

BEFORE THE OHIO POWER SITING BOARD

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In the Matter of the :
Application of Republic :
Wind, LLC for a Certificate :
of Environmental :
Compatibility and Public : Case No. 17-2295-EL-BGN
Need for a Wind-Powered :
Electric Generating :
Facility in Seneca and :
Sandusky Counties, Ohio. :

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PROCEEDINGS

before Mr. Jay S. Agranoff and Ms. Anna Sanyal,
Administrative Law Judges, at the Ohio Power Siting
Board, 180 East Broad Street, Room 11-C, Columbus,
Ohio, called at 10:00 a.m. on Monday, November 25,
2019.

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VOLUME VIII

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Monday Morning Session,
November 25, 2019.

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ALJ AGRANOFF: Good morning, everybody.

Before we actually proceed with the rebuttal testimony, I did want to just kind of clean up a couple of matters that I'm not sure whether or not we had fully addressed just so the record is clear.

There had been motions for protective treatment, filed on February 2, 2018, with respect to the original Application as well as the Amended Application filed on December 26 of 2018, relative to seeking protective treatment of the cost estimates included in the socioeconomic report designated as Exhibit G to the respective Applications. With respect to those motions, they shall be granted.

And then there was motions for protective treatment relative to the estimated capital and tangible cost estimates for the annual operation and maintenance expenses, and estimated operation and maintenance expense comparisons, and the estimated lost energy revenues, and with respect to those motions for both the February 2 and December 26 filings, they shall be granted.

And then with respect to the motion for

1 protective treatment for the safety manuals that were
2 included as Exhibit W to the February 2, 2018 and the
3 February -- and the December 26, 2018 Application and
4 Amended Application, I know that, Mr. Parram, you had
5 submitted an Exhibit 1L and 1M, and I just want there
6 to be clarity that those were intending to be
7 applicable to both the original Application of
8 February 2 and the Amended Application of
9 December 26.

10 MR. PARRAM: Yes, that's correct, Your
11 Honor.

12 ALJ AGRANOFF: Okay. So with respect to
13 those motions, we shall grant those and the
14 information contained in 1L will remain under seal
15 and 1M shall be part of the public record.

16 I think that cleans up everything that
17 was still in need of a ruling. Does anybody know of
18 anything else that was out there that needed to be
19 addressed?

20 MR. PARRAM: Not that I'm aware of, Your
21 Honor.

22 MR. VAN KLEY: No.

23 ALJ AGRANOFF: If not, then we should be
24 good on that.

25 And then the briefing schedule. Has

1 counsel had an opportunity to discuss, amongst
2 themselves, a proposed schedule for briefing?

3 MR. PARRAM: Yes, Your Honor. I believe
4 the last proposal was we indicated for the initial
5 brief -- I guess the first question is, what would be
6 the expectation for timing for the rest of the
7 transcripts?

8 ALJ SANYAL: Let's go off the record.
9 (Discussion off the record.)

10 MR. PARRAM: Your Honor, we talked about
11 having the initial briefs be due on, we indicate
12 the -- is it the 23rd?

13 MR. VAN KLEY: Uh-huh.

14 MR. PARRAM: Initial briefs on the 23rd.

15 ALJ SANYAL: Of December?

16 MR. PARRAM: Of December. And then three
17 weeks after that; is that correct?

18 MR. VAN KLEY: January 13, whatever
19 amount of time that is, I think that's three weeks.

20 MR. PARRAM: January 13 for reply briefs,
21 Your Honor.

22 ALJ AGRANOFF: Is Staff okay with that?

23 MS. BAIR: Yes.

24 ALJ AGRANOFF: Okay. Well, then we will
25 work in accordance with that schedule, and I assume

1 will the parties convey to the other counsel that are
2 not in attendance today?

3 MR. PARRAM: We will send an e-mail out.

4 ALJ AGRANOFF: Which then gets us to
5 today's rebuttal testimony.

6 MR. PARRAM: Yes, Your Honor. For a
7 preliminary matter, we have the Rebuttal Testimony of
8 Ben Doyle and attached to Mr. Doyle's testimony is
9 Rebuttal Attachment BMD-1. We noticed that there is
10 a portion of Rebuttal Attachment BMD-1 that needs to
11 be revised or two specific portions of it.

12 Specifically in the Results where it indicates "only
13 four flights likely flew the NDB Approach to Runway
14 24," that should be "only three flights likely flew
15 the NDB Approach to Runway 24."

16 And under the first bullet point in the
17 Results section it talks about aircraft "flying the
18 RNAV (GPS) Approach to Runway 24." It indicates "93
19 tracks." That should actually be "94 tracks."

