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Date of Hearing: November 20, 2012

Case No. 12-0160-EL-BEN

PUCO Case Caption: In the Matter of the Application
of Champaign Wind LLC for a Certificate to
Construct a Wind-Powered Electric Generating
Facility in Champaign County, Ohio

Vol. VIII

List of exhibits being filed:

City Exhibits 13, 13A, 14, 15, 16, 17, 18, 19

County Exhibit 5

UNU Exhibit 24

Staff Exhibits 1, 2

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BEFORE THE OHIO POWER SITING BOARD

- - -

In the Matter of the :
Application of Champaign :
Wind LLC for a :
Certificate to Construct : Case No. 12-0160-EL-BGN
a Wind-Powered Electric :
Generating Facility in :
Champaign County, Ohio. :

- - -

PROCEEDINGS

before Ms. Mandy Willey Chiles and Mr. Jonathan
Tauber, Administrative Law Judges, at the Public
Utilities Commission of Ohio, 180 East Broad Street,
Room 11-A, Columbus, Ohio, called at 9:00 a.m. on
Tuesday, November 20, 2012.

- - -

VOLUME VIII

- - -

ARMSTRONG & OKEY, INC.
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- - -

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of)
Champaign Wind, LLC, for a)
Certificate to Install Electricity)
Generating Wind Turbines in)
Champaign County)

Case No. 12-0160-EL-BGN

DIRECT TESTIMONY OF CAROL HALL for CITY OF URBANA, OHIO

Q.1. Please state your name, title and business address.

A. 1. Carol Hall, Grimes Field Airport Manager, City of Urbana, 1636 N. Main Street, Urbana, Ohio.

Q.2. How long have you been employed with the City of Urbana?

A.2. I began my employment with the city in 1995 as assistant airport manager and was hired as Airport Manager in 2002.

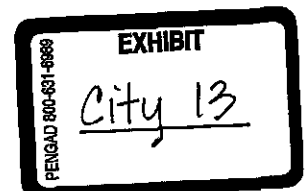
Q.3. Can you describe your responsibilities as manager of Grimes Field?

A.3. I keep the records of arrivals, departures and fuel sales, collect rent for the hangars, oversee maintenance of equipment at the airport, check to make sure our Automated Weather Observing System (AWOS) is updating regularly to provide current weather and wind conditions to pilots, and help the city administration with long-range planning for the airport facilities with our professional consultant. I help coordinate logistics and promote the various annual events at the airport such as the hot air balloon festival, Fourth of July fireworks, MERFI and special events like the B-25 Doolittle Raiders bombers reunion held earlier this year in conjunction with Wright-Patterson Air Force Base and the museum there.

Q.4. Can you outline some of the development and changes that have taken place at Grimes Field during the course of your employment there?

A.4. The biggest project was the expansion and re-alignment of the runways which was completed in 2002. The realignment project included:

- Construction of a 4,400 x 100 foot asphalt runway (Runway 2-20)
- Construction of a 3,000 x 164 foot turf runway (Runway 1-19)
- Construction of a full-length parallel asphalt taxiway to Runway 2-20 and four connector asphalt taxiways (A1, A2, A4—400 x 35 ft, and A3—895 X 35 ft)
- Conversion of a portion of the existing runway 5-23 into Taxiway A5 (900x25ft)
- Installation of Medium Intensity Runway Lights (MIRLs) along Runway 2-20
- Installation of Medium Intensity Taxiway Lights (MITLs) along Taxiways A, A1, A2, A3, and A4
- Installation of taxiway reflectors along Taxiway A5
- Installation of guidance signs on Runway 2-20 and Taxiways A, A1, A2, A3, A4, and A5
- Installation of new Precision Approach Path Indicators (PAPIs) for the Runway 2 approach and the Runway 20 approach



- Installation of new Runway End Identifier Lights (REILs) for the Runway 2 threshold and the Runway 20 threshold
- Construction of a new airfield electrical vault with radio control system for airfield lighting
- Installation of culverts, end sections, and cleanouts
- Construction of collector drainage ditches and infiltration basin
- Construction of a landscape buffer between Taxiway A and the airport's southwest property line.

Other big developments over the course of my employment with the city were the opening of the CareFlight base in 2005 and opening of the Champaign Aviation Museum in 2009.

Q.5. What can you tell us about recent improvements and developments at Grimes Field in the past five years?

A.5. R.W. Armstrong has been the city's aviation consultant for many years and recently assisted us over the summer with rehabbing Taxiway B, reconstruction of Taxiway C and Apron 2 through Ohio Department of Transportation Funding. R.W. Armstrong has also worked with the city to develop plans to further expand the main runway.

Q.6. Can you describe plans to expand the main runway to 5,100 feet?

A.6. Pending approval of funding through the city and the FAA for those fiscal years, R.W. Armstrong has planned the runway expansion and other future airport development projects clear up through the next twelve years. The city administration has more information on the projected cost of that project.

Q.7. What can you tell us about normal operations that would necessitate the need for such expansion?

A.7. We have an average of more than 60 regular flight operations per day, split about evenly between local pilots and transient pilots, with more than 35 aircraft based at the airport in rented hangars. Most of those are single-engine planes. I think we have less than five multi-engine planes and ultralights each plus the CareFlight helicopter stationed there. We also have weekly intermittent commercial traffic, which is much less frequent than general aviation flights. So as far as small municipal airports go, I would say ours is busier than average for a community our size with a countywide population of just under 40,000. We see a lot of recreational pilots who will stop for just an hour or two to grab a bite to eat at the Airport Café, our on-site full service restaurant, especially during weekends. The restaurant is one of the things that makes our airport unique, as it has a great view of the field. It is a favorite of not just pilots but local community members who like to watch the planes.

Q.8. Can you give an description of current instrument approaches at Grimes Field?

A.8. Yes. There are three instrument approaches to guide pilots with instrument-equipped aircraft but most of the pilots at Grimes Field use Visual Flight Rules (VFR) approaches. We have several instrument-rated pilots who hangar at Grimes Field but in my experience, the majority of local pilots and visitors are flying planes without instruments.

Q.9 Can you elaborate on some of the events held at Grimes Field, such as how long they have been hosted (if annual) and what kind of crowds they draw?

