the turbines
12 towards them, or from behind them towards the
13 turbines, so the turbines are turned directly
14 towards them or away from them, and if the wind
15 is particularly strong, then that tends to be
16 when the noise is loudest and when they get
17 symptoms.

18 HEARING EXAMINER: Okay. Dr. Pierpont, I think
19 the question was more formal wind studies as far as
20 wind direction and what such. And I take it your
21 answer is no?

22 THE WITNESS: Yes, my answer is no.

23 HEARING EXAMINER: Okay. Thank you.

24 Go ahead, Mr. Banks.

25 Q BY MR. BANKS: And can you tell me how many

1 studies you have reviewed with regards to the
2 effects of people living within the flight path
3 of airports in the United States?

4 A For the United States and Europe, I've probably
5 reviewed 20 papers, published medical papers.

6 Q And how many other published papers are there
7 with regards to your wind turbine syndrome, other
8 than yours?

9 A There are other published papers on noise and
10 annoyance -- or rather --

11 Q I'm sorry, ma'am. Let me ask the question
12 very -- it's a very simple question. Are there
13 any other papers published dealing with what you
14 have called the wind turbine syndrome?

15 A Yes.

16 MR. ARAMBURU: Examiner, she's trying to answer
17 these questions.

18 HEARING EXAMINER: No. I -- but he was making
19 a distinction as far as the syndrome name. Thank
20 you.

21 Q BY MR. BANKS: How many other papers are there
22 that are dealing with the wind turbine syndrome,
23 as you have named it?

24 A The paper by Dr. Amanda Harry deals with the same
25 syndrome, though she doesn't call it that.

1 Q What does she call it?

2 A Just a moment. Well, her paper is called Wind
3 Turbines, Noise and Health. The first section is
4 the effect of wind turbines on health.

5 Q But again, it doesn't deal with the syndrome; is
6 that correct?

7 A It deals with the same set of symptoms and signs,
8 which is the same syndrome.

9 Q I believe you testified that your study started
10 in 2004; is that correct?

11 A 2006.

12 Q 2006?

13 A For the actual study, interviewing families in
14 depth.

15 Q And have you been following up on a routine basis
16 with the 10 families since you wrote the paper?

17 A I followed up with them while I was doing the
18 paper, until I got to the end of the time which
19 was the data collection period.

20 Q In --

21 A You're asking me many questions of did I design
22 the paper this way or that way or this way, and I
23 designed it in a very particular way, and that's
24 how papers are done.

25 HEARING EXAMINER: Okay. Dr. Pierpont, thank

1 you.

2 Q BY MR. BANKS: Did -- I'm sorry. This may have
3 been asked and answered, and I apologize if it
4 was. Did you interview anyone who lived near a
5 wind turbine who said they had no symptoms from
6 anything?

7 A Yes.

8 Q How many?

9 A How many?

10 Q How many people did you interview that had no
11 symptoms?

12 A There were -- within the 10 families, there was
13 one 19-year-old who had very few symptoms. In
14 fact, there were several teenagers who had few
15 symptoms. I talked to a lot of people, and I
16 don't know how many I've talked to who don't have
17 symptoms.

18 The study is not constructed in that.
19 Epidemiologic studies, which is what you're
20 talking about, are needed. This was a first
21 step --

22 Q You --

23 A -- of finding --

24 HEARING EXAMINER: Okay. Dr. Pierpont, thank
25 you.

1 THE WITNESS: You're welcome.

2 Q BY MR. BANKS: Doctor, you indicated that you had
3 reviewed the proposed zoning text for Skamania
4 County zoning ordinance; is that correct?

5 A Yes.

6 Q And I believe you made a statement that wind
7 turbines were allowed over a broad area of the
8 county. What did you mean by that?

9 A I believe that we're not talking about here a
10 specific project, but we're talking about --
11 you're talking about permitting turbines in
12 various parts of the county. So this is general
13 ordinance.

14 Q Let me ask you a very simple question, Doctor.
15 If a wind turbine is never constructed in
16 Skamania County, how is someone going to suffer
17 from wind turbine syndrome?

18 A Well, they're not.

19 Q And unless someone applies for a permit to build
20 it, can it affect anyone?

21 A If you're putting out a guideline of half a mile
22 in an ordinance, that will be a guideline that
23 your developers will be expected to be followed,
24 and that's a precedent. But you're asking me
25 legal questions, rather medical or research

1 related questions. I'm done.

2 HEARING EXAMINER: Thank you.

3 Q BY MR. BANKS: You made a statement in response
4 to one of the questions -- one of the last
5 questions from counsel for SOSA, talking about
6 people who take your study seriously. Explain
7 what you meant by that.

8 A People who are involved in the development of
9 wind turbines wish to ignore my study, so they
10 don't take it seriously.