20 Your Honor, I'm in the process of trying
21 to obtain a copy of the Revised Rebuttal Attachment
22 BMD-1. I would propose -- I'm making an oral motion
23 for leave to supplement Revised Rebuttal Attachment
24 BMD-1, so that could either be filed today or put on
25 the record today or I propose, depending if we get

1 done quickly here, filing that as a late-filed
2 exhibit. I intend to e-mail the Revised Rebuttal
3 Attachment BMD-1 to all the parties as soon as I get
4 it. And also those changes would result in some
5 changes to Mr. Doyle's testimony which he can explain
6 on the stand, but I wanted to initially first make
7 the motion for us to supplement that attachment to
8 his testimony.

9 ALJ AGRANOFF: Okay. Well, we'll wait
10 and see if you're able to get the replacement pages
11 before the end of the hearing and, if not, we'll mark
12 a separate filing with respect to that revision.

13 MR. PARRAM: Can I take just a two-minute
14 break, Your Honor?

15 ALJ AGRANOFF: Sure.

16 MR. PARRAM: Just to address this right
17 now. I think I just received it in my e-mail.

18 ALJ AGRANOFF: Okay.

19 ALJ SANYAL: Let's go off the record.

20 (Off the record.)

21 MR. PARRAM: Your Honor, I'd like to call
22 Ben Doyle to the stand.

23 ALJ SANYAL: Will you raise your right
24 hand.

25 (Witness sworn.)

1 ALJ SANYAL: You may need to turn on that
2 microphone.

3 (EXHIBIT MARKED FOR IDENTIFICATION.)

4 - - -

5 BENJAMIN M. DOYLE

6 being first duly sworn, as prescribed by law, was
7 examined and testified as follows:

8 DIRECT EXAMINATION

9 By Mr. Parram:

10 Q. Good morning, Mr. Doyle.

11 A. Good morning.

12 Q. Can you please state and spell your name
13 for the record.

14 A. Benjamin Matthew Doyle. B-e-n-j-a-m-i-n
15 M-a-t-t-h-e-w D-o-y-l-e.

16 Q. And do you have a document marked
17 Applicant Exhibit 41 in front of you?

18 A. I do.

19 Q. What is Applicant Exhibit 41?

20 A. This is my Rebuttal Testimony, dated
21 November 21, 2019.

22 Q. Was Applicant Exhibit 41 prepared by you
23 or under your direction?

24 A. It was.

25 Q. And do you have any modifications to

1 Applicant Exhibit 41?

2 A. I do.

3 Q. What are those changes?

4 A. On page 3 of the exhibit, line 10, the
5 sentence reads: "approach corridor, only four flights
6 flew the full NDB Approach to Runway 24." That
7 should be amended from "four" to "three."

8 And then on page 4, line 6, reads:
9 "Traffic Flow Analysis (Rebuttal Attachment BMD-1)
10 depict the four flight tracks in which...." That
11 should be "three flight tracks in which...."

12 Page 5, line 6, "eliminate the
13 obstruction. (Stains Testimony, page 11, lines 4
14 through 16) In actuality, only one...." After the
15 word "one" should be the word "of." "One of these
16 turbines."

17 ALJ AGRANOFF: Where was that?

18 THE WITNESS: Page 5, line 6, there is
19 just a missing word, the word "of."

20 ALJ SANYAL: Line 7 actually.

21 THE WITNESS: Right.

22 ALJ SANYAL: Just give us one moment.

23 Okay. Go on.

24 A. Same page, page 5, line 13, "This 100
25 foot increase...." After the word "increase" should

1 be the word "to." "...to the procedure turn
2 altitude."

3 And then later in that sentence, "to the
4 procedure turn altitude only effects...." The
5 "effects" should be an "a" instead of an "e".

6 And then line 14, "procedure turn (of
7 which there were only four in 2016)" should read
8 "three in 2016".

9 I believe those are all of the
10 corrections I wish to make.

11 Q. (By Mr. Parram) And, Mr. Doyle, do you
12 also have a document in front of you that has been
13 marked Revised Rebuttal Attachment BMD-1?

14 A. Yes, I do.

15 Q. And what is Revised Rebuttal Attachment
16 BMD-1?

17 A. These are the results of an Air Traffic
18 Flow Analysis conducted by my company regarding
19 the -- counting the number of NDB approaches to
20 Seneca County Airport.

21 MR. PARRAM: Your Honor, as indicated
22 earlier, I'd like to move for leave to submit the
23 Revised Rebuttal Attachment BMD-1 which would replace
24 the current Rebuttal Attachment BMD-1 that is in
25 Mr. Doyle's Rebuttal Testimony. I'll have Mr. Doyle

1 explain this, but there are two portions or two areas
2 in Rebuttal Attachment BMD-1 that need to be
3 modified.

4 Q. (By Mr. Parram) Mr. Doyle, can you
5 explain the changes in Revised Rebuttal Attachment
6 BMD-1?

7 A. Sure. In this report we refer to a
8 number of flights flying the full NDB approach. We
9 reported it as four, that number is actually three,
10 so we revised that. And if you read through it, I'll
11 have to read through it real quick, in the Results
12 section of the report it says "Of the 711 flights
13 that transited through the approach corridor, only
14 three flights likely flew," it originally said four,
15 we revised that to three, "likely flew the NDB
16 Approach...."