A.9. I can't tell you the first time the city hosted Fourth of July Fireworks at the airport as that celebration predates me and it's an Urbana tradition. The Rotary Club has a chicken barbecue fund-raiser during the day, along with airplane rides and other activities, then after dark the fireworks are set off in a designated zone away from the crowd gathered on the airport grounds. Thousands of families gather for the event annually and fortunately planning has gotten better with anticipated rain dates in case of inclement weather.

The first year Grimes hosted the Mid Eastern Regional Fly-In (MERFI) was 2008 and it is the second oldest fly-in in the country for experimental and vintage aircraft. Volunteers and pilots put on educational seminars for hundreds of people in attendance annually.

The Hot Air Balloon Festival was started in 2005 by the Champaign County Visitors Bureau and it attracts upwards of 5,000 people to the airport when the weather is good for balloon rides, races and demonstrations.

For several years now, Grimes Field has hosted reunions for World War II pilots and their planes, but the biggest turnout was for the Doolittle Raiders B25 70th reunion earlier this year in April, when thousands of local residents lined the streets of the city to escort the five surviving veterans as they were welcomed to Grimes Field. In fact, turnout for that event was so good thanks to local volunteers, that Grimes Field was recognized by the National Aviation Heritage Alliance in August.

Q.10. What are your concerns with the Champaign Wind project as both a private pilot and as manager of Grimes Field?

A.10. I am concerned that the turbines could create interference to IFR approaches due to wind turbines being recognized as a source of interference to VOR (VHF Omnidirectional Ranging) Systems used for instrument-rated aircraft navigation. When Champaign Wind's first phase, Buckeye Wind, was under consideration, they suggested a localizer to solve that issue, but a localizer wouldn't help the pilots who don't use instrument navigation to fly. The concern I hear from pilots both VFR and IFR is potential obstructions of the airspace within five miles of the airport, which they have to avoid when they are on approach to Grimes Field at low altitude. If pilots won't fly here due to the risks, we could lose some of our events, particularly the balloon festival because balloonists are more at the mercy of prevailing winds which could drift them right into the wind turbine installation.

Q.11. Do you believe Conditions 64 through 69 proposed in the OPSB Staff Report for the Champaign Wind project adequately address your concerns as manager of Grimes Field?

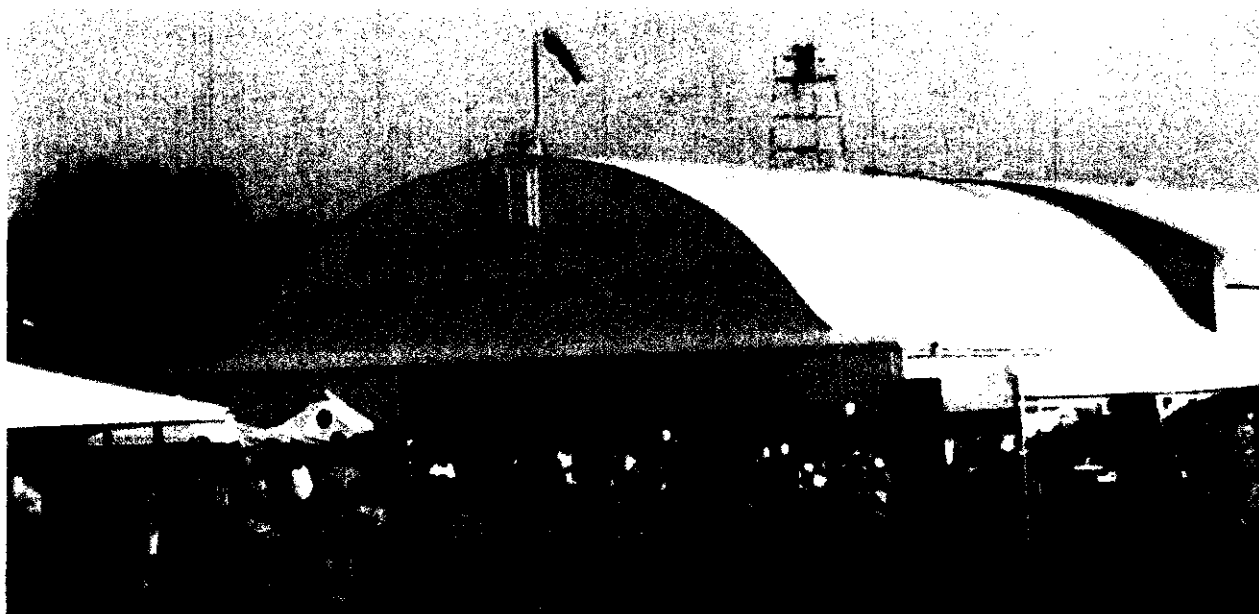
A.11. It would improve pilot safety to know specific latitude and longitude coordinates for each turbine but I think we would still see pilots avoid flying anywhere near turbines that are within five miles of Grimes Field. The FAA defines an obstruction to navigation as being 200 feet or more above ground level and within three miles of a runway longer than 3,200 feet. Our runway is longer than that and these turbines are almost 500 feet tall. So I think we could see some of the planners for annual events chose different, safer venues if these turbines are built, not to mention a decrease in our daily general aviation traffic.

Q.12. Does that conclude your testimony?