11 Q You indicated that you testified to a New York
12 legislative group?

13 A Yes.

14 Q What was that testimony about?

15 A It was describing wind turbine syndrome.

16 Q And why were you testifying before the
17 legislative body?

18 A They were having a hearing on the implementation
19 of the RPF, which is mandated amount of energy
20 that needs to come from renewable sources by a
21 certain time. And this was on implementation.

22 Q Are you aware of whether or not they implemented
23 anything?

24 A No, they did not with regard to my
25 recommendation.

1 Q And your recommendation was?

2 A That there should be further medical review and
3 research, and that the State should have some
4 kind of guidelines as to siting and setback,
5 which in New York state is being left up to the
6 individual towns.

7 MR. BANKS: Thank you. That's all I have.

8 HEARING EXAMINER: Thank you, Dr. Pierpont.

9 MR. ARAMBURU: I don't think I have any more
10 questions for you Dr. Pierpont. I take it the
11 examiner does not have questions.

12 HEARING EXAMINER: I don't have any questions.
13 Thank you.

14 MR. ARAMBURU: Okay. We're going to sign off
15 now, Doctor. Thank you very much for your
16 testimony.

17 THE WITNESS: You're welcome. Thank you.
18 Bye-bye.

19 HEARING EXAMINER: Excuse me for just a minute.
20 I'm going to reorganize my papers.

21 MR. ARAMBURU: I need to call -- can we just
22 take a couple minute break here? Would that be a
23 good idea?

24 HEARING EXAMINER: Yes. Let's take about a
25 five-minute break. Thank you.

1 MR. ARAMBURU: Oh.

2 HEARING EXAMINER: Okay. So you'll answer the
3 phone and do all the stuff? Okay.

4 (Pause in the proceedings.)

5 MR. ARAMBURU: Doctor, it's Rick Aramburu
6 calling. We're ready to start your testimony, but
7 apparently what we need to do to make this whole
8 system work is that you need to call in to a number
9 here, and then that will transfer you to the phone
10 in the hearing room. And let me give you that
11 number, which is 509-427-3900. And ask -- tell
12 them you're a witness in a hearing that's going on
13 in the conference room and to transfer you to the
14 phone.

15 Correct. And you can -- okay. Okay.

16 Thank you. Bye.

17 (Pause in the proceedings.)

18 (Telephone ringing.)

19 MR. ARAMBURU: Ah-ha. There we go.

20 THE CLERK: Yes. Okay. Hold on.

21 Are you there?

22 THE WITNESS: Yes.

23 MR. ARAMBURU: Dr. Pierpont, this is Rick
24 Aramburu speaking. Can you hear me?

25 THE WITNESS: Yes.

1 MR. ARAMBURU: Okay. I want to tell you that
2 you are on a telephone speaker in a room in
3 Stevenson, Washington. And just to let you know
4 who the other people are that are here, the hearing
5 examiner, LeAnna Toweill, is here. Peter Banks,
6 the County attorney for Skamania County is here.
7 Karen Witherspoon, who's the planning director, is
8 here. There are lawyers also here for the Friends
9 of the Columbia Gorge, and there are other folks as
10 well that will take too much time to explain. So I
11 just wanted to let you know who is here.

12 And first of all, I'd like to have you state
13 your name, and you're going to need to be sworn
14 on oath by Ms. Toweill. So would you state your
15 full name and address, please.

16 THE WITNESS: Nina Pierpont, 19 Clay Street,
17 Malone, New York, 12953.

18 HEARING EXAMINER: And Dr. Pierpont, this is
19 LeAnna Toweill, the hearing officer, and I'm going
20 to administer an oath.

21 NINA PIERPONT,
22 called as a witness on behalf of the appellants,
23 having been first duly sworn, was examined and
24 testified telephonically under oath as follows:

25 HEARING EXAMINER: Thank you very much.

1 DIRECT EXAMINATION

2 BY MR. ARAMBURU:

3 Q Dr. Pierpont, we have as a part of the
4 testimony -- or the exhibits here today your
5 resume from July 5, 2006.

6 MR. ARAMBURU: Which for the parties, that's
7 Exhibit 1.1.

8 Q BY MR. ARAMBURU: And I'd like you to briefly
9 explain your educational background and describe
10 the work that was done for your degrees,
11 beginning with your work at Princeton for your
12 Ph.D.

13 A I have a Ph.D. in ecology, specifically animal
14 behavior in the wild and adaptive patterns of
15 behavior in social organizations. And I did
16 several years of field work in Amazonian Peru for
17 that degree.

18 And after finishing that, then I did a
19 postdoctoral fellowship at the American Museum of
20 Natural History in ornithology, I went to medical
21 school at Johns Hopkins. And I have an MDA from
22 Johns Hopkins and have had subsequent residency
23 training in pediatrics and 14 years of experience
24 in pediatrics.