17 And then under the bullets, "flying the
18 RNAV (GPS) Approach to Runway 24 (94 tracks)."
19 Originally it was stated that it was 93 tracks. We
20 increased that by one.

21 ALJ SANYAL: Okay. Thank you.

22 THE WITNESS: You're welcome, Your Honor.

23 Q. (By Mr. Parram) Thank you, Mr. Doyle.
24 Did you have any other changes to your testimony?

25 A. I don't believe so.

1 Q. And if I were to ask you the questions
2 contained in Applicant Exhibit 41 today, would your
3 answers be the same?

4 A. They remain the same.

5 MR. PARRAM: Your Honors, I move for the
6 admission of Applicant Exhibit 41, pending
7 cross-examination, and tender Mr. Doyle for cross.

8 ALJ SANYAL: Thank you.

9 Mr. Van Kley or Staff

10 MR. VAN KLEY: I think Staff will go
11 first.

12 MS. BAIR: Okay. I'll go first.

13 - - -

14 CROSS-EXAMINATION

15 By Ms. Bair:

16 Q. You are not a pilot; is that correct?

17 A. No, ma'am.

18 Q. And you are not a pilot trainer?

19 A. No, ma'am.

20 Q. Did your Air Traffic Flow Analysis, for
21 this case, take into account any training flights?

22 A. It included all flight tracks received by
23 that radar; that would include training flights.

24 Q. How about student flights?

25 A. It would include student flights.

1 Q. Are there some training flights that
2 don't use radar?

3 A. All flights, that occur within the line
4 of sight of a radar, will be picked up by that radar.

5 Q. And that --

6 A. So the nature of the flight itself is
7 irrelevant.

8 Q. Okay. So whether -- so anything that
9 comes into any of these airports you're claiming is
10 part of your analysis?

11 A. Correct. Anything that can be viewed by
12 that radar that the FAA would collect as part of that
13 data set, excluding whichever -- the FAA will exclude
14 certain operations from the data set like
15 presidential flights or military flights at times,
16 but all other flights would be seen, including
17 training.

18 Q. I'd like to ask you to go to page 2 of
19 your testimony. I'm focusing on Question and Answer
20 No. 9. Specifically there, at lines 22 and 23,
21 you're talking about the decrease in air traffic?

22 A. Yes, ma'am.

23 Q. How did you come to that conclusion?

24 A. We went back and we pulled the total
25 traffic counts for the airport for the years starting

1 2016 through today and we saw a general decrease. It
2 wasn't a lot but we saw a decrease over those years.

3 Q. Please go to page 4 of your testimony,
4 Question and Answer 13, in particular your discussion
5 about the Performance Data Analysis and Reporting
6 System. How do you say that, "PDARS"?

7 A. Yes, ma'am, "PDARS."

8 Q. So the PDARS would only track IFR
9 flights; is that correct?

10 A. I believe that is correct but I'm not
11 100-percent positive.

12 Q. Well, let's --

13 A. It could have included visual flight
14 operations, as well, as part of the original data set
15 that PDARS uses. PDARS is a system that -- it's an
16 analytical system that relies upon data inputs that
17 the FAA collects from radars across the United
18 States. So radars will see both instrument flight
19 operations and visual flight operations. I don't
20 know whether PDARS -- I don't know how PDARS handles
21 those visual flight operations differently than the
22 instrument flight operations. I believe the intent
23 of it is to look at instrument operations.

24 Q. So you don't know if PDARS picks up the
25 VFR flights?

1 A. I'm not sure whether it includes the
2 visual flight operations.

3 Q. But for sure it picks up the IFR.

4 A. Yes, ma'am.

5 Q. Do you know how many aircraft flew the
6 NDB with the assistance of radar vectors?

7 A. I do not.

8 Q. Do you know how many aircraft flew the
9 NDB with the assistance from air traffic control?

10 A. I do not. Well, any flight operation
11 into the airport that's flying on instrument flight
12 plan is going to be under positive control by air
13 traffic control. So if they're flying that
14 non-directional beacon approach, the pilot would tell
15 the air traffic facility "I'd like to fly the NDB
16 approach today" and then the air traffic facility
17 would approve that and say okay and they would
18 provide either assistance while that pilot flew the
19 full outbound course and procedure turn back inbound;
20 or, if the pilot asked or the controller offered "we
21 can provide you radar vectors to final," then they
22 would have provided those radar vectors.

23 Does that answer your question?

24 Q. Oh, yeah.

25 A. Okay.

1 Q. Could you please go to BMD-2. It's an
2 attachment to your testimony.

3 A. Yes, ma'am.

4 Q. This is an instrument approach procedure
5 chart for Seneca County Airport; is that correct?

6 A. That's correct.

7 Q. And if you look down to the bottom left,
8 the date of this published procedure is July 19,
9 2018; is that correct?