A. 12. Yes it does.



Sixth Annual Hot Air Balloon Festival, July 2011

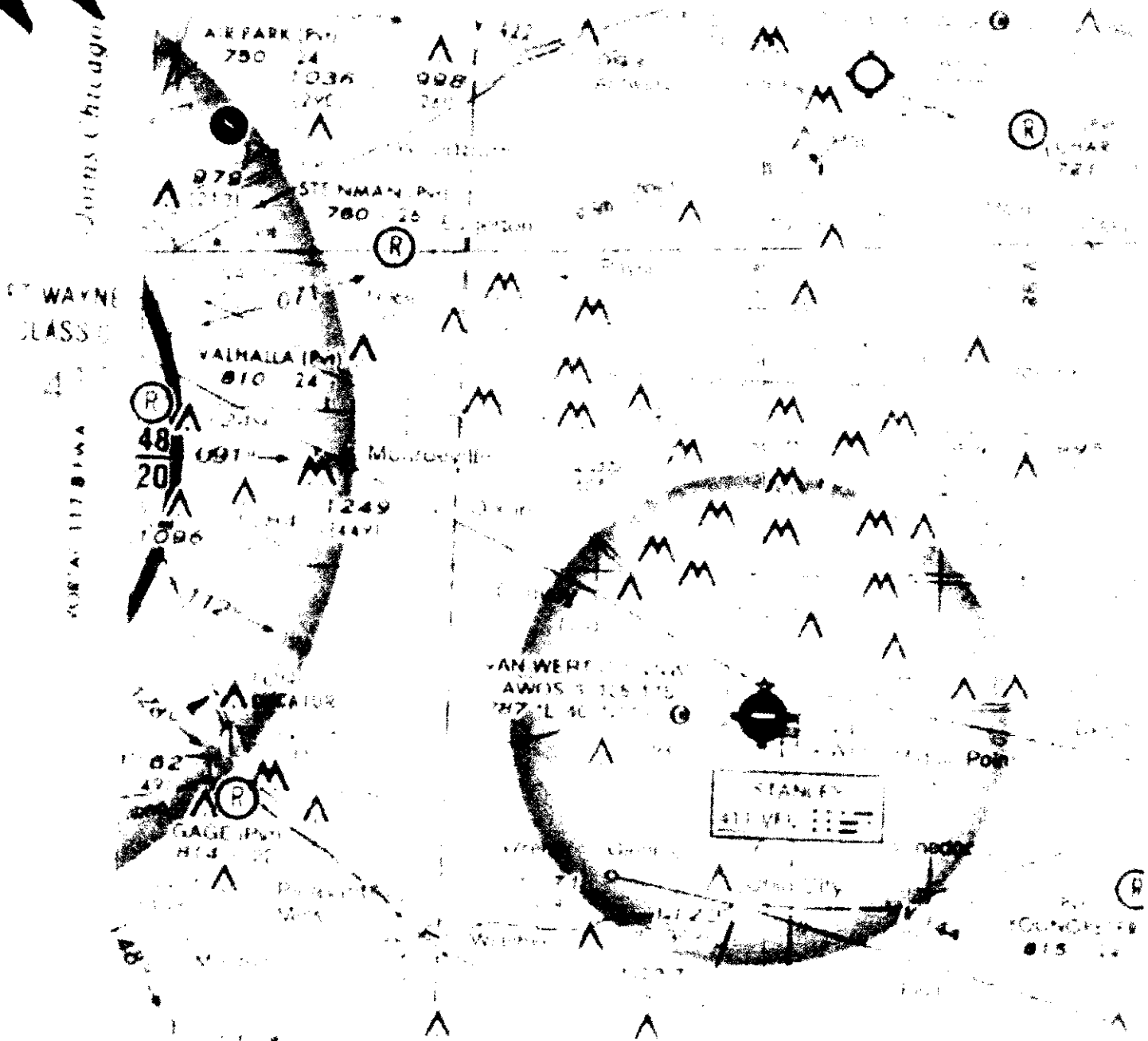


For 16 Hot Air Balloons and events, approximately 3,000 people were in attendance in 2011. Attendance was down at 2012 Seventh Annual Festival due to extreme heat in excess of 100 degrees.

B-25 Mitchell Bombers Reunion, April 2012 (70th Anniversary of Doolittle Raiders)



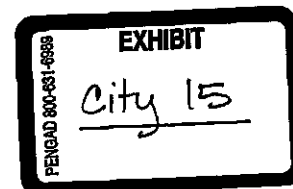
Grimes Field and Champaign Aviation Museum hosted static displays of B-25s and other historic warbirds open to the public the weekend before the April 18 anniversary of Doolittle's World War II raid on Tokyo, with subsequent events through the week for pilots of the bombers and Doolittle Raiders surviving crew members, including parade escort through the city to a breakfast at the museum. Grimes Field was staging area for more than 20 of the B-25 bombers to group for flyover of National Museum of the U.S. Air Force in Dayton on the anniversary date. More than 15,000 people attended events throughout the week and it was the largest gathering of B-25 Mitchell planes in one place since WWII.



Van Wert sectional map



BEFORE
THE OHIO POWER SITING BOARD



In the Matter of the Application of)
Champaign Wind, LLC, for a)
Certificate to Install Electricity)
Generating Wind Turbines in)
Champaign County)

Case No. 12-0160-EL-BGN

DIRECT TESTIMONY OF RICK RADEMACHER for CITY OF URBANA, OHIO

Q.1. Please state your name, title and address.

A. 1. Rick Rademacher, local pilot and business owner, 375 College Street, Urbana, Ohio.

Q.2. What is your educational/professional background?

A.2. I have been the owner of The Hackery in Urbana since 1982, specializing in custom computer hardware and software solutions, and I have taught computer courses at both Edison Community College in Piqua and my own classes at Urbana University in the 80's.

I have been involved in aviation since my first lessons in 1968 at Mad River Airport in Clark County just north of Tremont City. I obtained my pilot license in 1973 at Hooks Field, Middletown, Ohio. I have also taken courses in aviation at Miami University. I have owned several aircraft and ultralights over the years. Since 1968 I have accumulated more than 3,000 flight hours, all under visual flight rules ("VFR") as a "Private Pilot". My current license rating is "Sport Pilot". I am not and have never been instrument-rated, also known as instrument flight rules ("IFR"). I have helped get youth involved in aviation through the Experimental Aircraft Association's "Young Eagles" program, flying with more than 400 children between the ages of 8 and 17 as passengers.

Q.3. As a pilot, are you familiar with both Grimes Field and the Weller Airport?

A.3. Yes, I have used both airports for almost 40 years now and the majority of my flight hours were obtained flying out of one or the other. I had a partnership in a Cessna 182 plane with Mr. Wendell Weller for over 22 years, and we hangered that aircraft at Weller Field. He built the airstrip on his farm in the 1960's after his World War II service in the Army Air Corps led to a long friendship with Warren Grimes. Like me, Mr. Weller was active in the Experimental Aircraft Association and local pilot groups.