25 Q And you're a practicing physician in New York

1 state?

2 A Yes.

3 Q Please tell us a little bit about the work you
4 did for your degree in ecology from Princeton.
5 What kind of work did that consist of?

6 A I was studying social interaction and ecology
7 territoriality, diet, foraging strategies of a --
8 of related birds in a very high diversity
9 ecological community. I did radio tracking.

10 Q And did this involve -- excuse me. Did this
11 involve a considerable amount of research work
12 and review of other scholarly documents and
13 studies?

14 A Oh, yes. I mean, Ph.D.s involve that always.
15 Even in the course of qualifying to do your
16 dissertation, you become familiar with the
17 literature in your field and have to pass an oral
18 exam on it. And in a dissertation, you also
19 review the relevant scientific literature in the
20 field that pertains to what you're doing, your
21 hypotheses.

22 Q Now, Dr. Pierpont, have you conducted
23 investigations of the effect of wind turbines on
24 human health?

25 A Yes.

1 Q And can you tell me how you first became
2 interested in that subject matter?

3 A I am a doctor in a rural community, and like many
4 rural communities in the United States, the
5 people wanting to build wind turbines, wind
6 developers, appeared here in 2004. And as
7 concerned citizens, my husband, a retired
8 professor, and myself, looked into the experience
9 of other people who had -- who lived near wind
10 turbines.

11 And we discovered quickly that there were
12 significant symptoms that people complained
13 about. And I could see, as a physician, that the
14 symptoms fell into a certain pattern. They were
15 very similar to each other. They reminded me
16 right off of symptoms that come from balance,
17 over-sensitivity, or migraine disorder.

18 Q And can you tell us a little bit about the kinds
19 and types of investigations and studies that you
20 made on the effect of wind turbines on health?

21 A At first, I was putting together people's
22 anecdotes and accounts into -- and reading
23 literature on low frequency noise, looking at
24 literature on noise around wind turbines, and
25 coming up with plausible explanations.

1 But since that didn't seem to be enough, I
2 then started a primary research project where
3 I've been collecting data from affected
4 individuals and families in Europe, Canada, and
5 the United States, families who have moved away
6 from wind turbines because of the physical and
7 health problems they have had, or have done
8 something else very serious to their house
9 because they couldn't yet afford to move away.

10 So I have interviewed -- I have written up a
11 study that involves interviews with 10 families,
12 involving 38 people from infancy to age 75, that
13 looks particularly at what the individual risk
14 factors are in the past medical history or age or
15 individual susceptibilities that try to answer
16 the problems why some people are affected and
17 others seem not to be affected by noise around
18 wind turbines.

19 The -- one of the -- the main purpose of this
20 study is to define a syndrome, a uniform set of
21 signs and symptoms or experiences, and its
22 relationship to living near wind turbines. So I
23 used all people who had lived without wind
24 turbines, who had wind turbines built near their
25 houses, went away, came back, and eventually

1 moved away completely. And so -- and saw their
2 symptoms disappear.

3 So what I wanted to do was focus the
4 attention of the medical community on this
5 problem as a distinct and coherent and problem
6 occurring among many people, to stimulate
7 interest by medical organizations who could do a
8 larger scale study. As a solo practitioner
9 without grant funding and without the backup of a
10 medical school, I can't do these epidemiological
11 studies myself.

12 Q And we have supplied to the examiner and to the
13 parties a supplemental exhibit in these
14 proceedings, supplemental Exhibit Number 3, which
15 is entitled Wind Turbine Syndrome. And you have
16 e-mailed that and we have provided that to the
17 parties. Is this the manuscript that you
18 prepared?

19 A My manuscript is call Wind Turbine Syndrome, A
20 Report on a Natural Experiment. But I did not
21 see the manuscript, which is not yet published,
22 in your collection of exhibits.

23 Q It was one of the supplemental exhibits that we
24 had provided.

25 A Since you sent me the list?

1 Q I hope we had sent you the list, but we had
2 supplied that, and then the other materials from
3 Robyn Phipps.

4 A Okay. I -- there are two things called Wind
5 Turbine Syndrome on your list, which I published
6 in -- on the Internet in 2006. And I also have a
7 much longer manuscript, which is not yet
8 published, called Wind Turbine Syndrome.

9 Q And that's the one that's been supplied to the
10 parties.

11 A Okay.

12 Q Okay. And the latter document, which is not yet
13 published, and that is still subject to peer
14 review, as I understand?

15 A It has been peer reviewed.

16 Q And so it's awaiting publication?

17 A Yes. I'm finishing revisions on it.

18 Q Now, would you please describe to the examiner
19 and the parties here what work you've been asked
20 to do by my client, SOSA, with respect to this
21 hearing?