10 A. Yes, ma'am.

11 Q. Okay. But according to your testimony,
12 at the beginning of the testimony, I believe, your
13 data is 2016 data that you rely upon for your
14 analysis, correct?

15 A. That is correct.

16 Q. Would you agree that an NDB approach is a
17 non-precision approach?

18 A. Yes, ma'am, a non-directional beacon, an
19 NDB approach is a non-precision approach.

20 Q. And is it true that applicants for
21 an instrument rating must demonstrate two
22 non-precision approach procedures to be rated as
23 such?

24 A. I don't -- I'm not an expert on
25 instrument ratings for pilots.

1 MS. BAIR: That's all the questions I
2 have. Thank you.

3 THE WITNESS: Thank you, ma'am.

4 MR. VAN KLEY: I have no questions.

5 ALJ SANYAL: Okay. Redirect?

6 MR. PARRAM: Can I have just one minute?

7 ALJ SANYAL: Sure. Let's go off the
8 record.

9 (Off the record.)

10 ALJ SANYAL: Let's go back on the record.

11 - - -

12 REDIRECT EXAMINATION

13 By Mr. Parram:

14 Q. Mr. Doyle, counsel for Staff asked you
15 some questions about pilots communicating with air
16 traffic control when approaching the Seneca County
17 Airport. Who is the air traffic control for the
18 Seneca County Airport?

19 A. The Toledo Terminal Radar Approach
20 Control, TRACON.

21 Q. In your opinion would TRACON be the
22 entity with information about the number of pilots
23 using the NDB approach at the Seneca County Airport?

24 A. Yes, because any pilot that's making an
25 approach to Seneca County Airport under instrument

1 conditions is going to tell the air traffic facility,
2 Toledo TRACON, what type of approach they're going to
3 fly so TRACON would be aware of those, and TRACON is
4 staffed 24 hours a day, I believe it's 24 hours a day
5 so it would be privy to that.

6 Q. Counsel for Staff asked you a question
7 about Rebuttal Attachment BMD-2. Do you have
8 Rebuttal Attachment BMD-2 in front of you?

9 A. I do.

10 Q. Counsel for Staff was specifically asking
11 about the date of when this document was prepared.
12 Does the date of this document have any impact on
13 your overall analysis in your testimony?

14 A. It does not. And I'd also like to
15 correct my answer if I could. I believe counsel
16 asked me if this was the date of publication for this
17 approach plate and I said yes. That's actually not
18 true. That is the amendment date of the approach
19 plate. The actual date is off to the right side of
20 the approach plate and that's 7 November of '19
21 through 5 December '19.

22 These are updated on a 56-day cycle to
23 keep them current. Any amendment that may have been
24 made, and I don't know what that is off the top of my
25 head, but it would not have affected the turn, the

1 procedure turn distance for this airport which is
2 standard for NDB as 10 nautical miles, so the method
3 we use to count the number of aircraft would have
4 been the same.

5 MR. PARRAM: I have no further questions,
6 Your Honor.

7 ALJ SANYAL: Any recross?

8 MS. BAIR: Yeah, I have a question.

9 ALJ SANYAL: Okay.

10 - - -

11 RECROSS-EXAMINATION

12 By Ms. Bair:

13 Q. I believe you stated, in your redirect,
14 that Toledo would always be aware of an instrument
15 approach?

16 A. Yes, ma'am.

17 Q. Would the Toledo airport be aware of the
18 visual approach?

19 A. The Toledo airport would not. The Toledo
20 TRACON, the Terminal Radar Approach Control, would
21 provide services to instrument aircraft at all times
22 and would provide services to visual operations if
23 they, A, had the capacity to do so if they weren't
24 too busy and, B, if those visual pilots, pilots
25 operating visually, were requesting services.

1 Q. How often do -- the visual approaches,
2 how often do they ask for services from the Toledo
3 airport?

4 A. I don't have statistics to tell you.

5 Q. You were an air traffic controller,
6 correct?

7 A. Yes, ma'am.

8 Q. In what airport?

9 A. I was rated at Fort Huachuca, Libby Army
10 Airfield in Arizona, and I was tower chief and rated
11 at Wiesbaden Airbase in Germany.

12 Q. Are those Army -- are those civilian
13 airports or Army airports?

14 A. One was a -- they're both military. They
15 both are military. The one in Arizona was a joint
16 with Sierra Vista Municipal Airport so we worked --
17 we provided air traffic services for both military
18 and civil operations.

19 MS. BAIR: Thank you.

20 THE WITNESS: You're welcome.

21 ALJ SANYAL: No questions?

22 MR. VAN KLEY: No questions.

23 - - -

24

25

EXAMINATION

By ALJ Sanyal:

Q. Okay. I just have one clarification question. If you'll turn to page 2, looking at Question 9, and it's going back to Ms. Bair's question about the decrease in traffic. Can you quantify that at all?