I still fly from Grimes Field on a regular basis and I have housed several planes I owned over the years there, including a Pietenpol, a Piper Cub, a Cessna 182 and a Cessna 210. I am a member of the Champaign County Pilots Association and a board member of the Mid-Eastern Regional Fly-In ("MERFI"), which are both based at Grimes Field. MERFI attracts hundreds of vintage and experimental aircraft to the airport annually since it was moved here in 2008.

City Exhibit #15

Q.4. Based on your years of association with local pilots, can you estimate the percentage of them who rely solely on VFR to fly to and from Grimes Field and Weller Airport?

A.4. From my personal experience, I can tell you all flights out of Weller are VFR, and I would say 90 percent of all flights out of Grimes Field are VFR.

Q.5. As a pilot, why are you concerned about turbine sites in Champaign County within five miles of Grimes Field, even though the Federal Aviation Administration has issued determinations of "no hazard"?

A.5. Yes I am because the FAA issues those determinations mostly for the benefit of instrument-rated pilots. In contrast to IFR operations, VFR pilots use the "see and avoid" method of flight while flying under FAA visual rules. On behalf of local pilots who use VFR, we are concerned about wind turbines located within five miles of the airport because VFR procedures call for us to descend to "pattern altitude" between 800 and 1,000 feet above ground level within five miles out when on approach to an airport for landing.

As most mid-air collisions occur within 5 miles of airports, it is essential for every pilot flying under VFR rules to be at the same pattern altitude to help them locate other aircraft approaching that same airport.

But if a turbine blade tip is almost 500 feet above ground level, and we are required to approach the airport at 800 feet from five miles out, that leaves us with just 300 feet of clearance vertically or less. FAA rules require us to maintain at least a 500 foot separation from structures in sparsely populated areas and 1,000 feet in other areas. Some of the turbines are placed on ground which is higher than the airport elevations which makes the situations worse. When the blades turn, we would have to avoid the individual turbines by an even greater distance due to wake turbulence. Groups of turbines would create a cumulative turbulence effect, posing more flight risks with avoidance on approach to Grimes Field, because more pilots would be flying outside of pattern altitude, creating a greater risk for mid-air collisions.

It is my understanding that the FAA requires local airport boards to use zoning to protect local airports from encroachment of hazards not addressed by FAA rules. The State of Ohio has removed the local zoning option for Ohio airport boards. So, The State of Ohio must then establish rules for the proximity of wind turbines around airports.

Q.6. Has Champaign Wind shared the specific proposed locations of the turbines with local pilots, other than the publication of a generalized map in the Urbana Daily Citizen?

A.6. No, In my experience, wind turbines on sectional maps are marked as a large "caution zone" but are not pin-pointed the same way as other types of towers which are specifically marked. Therefore anyone using the aeronautical sectional maps has no way of knowing specific locations of these turbines except by visual determination from above, which will take a pilot's attention away from looking for other aircraft approaching the air field while watching out for turbines too. And, as we pilots tend to avoid wind turbine areas, to have a

large area marked around Grimes Field does not encourage pilots to visit Grimes during a MERFI flyin.

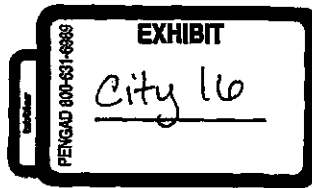
Q.7. Do you believe the proposed Conditions 64 through 69 adequately address aviation concerns of local pilots flying into and out of Grimes Field and Weller Airport?

A.7. Only to the extent pilots would then know the locations of the turbine towers to specific latitude and longitude coordinates. We still face the problems with less than 300 feet of clearance on some of them at pattern altitude within five miles of the airport, as well as wake turbulence. I understand the FAA Order 400.2J, Paragraph 6-3-8, provides criteria for assessing an obstruction's impact on VFR flights within the airport traffic pattern airspace area. The order only finds a hazard if a "substantial" number of pilots must alter their altitude or route of flight, AND if the obstruction exceeds 500 feet above ground level AND the obstruction is within two miles of a regularly-used VFR route, according to paragraph 6-3-8(c)1.

I do not know how the FAA determines what is "substantial" but our airport has a good deal of VFR traffic on a weekly basis. The turbines Champaign Wind proposes to build are just eight feet lower than the 500-foot limit, and to date I have no information on which of them are within two miles of regularly-used VFR routes because the company has not provided local pilots with the coordinates of their planned placement. Therefore, I am greatly concerned that in the future, pilots may need to adjust their approach to Grimes Field in a way that would negatively impact the safety of all approaching aircraft. Moreover, Champaign Wind is the second phase of a project with the first phase already approved, and I do not know how many other phases are planned. We pilots can adjust our approach if clear lanes are maintained for us to use on approach. We pilots don't want Grimes Field so surrounded by wind turbines that a non-standard VFR approach must always be used. Safe operations must be maintained and that necessitates keeping wind turbines outside of a five mile radius.

Q.8. Does that conclude your testimony?