22 A To provide an opinion as to whether the adoption
23 of the proposed Skamania County building
24 ordinance might have a significant adverse
25 effect, inverse environmental impact, related to

1 my area of expertise, which is health.

2 Q And Dr. Pierpont, have you had an opportunity to
3 review sections of the propose Skamania County
4 zoning ordinance, as they relate to large-scale
5 wind turbines?

6 A Yes.

7 Q And I have provided that to you?

8 A Yes.

9 Q And have you had an opportunity to review
10 topographic maps of Skamania County?

11 A Yes.

12 Q And can you generally define, and briefly if you
13 will, the kinds and types of regulations of wind
14 turbines that are anticipated in the Skamania
15 County zoning ordinance?

16 A That wind turbines will be allowed over broad
17 parts of the county, and there's a defined
18 setback from inhabited or residential areas of
19 half a mile.

20 Q Okay. Now, because I know someone is going to
21 ask you this question, have you ever been to
22 Skamania County?

23 A No.

24 Q Does it --

25 A But I have been through the Columbia River Gorge,

1 but I don't know if I was in Skamania County. I
2 think I was probably in Oregon.

3 Q Okay. Does it make a difference to you, the
4 testimony you're providing today, as to whether
5 or not you've been here or not?

6 A I don't think so, because I've paid attention to
7 the differing effects and differing types of
8 topography of the noise from wind turbines, and
9 rules of physics that govern how the noise
10 distributes, and the rules of physiology are
11 going to be the same everywhere.

12 Q And --

13 A But there is a little more concern with areas
14 with pronounced topography, as opposed to flat,
15 because there's a possibility of the sound or the
16 disturbing kinds of noise traveling further when
17 the turbines are on a ridge relative to
18 residences.

19 Q And have you noticed that effect in field studies
20 or interviews that you've done?

21 A I noticed it from accounts that I've read, that
22 people in -- both accounts and in the works by
23 Robyn Phipps that you referred to, that people
24 seem to be disturbed by the noise and have
25 physical symptoms from the noise further away

1 from the turbines in mountainous areas.

2 Q But let me just pause for a moment because I want
3 to identify, as a part of our supplemental
4 exhibits, and I'm sorry that you actually don't
5 have the list, but you had provided me with two
6 reports prepared by Robyn Phipps, and Robyn is a
7 woman; is that correct?

8 A I believe so.

9 Q Okay. One was testimony provided in March of
10 2007, which is the second of our supplemental
11 exhibits. And then a report entitled Visual and
12 Noise Effects Reported by Residents Living Close
13 to The Manawatu Wind Farms, both prepared by
14 Dr. Phipps. Are those materials that you used
15 and relied --

16 A Yes.

17 Q Now, you've used and relied upon those materials?

18 A Yes.

19 Q And those are materials you sent to me?

20 A Yes.

21 Q Okay. Now, have you provided testimony to
22 other -- in other proceedings regard wind turbine
23 effects, to either in --

24 A Yes.

25 Q Could you just very briefly describe the kinds

1 and types of testimony and evidence you've
2 provided?

3 A I've spoken in front of local boards an in local
4 hearings about wind turbine, and in front of the
5 New York state legislature energy committee in
6 2006, in a hearing about the RPS and
7 implementation of alternative energy.

8 And the testimony I provided before the
9 New York state legislature was one of the
10 exhibits that you had in the list you sent me,
11 but it was a summary of what I would surmise at
12 that point about wind turbine health effects
13 based on accounts I had read or heard from
14 people, and based on the first detailed interview
15 I had done.

16 Q Okay. We've provided as exhibits to the parties
17 and to the hearing examiner Exhibits 1-2, 1-3,
18 1-4, and 1-5, which are on the exhibit list I
19 sent to you. And those are documents prepared by
20 you?

21 A Yes.

22 Q And all addressing the impacts of wind turbines
23 on human health?

24 A Yes.

25 Q Now, Dr. Pierpont, are you opposed in general to

1 wind turbines?

2 A No.

3 Q What is your general opinion about wind turbines?

4 A That they need to be responsibly sited so that
5 people don't get health effects, and also so that
6 there aren't adverse wildlife effects, like the
7 being placed in migration corridors for raptors
8 or bats, for example.

9 Q Now, I'd like you to describe, if you would,
10 based upon your investigations and your review of
11 literature and the works of others, the kinds and
12 types of noise and vibrations that come from wind
13 turbines.