A. Your Honor, quantify the amount of the decrease?

Q. Uh-huh.

A. I want to say it was maybe a 10-percent, but that's a guess.

Q. Okay. Thank you.

A. You're welcome.

- - -

EXAMINATION

By ALJ Agranoff:

Q. Good morning, Mr. Doyle.

A. Good morning, Your Honor.

Q. In the context of doing an analysis of the different types of approaches that have occurred at the Seneca Airport, was any attempt made, on your behalf or your company's behalf for the purposes of doing their analysis, to ask the Seneca County Airport for their own data or analysis as to the

1 activities at their airport?

2 A. No, and we typically wouldn't do that.
 3 Very few aircraft -- very few airports maintain any
 4 kind of traffic logs or traffic data. Typically at a
 5 small airport the best way to count aircraft
 6 operations are through their fueling, fuel sales, so
 7 we don't view that as a method that we can use to get
 8 accurate traffic counts, nor do we view it as a
 9 method for us to determine the types of procedures
 10 because an aircraft that's fueling up could have
 11 flown visually or under instruments.

12 Q. And on page 2 of your testimony, where
 13 you indicated, in response to Question 9, that the
 14 2016 traffic data was determined to be sufficiently
 15 representative of the current traffic at the Seneca
 16 Airport; what was your basis for making that
 17 determination that it was representative of today's
 18 traffic?

19 A. So while the traffic has decreased
 20 marginally in the last couple of years, it's still
 21 representative of the same type. We would expect it
 22 would still be representative of the same types of
 23 operations.

24 If we had seen some major changes to the
 25 airport in that time period, particularly to the

1 procedures that are at the airport, then we might say
 2 okay, that 2016 data is no longer representative of
 3 what we believe is actually occurring at the airport,
 4 but these procedures were in place in 2016 and
 5 they're in place today so there's nothing that would
 6 indicate that pilots are using them any more or less
 7 frequently than they were in 2016.

8 Q. Was NDB approaches more prevalent at some
 9 previous point in time even though you're indicating
 10 today, from your perspective, it is not significant,
 11 was there a change where, at one point in time, it
 12 may have been more prevalent?

13 A. Yes, Your Honor. The non-directional
 14 beacon approach, it's a very, very old technology.
 15 If you were flying in the 1940s and the 1950s, this
 16 may have been the only opportunity that you would
 17 have, the only means you would have to get down below
 18 the clouds and find that runway was using this NDB.

19 Over the years, we've introduced new
 20 technologies and those new technologies have advanced
 21 to the point that now the predominant technology used
 22 throughout the national airspace really boils down to
 23 two primary approaches. One is the RNAV, GPS-based
 24 procedures, so these are satellite-based procedures;
 25 the other is what's called an ILS and that is really

1 the workhorse of the national airspace system, this
2 instrument landing system, which is not in contention
3 here, it is not being used in this case or at this
4 airport.

5 So to answer your question, if we went
6 back 20 years ago, the NDB was probably being used
7 quite a bit more frequently, and every year that goes
8 by it's being used -- and I'm speaking in
9 generalities now -- it's probably being used less and
10 less frequently as more and more pilots are flying
11 the RNAV GPS approach,

12 When you look at these procedures at this
13 airport and this was documented by FAA, if you are a
14 pilot flying into this airport and the weather is
15 such that you actually need to use the procedure, so
16 you're not flying it for training purposes, you
17 actually need it to get down below those clouds, if
18 you have a choice between flying a GPS approach or
19 flying the NDB approach, you're going to fly the GPS
20 approach because it's going to get you a couple
21 hundred feet lower to within 270-some-odd feet above
22 that runway so you have a better chance of getting
23 down below those clouds.

24 The NDB approach, the pilot is limited to
25 much higher altitudes and I can tell you -- so the

1 difference if you're a pilot flying that NDB approach
2 and you're coming in to land, when you get down to a
3 point when you descend down to a point where you're
4 675 feet above that runway, you've got to be below
5 the clouds and be able to visually see that runway in
6 order to land. If you were to choose to fly the RNAV
7 GPS approach, you could continue that descent down to
8 as low as 273 feet above the airport.

9 MR. PARRAM: And, Your Honor, for
10 purposes of -- can you identify what you're looking
11 at --

12 THE WITNESS: Oh, I'm sorry.

13 MR. PARRAM: -- for the Administrative
14 Law Judge.

15 THE WITNESS: I'm referencing Rebuttal
16 Attachment BMD-2 and BMD-3 which are the two approach
17 plates for the NDB and the RNAV GPS approaches for
18 Seneca County Airport.

19 MR. PARRAM: And when you're referencing
20 heights within those documents, if you can point to,
21 give a general description for the record.