A. 8. Yes it does.



Pilot: Rick Rademacher

NavData Cycle 2011.91 Expiry: Wednesday, 21 September 2011

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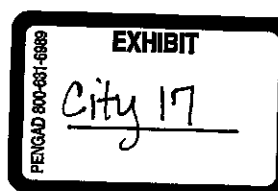
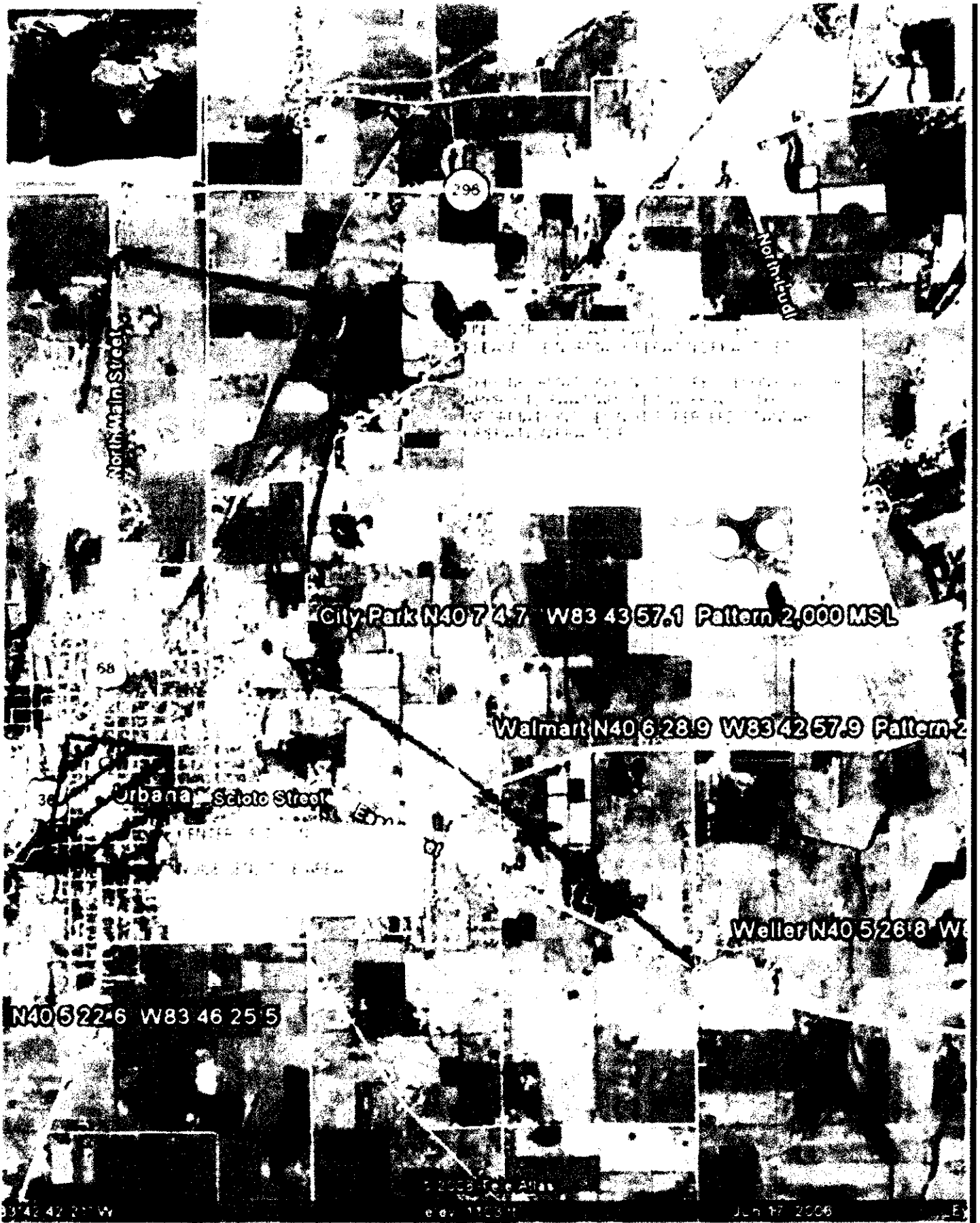
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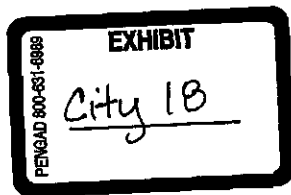
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CTAF 123.0
Urbana OHIO
Weller
381 1150 25s

Flight planning map with local obstructions marked



MERFI flight recommended approach



BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of)
Champaign Wind, LLC, for a)
Certificate to Install Electricity)
Generating Wind Turbines in)
Champaign County)

Case No. 12-0160-EL-BGN

DIRECT TESTIMONY OF BILL BEAN for CITY OF URBANA, OHIO

Q.1. Please state your name, title and business address.

A. 1. Robert William "Bill" Bean, Mayor, City of Urbana, 205 S. Main Street, Urbana, Ohio.

Q.2. What is your educational/professional background?

A.2. I graduated from Urbana High School in 1967 and Urbana University in 1971. I began my insurance career with the L.B. Berry Company in 1970 and retired in 2006. I am also self-employed with Triple S Postal History, which I co-founded in 1974 to serve postal history hobbyists and stamp collectors.

Q.3. How long have you been employed with the City of Urbana as an elected official?

A.3. I began serving on Urbana City Council in 2008 and was elected to my first term as mayor in 2011, taking office in January of 2012.

Q.4. Can you give us some general background on the history of Grimes Field?

A.4. Warren Grimes, who made his fortune in the aircraft lighting industry with local manufacturing centers, officially dedicated Grimes Field (174) to the City of Urbana on August 6, 1943. At that time, the property consisted of only a large field and a tent but by late 1943, two sod runways, the first hanger, and an office building had been built. In 1961, the two sod runways were lengthened and a paved runway was constructed.

Grimes later sold his manufacturing business to the Midland-Ross corporation, which helped develop the first 20-year master site plan for the airport in 1986. At that time, the corporation operated the field and 19 aircraft were based there. The city took over operation of Grimes Field in 1987. The runways were incrementally improved and expanded based on the 1986 site plan until the major re-alignment. In 2006, 224 acres of land adjacent to the north side of the airport were purchased for airport expansion. That investment cost \$350,000 from local and federal funds. In 2009, the city purchased additional aviation easements and entered into agreements for additional land acquisitions for future expansion of Grimes Field.

Q.5. Is there an existing plan for development of Grimes Field?

A.5. In 1986, the first master plan for Grimes Field was developed with Aviation Planning Associates according to standards set by the Federal Aviation Administration. That plan recommended runway expansion along with terminal and aircraft storage improvements that would enable Grimes Field to attract more corporate aviation from local businesses. In 1993, the Champaign County/City of Urbana Comprehensive Plan identified the airport's unique position in relation to U.S. Route 68 as a major ground transportation artery, combined with

City Exhibit 18

existing zoning as an industrial manufacturing zone, for development opportunities. After an update to the airport site plan in 1999, in July 2000, our consultant, R.W. Armstrong, performed an environmental assessment and engineering study for the proposed realignment of the airfield. At that time, obstructions off airport property reduced the usable length of the runway to 3,000 feet, but the need for additional runway length was required for existing users of the airport. The re-alignment project was substantially completed in 2002, bringing the runway's length to 4,400 feet.

Q.6. Can you give specifics on future plans for development at the airport, including runway expansion?