14 MR. BANKS: Your Honor, I'm going to object to
15 the form of the question.

16 THE WITNESS: One of the most bothersome noises
17 is --

18 HEARING EXAMINER: Excuse me.

19 THE WITNESS: -- is a rhythmic noise described
20 as a --

21 MR. BANKS: Doctor.

22 HEARING EXAMINER: Dr. Pierpont?

23 THE WITNESS: Yes.

24 HEARING EXAMINER: I have an objection, and I'd
25 like to hear the objection.

1 MR. BANKS: The objection is, Your Honor, he's
2 asking her to testify about other people's opinion
3 on things, not her study brought her to believe
4 involving 10 families and 38 people. The rest of
5 it is information people that have provided that
6 information to us have not been certified as
7 experts in any field.

8 And the fact that she read something that
9 someone, who's not an expert published, shouldn't
10 be used as a basis to try and make her an expert
11 on the effects of noise from turbines.

12 HEARING EXAMINER: I -- Mr. Banks, I -- with
13 respect to that objection, I'll allow her to
14 testify, just as the nature of the information that
15 she gathered as far as making her opinions, and I
16 recognize that she's not the primary source for,
17 say, some of the acoustical information and stuff
18 like that.

19 But I would like to allow Dr. Pierpont an
20 opportunity to explain the basis, and also to
21 acknowledge that there -- you know, that hearsay
22 can be admitted into these types of hearings.
23 And so I'll allow the testimony to continue, but
24 I will note your objection.

25 Q BY MR. ARAMBURU: Okay. Dr. Pierpont, the

1 objections --

2 A I can actually read you direct quotes from my
3 subject, what they told me about the noise in the
4 course of doing the interviews about their
5 symptoms and experiences.

6 Q Well, let's get that -- to that in just a moment,
7 if we may. But let me go back to the question
8 that I asked previously. And that is can you
9 describe the kinds of noise or vibration that
10 come from wind turbines?

11 A In terms of measurements by an engineer, such as
12 Fritz Van de Berg from the Netherlands?

13 Q Just your characterization of the kinds and types
14 of noise that effect people.

15 A A pulsating annoyance. Something that to another
16 person wouldn't sound loud, but has an invasive
17 quality to it. Whine. Hum. Like a jet plane
18 that never lands or goes away. Like a boot in a
19 dryer. A pulsation in the chest that keeps the
20 same beat as the whoosh, or allows someone to
21 tell -- to feel the pulsations of the -- from the
22 turbine, even when they can't see it, like in a
23 fog.

24 Q Okay. Let me ask you, with respect to these
25 impacts that are observed from the wind turbines,

1 can you indicated what identified health impacts
2 have occurred as a result of the various noise
3 that you're -- that you've described?

4 MR. BANKS: Your Honor, I'm going to object to
5 the form of the question. The basis of the
6 question is talk about observed impacts. She has
7 told us what people have told happened to them.
8 She has not said that she observed any impact from
9 wind turbines disturbance. They're making a leap
10 of faith.

11 HEARING EXAMINER: I'm going to allow the
12 question.

13 Q BY MR. ARAMBURU: You can go ahead and answer the
14 question, Dr. Pierpont.

15 A The symptoms include sleep disturbance,
16 headaches, tinnitus, which is ringing in the
17 ears, pressure in the ears, dizziness, vertigo,
18 nausea, visual blurring, rapid heartbeat,
19 irritability, problems with concentration and
20 memory, and panic episodes associated with
21 feelings of internal pulsation or quivering,
22 which can arise while the subject is awake or
23 during sleep, waking them up and keeping them
24 from going back asleep.

25 Q And how have you made this diagnosis?

1 A By interviewing people and hearing the same
2 groups of symptoms over and over, is how I put
3 together this group in what I call wind turbine
4 syndrome.

5 The other way I've limited the number of
6 symptoms that I included is because my study was
7 done by interview over the telephone, long, in
8 depth interviews, but still I was taking a
9 medical history and not doing physical exams. I
10 excluded symptoms that require other kinds of
11 information like an exam or an x-ray to prove
12 what's going on.

13 Q And did --

14 A So --

15 Q Excuse me. Go ahead and finish your answer.

16 A No. It's okay.

17 Q The -- and the various impacts, health impacts
18 that you have described, the sleep interference,
19 impacts on concentration, headaches, other
20 things, are those things that a physician would
21 typically identify from an interview or by some
22 sort of other testing or diagnosis tools?

23 A By interview, by what's called a medical history.
24 That doesn't mean that there might not be other
25 diagnostic tests that could subsequently be done.

1 But just for the presence of these symptoms, they
2 are identified by history.

3 A doctor can't see if you have ringing in the
4 ear or can't see if you have a headache. These
5 are -- except for rapid heart rate, these are
6 things that are identified by history.

7 Q Now, in a medical sense, as a practicing
8 physician of some experience in the state of
9 New York, do you consider wind turbine syndrome
10 and the impacts you've identified as a serious
11 health issue?