22 THE WITNESS: So if you're looking at the
23 NDB Runway 24 which is Rebuttal Attachment BMD-2, at
24 the bottom of the page you'll see that there are some
25 lines there are marked S-24 and below that it says

1 Circling. Now, I won't decipher all of those numbers
 2 for you, but the center numbers, the smaller numbers
 3 next to S-24, it says 1460-1 and then it says 675.
 4 Well, for certain category aircraft what that is
 5 telling the pilot is that pilot can descend down to
 6 675 feet above the airport -- above the runway. If
 7 the pilot reaches that point and can't see the runway
 8 then that pilot's got to execute a missed-approach
 9 climb and divert to another airport.

10 On the next Rebuttal Attachment BMD-3 for
 11 the RNAV GPS approach, you'll see now we have four
 12 different lines, one that says LPV, one that says
 13 LNAV/VNAV, one that says LNAV, and one that says
 14 Circling at the bottom of the page.

15 If you look at those same set of numbers
 16 and I'm using the lowest is LPV DA, that decision
 17 altitude is 273 feet. Under the RNAV straight-in
 18 MDA, it's 495 feet.

19 And I can explain what those different
 20 minimal lines are, but essentially what it means is
 21 that a pilot, depending on the category approach
 22 speed of the aircraft and depending on the type of
 23 procedure that pilot wants to fly and the equipment
 24 in the cockpit, they'll use these numbers to
 25 determine the lowest altitude they can descend to

1 safely before they have to execute that missed
2 approach.

3 So my point here is that if a pilot has a
4 choice to use, if he's equipped in the cockpit and he
5 has a choice to choose the RNAV over the NDB at a
6 time when it really matters when the weather is lousy
7 and they're trying to get down below that cloud
8 ceiling, they're going to choose this RNAV GPS
9 approach because it's more efficient, it's more
10 accurate, and it provides the pilot a better
11 opportunity to land.

12 So is the NDB being used less frequently
13 today than it was in the past? Absolutely. The FAA
14 has been removing NDBs and it may -- and I'm not sure
15 if they've got them all but have removed -- for many,
16 many years has been removing NDBs from the federal
17 inventory meaning they're no longer supporting that
18 technology. Those remaining NDBs that are in the
19 national airspace system today are municipally-owned.

20 Does that answer your question, Your
21 Honor?

22 Q. It does.

23 A. Okay.

24 Q. Thank you.

25 And I think we had a conversation on what

1 I'm about to ask with a prior witness, but just so
2 that the record is clear to the extent that you might
3 have a different answer or I didn't ask this specific
4 question. How many runways are there, to your
5 knowledge, at the Seneca Airport?

6 A. There's one.

7 Q. And the fact there are then references to
8 different runways like a Runway 24 and a Runway --

9 MR. PARRAM: Just for purposes of
10 clarification, by "runway," Your Honor, are we
11 talking about one physical structure of runway or --

12 ALJ AGRANOFF: Well, that is my question
13 as to --

14 MR. PARRAM: Okay.

15 THE WITNESS: I can answer that.

16 ALJ AGRANOFF: -- if there's one physical
17 structure, why are there different runway numerical
18 designations.

19 MR. PARRAM: Okay.

20 THE WITNESS: The numerical designation
21 references the heading, the magnetic heading of the
22 runway, so one physical runway will have two magnetic
23 headings, one in each direction. So for Runway 24,
24 that's heading 240 on that runway. The reciprocal
25 end of that same runway would be Runway 6 or a

1 heading of 060.

2 ALJ SANYAL: And you're just talking if
3 we account for a 360-degree --

4 THE WITNESS: Yes, Your Honor. So
5 pilots, when they land, will always land, if they
6 can, nose into the wind with a headwind and so
7 they'll choose or select the runway to land on based
8 on the prevailing winds at the airport at the time of
9 their landing.

10 Q. (By ALJ Agranoff) Okay. And again just
11 so the record is clear, if you could take a look at
12 Question 10 and the response to that question. In
13 that response you discuss the remaining 711 flights
14 transited through the Runway 24 approach corridor.
15 Could you explain, just so the record is clear, what
16 "transiting through an approach corridor" is?

17 A. Yes, Your Honor. The data set that we
18 get from the FAA are millions of individual radar
19 returns, essentially that blip that you see when the
20 radar sweeps over an airport -- over an aircraft. So
21 every time that blip occurs, the computer takes a
22 date and time and location stamp of it and databases
23 it.

24 So when we ask the FAA for data, the FAA
25 has got terabytes of data, more than they can give to

1 us, so we have to define the area we want to look at
2 aircraft operations within in order to narrow that
3 down. And so we know, if we're trying to count the
4 number of operations into a given runway, we know the
5 aircraft has to fly down the final segment of that --
6 that straight-in portion of that -- of the approach
7 course of that runway.