A.6. Based on FAA approval, next year we will spend a total of \$166,667 on sealing the runway, repainting the runway and a feasibility study and preliminary design for a new terminal building. If the feasibility study recommends renovation instead of a new building, that cost could be around \$300,000. Our goal long-term is acquisition of additional land for the airport to extend the runway to 5,100 feet. The total cost for that project right now is targeted at \$2.22 million with the FAA footing most of the bill, as the city's share on the project cost is 10 percent. Of that figure, approximately \$1 million is planning expenses, the other is \$1.22 million for construction.

Q.7. Can you describe recent improvements and developments at Grimes Field in the past five years?

A.7. The Champaign Aviation Museum was completed in early 2009, as was the conversion of the former Urbana National Guard Armory (located just south of the airport) into a local branch of the Ohio Hi-Point Joint Vocational School/Career Center. The Hi-Point JVS offers a program for local high school students to study aviation mechanics.

Q.8. Can you describe current operations at Grimes Field?

A.8. Of course, the general aviation traffic is the most frequent daily business by private pilots, but I know several local businesses use the airfield for commercial transactions, too, including Damewood Enterprises, Tech II, Johnson Welded Products, Mike Major Studios, the Ultra-Met Corporation, and WCA Logistics, just to name a few. CareFlight also has the base there for helicopter EMS operations and has since 2005. We also have the visitors to the museum and patrons of the Airport Café there except on Mondays.

Q.9 Can you elaborate more on Grimes Field's historical significance in the area?

Q.9. In November 2004, Congress recognized an eight-county region in Ohio as the National Aviation Heritage Area (NAHA), in honor of our leadership in our nation's aviation history. NAHA embodies an industry that is alive and well, consisting of 10 historical sites at the National Museum of the United States Air Force, the National Aviation Hall of Fame, the Dayton Aviation Heritage National Historical Park (which includes Carillon Historical Park, Huffman Prairie Flying Field and Huffman Prairie Flying Field Interpretive Center, Wright-Dunbar Interpretive Center and the Paul Laurence Dunbar State Memorial), The Wright B Flyer, the Armstrong Air & Space Museum, WACO Field in Troy and Grimes Field in Urbana.

Part of the reason Grimes Field was chosen was because of the dual attractions of the Grimes Flying Lab Foundation and Champaign Aviation Museum.

The Flying Lab test plane, a 1953 Beech 18 that served in the Air Force as the C-45-H, was used by Grimes in testing and demonstrating exterior aircraft lighting for plane manufacturers and the military. The plane is operational, participating in national and international shows, as well as offering an opportunity to educate locals and the world about the historical and economic impact Warren Grimes had on the industry from his first endeavor producing airplane lights in his garage in 1933. His company, now a division of Honeywell, continues to design, develop and manufacture lighting systems for aviation, aerospace and transportation industries in the City of Urbana. The Flying Lab museum is open to the public.

The Champaign Aviation Museum volunteers restore and preserve historical aircraft, particularly those that flew in the World War II era. It currently houses a B25, C47, a Wright B Flyer, and an A26 Invader. In addition, the Champaign Aviation Museum is home to the only flying specimen of a 1932 Pitcairn Autogyro in the world, a unique flying machine that predated the helicopter.

Concurrently, volunteers at the museum are restoring a WWII-era B-17 Flying Fortress, the "Champaign Lady." It is a unique plane, one of 15 that remain flying in the world out of 12,371 Boeing ever built. Before it crashed in 1980 in North Carolina, the Champaign Lady was used by the Curtiss-Wright Corporation as a test subject for experimental turboprop and turbojet engines and propeller research. The plane was modified at some point to serve as an air tanker and sustained critical damage while fighting a forest fire, but the hundreds of volunteers who have worked to restore the warbird since the project began in 2005 have been intent on re-creating it to the specifications of the 401st Bombardment Group (H), 1st Air Division of the Eighth Air Force, which flew 155 missions out of Deenethorpe, England, from Nov. 26, 1943 to April 20, 1945.

Q.9 What particular events take place annually at the Grimes Field?

A.9. The first year we hosted the Mid-Eastern Regional Fly-In (MERFI) in 2008 we had some 200 volunteers, 275 aircraft and 2,500 paying adults in attendance, including one Adventurer Scout troop (which flew in and camped here), three Boy Scout troops, and six Girl Scout troops. It has grown every year since then. We also have the Fourth of July Fireworks and Rotary BBQ, Hot Air Balloon Festival and B25 Mitchell reunion. The B25 Mitchell plane pilots meet every other year, but this year was special because it was held in conjunction with the 70th anniversary of the Doolittle Raiders mission to Tokyo during World War II, so there was a huge crowd. Grimes Field served as the staging ground for about 25 of the planes which flew here and also to the museum at Wright-Patt.

Q.10. What is the Economic Impact of Grimes Field to the City of Urbana?

A. 10. That question is better answered by our Economic Development Director, Marcia Bailey, and Airport Manager Carol Hall, who have hard numbers, but I can also address it from my perspective as mayor. While it is nearly impossible for me to estimate the amount of tourism dollars brought in by the events, the museums, and the restaurant located at Grimes Field, the greater Champaign County region greatly benefits from the operation of Grimes Field. The commitment the City has received from federal grant dollars and from its users, visitors, and volunteers is phenomenal for a community of our size. Since the City assumed full operations of the airport in 1987, Grimes Field has evolved from a local tax-supported subsidy to a self-supporting operation through fuel sale revenues and hangar rents. On-site,

Grimes Field also has a full service restaurant, two museums, the CareFlight helicopter base, and an active pilots club which offers scholarships to Champaign County students pursuing degrees in the aviation field.

Q.11. As mayor, what do you believe the economic impact of wind turbine development will be on the airport and the city as a whole?