12 A Yes.

13 Q And why is that?

14 A Because people who have it, they can't -- they
15 have to move. They have to get away from it
16 because they can't function while they have it.
17 Sleeplessness is a bad medical problem for a
18 variety of reasons.

19 The issue of concentration and memory
20 problems, too, I considered particularly serious,
21 especially among children. And often it was the
22 messages coming home from the teachers at school
23 that first alerted the parents that there was
24 something going on beyond their own feelings of
25 discomfort, that children's grades went down.

1 Children's behavior deteriorated.

2 A number of adults in the study described to
3 me in detail their own memory and concentration
4 problems or thinking problems that were very much
5 at odds with the person's usual state of
6 functioning. So I consider all of those things
7 to be serious. And they're -- they may not be
8 serious in terms of being able to find a tissue
9 pathology, like a cancer.

10 So there is a substantial medical literature
11 on the effect of night noise, which keeps people
12 awake, on cardiovascular disease. And actually,
13 the noise doesn't just have to people awake. It
14 can disturb people and cause stress reactions
15 that are then translated into cardiovascular
16 difficulties over the long term, even without a
17 person knowing that they were woken up. So these
18 are things which are -- they're subtle in terms
19 of diagnosing them, but they're not subtle for
20 the people who are experiencing.

21 And that's why I found it so significant that
22 people moved out of their homes. These are not
23 wealthy people who have several homes. People
24 abandoned their homes and went to live with
25 relatives, or used savings to rent another place

1 because they couldn't stand where they were
2 living with the noise of the turbines, and the
3 headaches, the buzzing in their ears and their
4 head, sleeplessness, their children being awake
5 at night, waking them up, and the difficulties
6 they had in conducting their own businesses,
7 remembering what they needed to do when they went
8 downtown.

9 These people really -- they remarked
10 spontaneously on these problems. I wasn't asking
11 them about if they noticed these problems when
12 they started interviewing. But lots of people
13 volunteered that there were things wrong with
14 their thinking and concentration and they were
15 forgetting.

16 And then I had the opportunity to interview
17 people after they had moved out, also, and were
18 watching that come back. And that was the only
19 symptom of the group that I describe as wind
20 turbine syndrome that didn't resolve immediately
21 after moving away.

22 Sleep problems, if someone just slept away
23 for one night, they would sleep fine. But the
24 memory problems were resolving more slowly. So
25 that's an area of particular concern.

1 And there's a large medical literature also
2 on the effects of noise in general on children's
3 learning and on reading acquisition in
4 particular. There's a substantial effect.

5 Q Okay. And it's going to be helpful, because I
6 can't make eye contact with you by the phone.

7 A Yeah.

8 Q When you're done with your answer, because I
9 don't want to interrupt you, just would you let
10 me know?

11 A Okay.

12 Q Okay. Good. That will make things a little
13 easier for us. Thank you.

14 The -- is -- you've described the syndrome,
15 the wind turbine syndrome you've identified. Is
16 this just the kind of thing that you get used to
17 and it goes away after a while?

18 A No. And that's something very interesting about
19 these -- about low frequency noise exposure in
20 general, because there are other kind -- similar
21 types of noise come from other sources and have
22 been investigated and described in medical
23 literature, also. And my subjects said, and
24 these other papers said, that, in fact, people
25 get sensitized to it.

1 So that they might say there's a problem with
2 a ventilator system in a building. The noise,
3 they might not really notice when they were
4 looking at an apartment, or first moved in, but
5 over time it became very troublesome. And the
6 wind turbine noise is similar.

7 Often people -- when the -- people notice it
8 abruptly when the turbines start up. But their
9 reaction to it and their symptoms tend to get
10 worse over time, rather than better. And many
11 people describe, spontaneously, the difference
12 between this kind of noise and other noise.

13 I had one family in which the father was
14 commuting to a city during the week and working
15 there and had an apartment near an elevated train
16 line. And he could sleep through that, but not
17 through the turbine noise, which it sounded loud,
18 but has -- people use the word "invasive quality"
19 to it, like a sound that you can feel rather than
20 just hear.

21 And one paper I used as well by a Swedish
22 researcher, Eja Pedersen, looked -- compared the
23 degree of annoyance that people express about
24 noise, compared to the decibel level in
25 A-weighted decibels for wind turbine noise,

1 compared to publish data on aircraft noise, road
2 traffic, and railways.

3 And for the wind turbine, the percentage --
4 just comparing the percentage -- the decibel
5 level at which 15 percent of the people were
6 highly annoyed by the noise, that occurred at
7 about 38 decibels A-weighted for wind turbines,
8 and 57 decibels for aircraft, 63 for road
9 traffic, and 70 for railways.