8 So what we'll do is we'll bound a box --
9 excuse me -- we'll bound a box around that area and
10 we'll only look at the traffic running through that
11 as a method for reducing the number of flights.
12 Typically we'll start out with 5 miles out and we'll
13 then scale that down into that little box.

14 And we know that if a flight's transiting
15 through that box, we know there's going to be many
16 hundreds of flights transiting through that box but
17 some of them may be at altitudes where they're just
18 transiting through the airspace, they're not planning
19 to land there, so we get rid of those.

20 And then we look at those that are
21 actually coming right down the approach course and
22 we'll watch their altitude and see if they're
23 landing. If they're not landing, then we remove
24 those and we're left with the ones that are actually
25 landing. And then from those we then parse through

1 them to figure out which ones, based on their
2 trajectories, which ones are flying which type of
3 procedures.

4 If you look at the Revised Rebuttal
5 Attachment BMD-1 on the back and you compare that to
6 Rebuttal Attachment BMD-2 and -3, you can see if you
7 look in the main section of BMD-2, if you -- and I
8 don't know if I can point to this to show you but in
9 this section here, this section here of the approach
10 plate, you can see the area that has got a circle
11 around it with a bunch of little concentric dots.
12 That's the icon for a non-directional beacon. That's
13 sitting on the airport. That black line is the
14 runway. So you can see that the final approach
15 course into this, as defined by this approach, is 250
16 heading. The reciprocal course is a 070 heading.

17 So a pilot that's going to fly this is
18 going to fly outbound, they're going to fly over top
19 of the NDB, once it flies over it, once the pilot
20 flies over that NDB they're going to fly outbound on
21 a 070 heading, they're then going to make a left turn
22 to a 025, they're going to teardrop back with a right
23 180-degree turn back to 205 degrees and then continue
24 that turn to 250.

25 The pilot does this so that -- for a

1 couple of purposes. One is that obstacle clearance
2 protections are provided within this course and
3 within 10 nautical miles of the airport. Without
4 overflying this NAVAID, the pilot doesn't know how
5 far he or she is from the NAVAID. So absent air
6 traffic providing that information, they've got to
7 fly over the NDB outbound and do that turn.

8 Now, if you look at BMD-1, Revised
9 Rebuttal Attachment BMD-1, you can see in the yellow
10 tracks there, you can see those loops. Those loops
11 are those procedure turns where the pilot is tracking
12 back, flying outbound, and then tracking back into
13 the airport.

14 Because we know that we have radar track
15 data low enough to see these airplanes, we know that
16 these are the only flights that are flying that
17 teardrop procedure turn back inbound.

18 If we saw -- so in the FAA's
19 determination where it said the trajectories were
20 missing, it was interpreted, I think, by ODOT to say
21 those trajectories were missing and therefore the
22 data was somehow incomplete or corrupt.

23 I actually called the FAA and I spoke to
24 the FAA specialist who wrote this determination and I
25 asked him, I said, "Did you write that because the

1 data was missing or did you write that because you
2 didn't see these loops, these trajectories?"

3 He said, "I thought I was really clear.
4 I didn't see the trajectories."

5 So what that means is that FAA's findings
6 and our findings are in line that we're only seeing
7 these very few number of full NDB approaches.

8 The way we can differentiate further if
9 you look at again on this graphic, if you look at the
10 purple lines, you can see that they form a general
11 Y-shape coming into the airport. That Y-shape is
12 published and you can see that on RNAV GPS Approach
13 Runway 24. That's Rebuttal Attachment BMD-3.

14 Again, in this main section of the
15 approach plate here, you can see these way points.
16 These way points each have a five-letter identifier.
17 They're supposed to be able to be pronounced by the
18 pilot. But you can see at the top, one that says
19 CEKUN, C-E-K-U-N. That is a way point, meaning the
20 pilot can pull that up, the coordinates for that in
21 his cockpit, on his Garmin or whatever GPS-based
22 system he's using, and he can fly direct to that
23 point.

24 After that, that pilot is going to fly
25 inbound from CEKUN or unless he comes through from a

1 different direction he can pick up ELIJA, E-L-I-J-A,
2 either direction they're going to come to that, those
3 are initial segments. They're going to fly inbound
4 to that VOBRY intersection and then they're going to
5 make either a left or a right turn to then continue
6 down to what's called the Final Approach Fix which is
7 called TIPEJ, T-I-P-E-J. So you can see that general
8 Y-shape of the procedure.

9 Now, I'm going to talk about this
10 racetrack you see on there in just a moment, but if
11 you look at Revised Rebuttal Attachment BMD-1, the
12 graphic here, you can see that Y-structure that's
13 associated with this RNAV GPS approach, so that's how
14 we can differentiate those RNAV GPS approaches from
15 those looped NDB approaches.

16 Now, there's what's called a "hold in
17 lieu procedure" here and that's this -- I may be
18 going way further than you asked -- that hold in lieu
19 procedure can be seen in some loops that are out past
20 that VOBRY intersection.