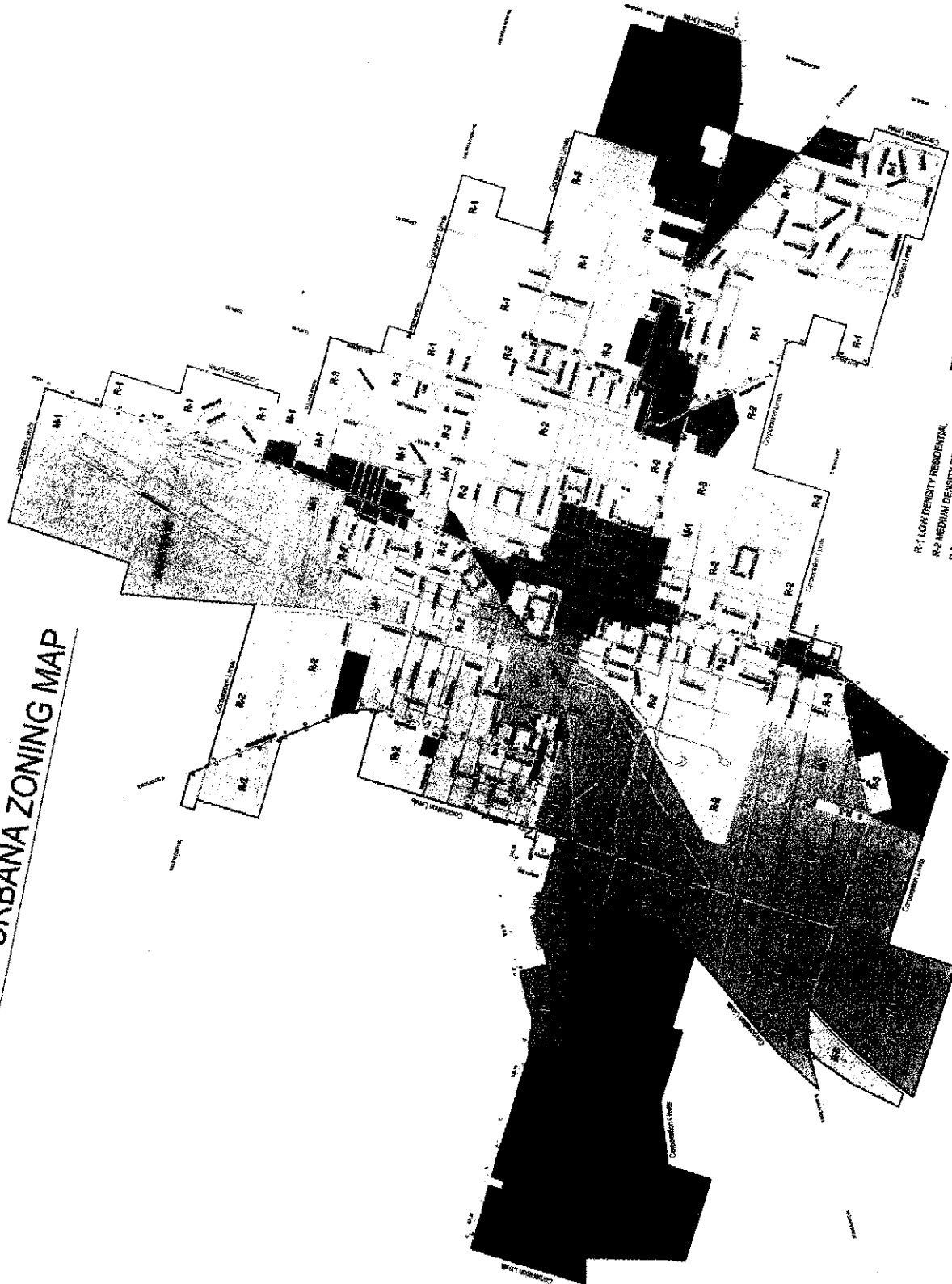
A.11. Of course, I am worried about the impact of wind turbine placement on special events and regular traffic at the airport, as well as any impact on CareFlight, for safety reasons, not just economic losses if the number of flights to and from Grimes Field declines. As for economic impact to the city overall, Urbana's growth as a city has been to the east toward the proposed wind turbine project area. We have proposed to extend a sewer line east along U.S. Route 36 to provide service to a local manufacturer with about 70 jobs, and that extension would also give us a mechanism to service other businesses and residents in that area in the future. The problem is that extension out past Three Mile Road is less than a mile from some of the proposed turbine sites, as I understand it. Wind turbine development will inhibit growth to our east because we can't go west due to the floodplain, and north and south aren't really viable for much residential development.

The city stands to gain no money from this project, through either taxes or a payment in lieu of taxes by Champaign Wind, because the project is outside our municipal boundaries. Even though it will impact the city, the city has nothing but the potential to lose money, in the larger scheme of things. We won't be paid for any loss in economic revenue if the airport has to stop hosting events, or if it shuts down altogether, or if CareFlight leaves the city, or if local emergency services have to increase overtime hours because CareFlight can't fly into the project area. There is no money for the city to consider, other than what we stand to lose.

Q.12. Does that conclude your testimony?

A. 12. Yes it does.

CITY OF URBANA ZONING MAP



- PLANNED UNIT DEVELOPMENT (PUD)
- CITY CENTER HERITAGE OVERLAY DISTRICT
- A GENERAL URBAN - SUB-AREA 'A'
- B TRANSITIONAL URBAN - SUB-AREA 'B'
- C CITY EDGE - SUB-AREA 'C'
- D RESIDENTIAL - SUB-AREA 'D'
- E INSTITUTIONAL - SUB-AREA 'E'
- R-1 LOW DENSITY RESIDENTIAL
- R-2 MEDIUM DENSITY RESIDENTIAL
- R-3 HIGH DENSITY RESIDENTIAL
- B-1 BUSINESS RESIDENTIAL
- B-2 LOCAL BUSINESS
- B-3 CENTRAL BUSINESS
- M-1 LIGHT INDUSTRIAL