10 So there's something that's not being
11 captured in that A-weighted decibel measurement
12 that is extremely bothersome about wind turbine
13 noise, more than the other sources of noise. And
14 part of that might be that it's something that is
15 continuous, that it doesn't go away, but there's
16 also the invasive quality that my subjects
17 described. The sense that they could feel the
18 noise, that it was inside them.

19 And I explain that as -- because many people
20 described it as inside their chest. Well, the
21 chest is a resonate, air-filled part of the body,
22 resonate like a musical instrument might be
23 resonate. It has air. It has walls. And so you
24 get kind of echo of certain wavelengths or
25 pressure changes in there. And the chest is open

1 to the air as people breathe.

2 So subtle pressure difference in the air --
3 which is what noise is. It's a sequence of
4 pressure changes in the air, in a wave form.
5 That could -- that goes right into people's
6 chests. And that was one of the very bothersome
7 sensations. Okay.

8 Q And in your observation then, it is the lower
9 frequency noise that tends to create problems
10 related to wind turbine syndrome?

11 A I believe it is. But I don't have noise
12 measurements of the right kind to go along with
13 the interview data that I have, because it
14 requires very specialized noise measurement
15 techniques to measure low frequency noise. And
16 my research was done without any funding. So the
17 only noise studies available were done by local
18 governments or wind turbine companies in response
19 to complaints, which usually measure decibels
20 in -- A-weighted decibels, which excludes low
21 frequency noise.

22 Q And we're going to hear from Rick James --

23 A Okay.

24 Q -- just after your testimony. Would he be a good
25 person to explain the low versus high frequency

1 noise?

2 A Yes.

3 Q The noise ordinance that you -- oh, excuse me.
4 The zoning ordinance posed by Skamania County
5 does have some criteria by which wind --
6 large-scale wind turbines can be approved. And I
7 think I have sent you that material, and that
8 material indicates that compliance with the
9 Washington State noise standards would be
10 sufficient to determine that acceptability of
11 wind turbines. Did you receive from me a copy of
12 the appropriate noise levels established by the
13 Washington state -- by Washington state?

14 A Yes.

15 Q Do you think that having the A-scale measurements
16 as the sole criteria for noise for wind turbines
17 is sufficient to capture the kinds of health
18 effects that you've described?

19 MR. BANKS: Your Honor, I'd object to the
20 question. She hasn't been qualified as a noise
21 expert in decibels. She said she --

22 THE WITNESS: Sorry. I just don't know.

23 HEARING EXAMINER: And I -- that objection will
24 be sustained with respect to the testimony
25 regarding specific sound levels.

1 Q BY MR. ARAMBURU: Okay. The -- have you worked
2 with Rick James?

3 A Yes.

4 Q What sort of collaboration did you have with him?

5 A We communicate about I look at the symptom side
6 and he and his colleague, George Kamperman, have
7 been comparing simple ways of measuring sound
8 noise that will be protective against these
9 health problems. And we just collaborate. I
10 mean, we talk to each other. We send each other
11 things.

12 Q Dr. Pierpont, you've described the symptoms of
13 wind turbine syndrome and impacts on human
14 health, that you've described in your previous
15 testimony. Can you identify for us, in your
16 work, what the -- some of the solutions might be
17 to wind turbine syndrome?

18 A Sufficient distance between wind turbines and
19 homes and other places where people live and
20 sleep and where children are. And I think a
21 sufficient distance, at a minimum, should be a
22 mile and a quarter.

23 And Rick James and George Kamperman have
24 developed criteria based on C-weighted noise,
25 which ends up recommending longer distances,

1 especially as the turbines become larger.

2 Q And the --

3 A The National Academy of Medicine in France has
4 recommended 1.5 kilometers, which is 0.93 miles,
5 so almost one mile. But there's no one who is
6 recommending -- who is aware and take seriously
7 the noise and health problems, there is no one
8 who is recommending as little as half a mile.

9 Q And can you tell us how you arrived at this one
10 and a quater mile minimum setback from wind
11 turbines and residences, schools, hospitals,
12 other places of habitation?

13 A I think that the distances that my own subjects
14 away from them.

15 MR. BANKS: Your Honor, this is fascinating
16 testimony, but I don't see what the relevance is to
17 the issuance of the SEPA determination.

18 HEARING EXAMINER: I'm going to overrule that
19 objection. Please continue.

20 Q BY MR. ARAMBURU: We just had an objection here
21 to your -- to my question, Dr. Pierpont, which
22 was overruled. You can -- would you start again
23 at the answer to my question?

24 A Okay. I'm sorry. I can't hear the objections.
25 I can't hear anything until the -- Ms. Toweill

1 speaks. So that's why I haven't been quiet when
2 I should have, when there's objections.