21 We know that those loops that are being
22 flown out there are not the NDB approach because we
23 know the NDB approach has to be flown within 10
24 nautical miles of the NDB and that VOBRY intersection
25 is 11.4 nautical miles from the end of the runway, so

1 we know that those are not included -- that those
2 should be excluded from the NDB dataset.

3 ALJ AGRANOFF: Thank you.

4 THE WITNESS: Thank you, Your Honor.

5 ALJ SANYAL: Any questions based on those
6 questions?

7 MR. VAN KLEY: I have one.

8 - - -

9 CROSS-EXAMINATION

10 By Mr. Van Kley:

11 Q. You mentioned that in your conversation
12 with the FAA that you discussed a full NDB approach.
13 What is a full NDB approach is?

14 A. The full NDB approach would be one where
15 the pilot tracks outbound over the NDB and then
16 conducts that procedure turn inbound. So when I
17 talked to the FAA, I talked about NDB approaches in
18 general, I talked about the NDB approach tracking
19 back inbound, they did not see those, and then I
20 asked about vectors to NDBs, and the FAA said that
21 they had no belief that those were operating, that
22 those --

23 MS. BAIR: Objection. Total hearsay.

24 MR. PARRAM: Your Honor --

25 MS. BAIR: Purported for the truth of the

1 matter asserted, absolutely.

2 MR. PARRAM: He's responding to a direct
3 question about conversations he had with the FAA.

4 MS. BAIR: And it's hearsay.

5 MR. VAN KLEY: I just asked him for a
6 definition of what full NDB was.

7 MR. PARRAM: And to the extent that he's
8 just discussing what he heard from the FAA, that's
9 not asserting the truth of it. He's telling him what
10 his conversations were.

11 MS. BAIR: I believe he is asserting the
12 truth of it according to the chart that he's
13 presenting in the map with the yellow and purple.

14 ALJ SANYAL: I'm going to sustain the
15 objection. If you could just explain what the
16 definition of what full NDB approach means according
17 to your expertise, I think that would be helpful.

18 A. The full NDB approach is an approach
19 where the pilot flies outbound over top of the NDB
20 and then executes a procedure turn inbound, tracks
21 inbound and then lands.

22 Q. Are there NDB approaches other than full
23 NDB approaches?

24 A. A pilot can fly an abbreviated NDB
25 approach if that pilot is given vectors to final by

1 air traffic control.

2 Q. Are those types of NDB approaches
3 included on your Figure 1?

4 A. They are not.

5 MR. VAN KLEY: Nothing further.

6 MS. BAIR: I have nothing. Thank you.

7 ALJ SANYAL: Anything else?

8 Thank you, Mr. Doyle. You may step down.

9 THE WITNESS: Thank you, Your Honor.

10 ALJ SANYAL: Safe travels.

11 THE WITNESS: Thank you.

12 MR. PARRAM: Your Honors, I move for the
13 admission of Applicant Exhibit 41.

14 ALJ SANYAL: Any objections?

15 Hearing none, it is admitted.

16 (EXHIBIT ADMITTED INTO EVIDENCE.)

17 ALJ SANYAL: Do we need to -- I know
18 we've discussed the briefing schedule. Are there any
19 other matters we would like to discuss before going
20 off the record?

21 ALJ AGRANOFF: And just so the record is
22 clear with respect to Applicant Exhibit 41, that will
23 also contain the revised attachment that was --

24 MR. PARRAM: Yes, Your Honor.

25 ALJ AGRANOFF: -- previously identified.

1 MR. PARRAM: Your Honor, do you prefer to
2 have that marked as a separate exhibit or we can just
3 include that?

4 ALJ SANYAL: Yeah, I think it can be part
5 of 41.

6 MR. PARRAM: Okay. That's all I have.

7 ALJ SANYAL: Okay.

8 MS. BAIR: And did we have the briefing
9 schedule on the record?

10 ALJ SANYAL: Well, we can put it again on
11 the record. So initial briefs are due December 23,
12 2019, and reply briefs are due January 13, 2020.

13 MS. BAIR: Thank you.

14 ALJ SANYAL: Well, hearing none, we're
15 off the record.

16 (Thereupon, the proceedings concluded at
17 11:18 a.m.)

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CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Monday, November 25, 2019, and carefully compared with my original stenographic notes.

Carolyn M. Burke
Carolyn M. Burke, Registered
Professional Reporter, and
Notary Public in and for the
State of Ohio.

My commission expires July 17, 2023.

- - -



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Summary: Transcript Volume VIII - In the Matter of the Application of Republic Wind, LLC for a Certificate of Environmental Compatibility and Public Need for a Wind-Powered Electric Generating Facility in Seneca and Sandusky Counties, Ohio, hearing held on November 25th, 2019. electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Burke, Carolyn