3 HEARING EXAMINER: That's okay.

4 Q BY MR. ARAMBURU: And that's a technical phone
5 issue and not to be concerned about that.

6 Do you have in mind the question I asked you?

7 A How did I arrive at one and a quarter miles.

8 Q Correct. Go ahead and answer that.

9 A I had two families who moved out who lived one
10 kilometer, or close to one kilometer, which is .6
11 miles away from turbines. I had one family that
12 did significant renovations on their home, and
13 would like to move out, the renovations to try to
14 keep out noise, that lived 1.5 kilometers, so
15 that's .93 miles away from turbines. And these
16 were -- my 10 families were all very
17 distinctively and severely affected.

18 I looked also at the work by Dr. Amanda Harry
19 in Great Britain, who surveyed 42 people who
20 lived up to 1.6 kilometers, or about a mile away
21 from turbines, and found a high prevalence of the
22 same kinds of symptoms in these people.

23 Then so essentially, I'm seeing important
24 symptoms at a mile. It seems the setback should
25 be a little more.

1 And then Robyn Phipps, Dr. Phipps, in
2 New Zealand, found in a survey of 600 people, all
3 of whom lived at least two kilometers away from
4 turbines, so they lived one and a quarter miles
5 away turbines, all of the respondents in her 600
6 respondents in her study, she found a significant
7 number of people with sleeplessness, enough
8 desperation about it to call her and give her
9 even more information about it than she'd asked
10 for in the survey. And a significant number with
11 unpleasant physical sensations from the turbine
12 noise.

13 And all of her respondents were further away
14 than one and a quarter mile. That is a more
15 mountainous environment, and most of her
16 respondents were within about two and a quarter
17 miles of turbines. So the one and a quarter is
18 in some ways a compromise figure between people
19 in relatively flat places or places with rolling
20 hills, and then the probable longer setback
21 distances needed in areas that are more
22 mountainous. Okay.

23 Q So your recommendation would be that the -- that
24 longer setback distances be explored and possibly
25 implemented in areas of topographic variation?

1 A Yes.

2 Q And the work that you described from Dr. Phipps,
3 is that in the material that you sent me entitled
4 Visual and Noise Effects Reported by Residents?
5 Did you say yes?

6 A I'm sorry. I missed a little bit of what you
7 said there.

8 Q Okay. Let me start over. You referenced the
9 works that were done by Dr. Phipps in
10 New Zealand.

11 A Yes.

12 Q And I wanted to confirm that the study that you
13 sent me, which begins with the words Visual and
14 Noise Effects Reported by Residents Living Close,
15 is the report that you had examined and were
16 testifying about.

17 A Yes.

18 MR. ARAMBURU: And that, I believe, is
19 supplemental Exhibit Number 3, Ms. Examiner.

20 And I think, Dr. Pierpont, that that is the
21 conclusion of my questions. Is there anything
22 else that you'd like to say before we let other
23 people ask you questions.

24 MR. BANKS: Your Honor, I'll object to that
25 question.

1 HEARING EXAMINER: Yeah. Yeah. No. I don't
2 want an open-ended question.

3 MR. ARAMBURU: Okay.

4 HEARING EXAMINER: If you're finished with your
5 questions, Mr. Aramburu, I'll have -- allow
6 Mr. Banks to ask her some questions.

7 MR. ARAMBURU: Okay. So Dr. Pierpont, the next
8 person to ask you questions is the County attorney,
9 Mr. Banks.

10 THE WITNESS: Thank you.

11 MR. BANKS: Your Honor, do you want me to go
12 first, or do you want Mr. Poulin to go?

13 HEARING EXAMINER: My understanding that
14 Dr. Pierpont was not going to be one of your
15 witnesses.

16 MR. POULIN: I do not have questions.

17 HEARING EXAMINER: Okay. So go ahead,
18 Mr. Banks.

19 MR. BANKS: Thank you.

20 CROSS-EXAMINATION

21 BY MR. BANKS:

22 Q Can you hear me all right, Doctor?

23 MR. BANKS: I think for some reason, this is
24 unidirectional.

25 Q BY MR. BANKS: Hello?

C E R T I F I C A T E

I, Linda Chastain, do hereby certify that I am a court transcriber in and for the State of Oregon.

I further certify that the foregoing proceedings were digitally recorded and supplied to me, and thereafter reduced to typewriting by me, and that the foregoing is an accurate and complete transcription, to the best of my ability, as corrected, of said digitally recorded proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand in the City of Salem, County of Marion, State of Oregon, this 7th day of April, 2009.

A handwritten signature in cursive script that reads "Linda Chastain". The signature is written over a horizontal line. To the right of the signature, there is a circular stamp or mark containing the initials "DS".

Linda Chastain
Court Transcriber