CITY 15A

City 19

National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: CHI08LA080		Aircraft Registration Number: N3537V	
		Occurrence Date: 02/08/2008		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Grand Meadow	State MN	Zip Code 55936	Local Time 1309	Time Zone CST	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer CESSNA		Model/Series 140		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>*** Note: NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report. ***</p> <p>HISTORY OF FLIGHT</p> <p>On February 8, 2008, at 1309 central standard time (cst), a 1948 Cessna 140, N3537V, piloted by an airline transport pilot, was substantially damaged during an in-flight collision with terrain following a loss of control during cruise flight near Grand Meadow, Minnesota. Instrument meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. The pilot, the sole occupant, was fatally injured. The flight departed New Richmond Regional Airport (KRNH), New Richmond, Wisconsin, about 1211 cst and was enroute to Oskaloosa Municipal Airport (KOOA), Oskaloosa, Iowa.</p> <p>The pilot had purchased the airplane earlier in the day, and was flying to Fulton, Missouri, to attend a family event later that afternoon. He intended to stop at KOOA to obtain fuel before continuing on to Elton Hensley Memorial Airport (KFTT) near Fulton, Missouri.</p> <p>The accident flight path was reconstructed using data recovered from a handheld global positioning system (GPS) receiver located in the wreckage and aircraft radar track data. At 1211 cst, the airplane departed from KRNH on runway 14 and proceeded south on a direct course to KOOA. The airplane cruised between 1,600 and 1,900 feet mean sea level (msl). At 1306:48, the airplane made a 90-degree left turn and proceeded east for about 60 seconds before completing a figure-8 turn at varying altitudes between 2,200 and 2,900 feet msl. At 1309:08, the last GPS position was recorded at 2,276 feet msl. The elevation of the accident site was about 1,368 feet msl.</p> <p>The GPS and radar data was plotted on an aviation sectional chart. The initial 90-degree course change and figure-8 maneuver were performed immediately north and east of several 400-foot tall wind turbines. The ground track for a direct course from KRNH to KOOA passed through this area of wind turbines.</p> <p>PERSONNEL INFORMATION</p> <p>According to Federal Aviation Administration (FAA) records, the pilot of N3537V, age 54, held an airline transport pilot certificate with airplane single and multiengine land, airplane single engine sea, rotorcraft-helicopter, and instrument rotorcraft ratings. The rotorcraft-helicopter and instrument rotorcraft ratings were limited to commercial pilot privileges. The airplane single engine land and sea ratings were limited to private pilot privileges. The pilot also had a flight engineer certificate for turbojet airplanes. He was type-rated for the Boeing 727, Douglas DC-9, McDonnell Douglas MD-11, and Fokker 100. A search of FAA records showed no accident, incident,</p>					
FACTUAL REPORT - AVIATION					

City Ex-19

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: CHI08LA080 Occurrence Date: 02/08/2008 Occurrence Type: Accident	
Narrative (Continued)		
<p>enforcement or disciplinary actions.</p> <p>The pilot's last aviation medical examination was completed on September 11, 2007, when he was issued a first-class medical certificate with no limitations or restrictions. At the time of the medical examination, he reported having 21,000 hours of flight experience. The pilot was a captain with a domestic airline. The airline reported his last regulatory checkride was completed on December 23, 2007.</p> <p>AIRCRAFT INFORMATION</p> <p>The accident airplane was a 1948 Cessna 140, serial number (s/n) 14809. The airplane incorporated a metal fuselage and fabric covered wings with metal control surfaces. It was equipped with externally braced wings, wing flaps, and a fixed conventional landing gear. The airplane seated two occupants and had a certified maximum takeoff weight of 1,450 lbs. The airplane was not certified for operation under instrument flight rules (IFR). The airplane was equipped with a turn-and-bank indicator that was powered by a venturi vacuum system, but was not equipped with an artificial horizon or a directional gyro.</p> <p>The original standard airworthiness certificate was issued on June 2, 1948. The airframe had a total service time of 1,970.6 hours at the time of the accident. The last annual inspection was completed on January 24, 2007, at 1,968.0 hours total service time. The airplane had accumulated 2.6 hours since the inspection. The pilot had purchased the airplane on the morning of the accident. The previous owner reported that the pilot was aware that the annual inspection had lapsed. According to the FAA, the pilot did not obtain a ferry permit for the accident flight.</p> <p>A Teledyne Continental Motors model C90-12F reciprocating engine, s/n 15311-2-12-R, powered the airplane. The 90-horsepower engine provided thrust through a McCauley model 1A90, fixed pitch, two-blade, metal propeller. The engine had a total service time of 1,075.6 hours at the time of the accident. The last engine maintenance was performed on January 24, 2007, at 1,073.0 hours total time, during the last annual inspection.</p> <p>A review of the maintenance records found no history of unresolved airworthiness issues.</p>		
<p>METEOROLOGICAL INFORMATION</p> <p>The National Weather Service (NWS) Surface Analysis Chart for 1200 cst depicted a low pressure center over northern Iowa and an associated occluded front approaching the accident site. The NWS Weather Depiction Charts for 1000 cst and 1300 cst depicted an extensive area of IFR weather conditions along and ahead of the low pressure center and the associated occluded front. The departure airport and accident site were located northeast of the low pressure center and occluded front. Surface observations taken along the route of flight reported IFR conditions due to low ceilings and visibility restrictions in light snow, mist, or haze.</p> <p>The departure airport (KRNH) was equipped with an automated weather observing system (AWOS) that reported the following weather conditions surrounding the departure time:</p> <p>At 1135 cst: Wind 120 degrees true at 4 knots; visibility 1-1/4 statute miles (sm) in light snow; sky overcast at 1,500 feet above ground level (agl); temperature -5 degrees Celsius; dew point -7 degrees Celsius; altimeter setting 29.72 inches of mercury.</p> <p>At 1235 cst: Wind 110 degrees true at 5 knots; visibility 1-1/4 sm in light snow; sky overcast at 1,500 feet agl; temperature -5 degrees Celsius; dew point -7 degrees Celsius; altimeter setting 29.72 inches of mercury.</p> <p>The closest weather reporting facility to the accident site was at the Austin Municipal Airport (KAUM), about 14.5 nm west of the accident site. The airport was equipped with an automated</p>		
FACTUAL REPORT - AVIATION Page 1a		

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: CHI08LA080	
	Occurrence Date: 02/08/2008	
	Occurrence Type: Accident	

Narrative (Continued)

weather observing system. The local weather conditions were continually broadcast and accessible using an aviation radio. The following weather conditions were reported by the AUM AWOS:

At 1256 cst: Wind 140 degrees true at 4 knots; visibility 1-1/2 sm with mist; sky overcast at 400 feet agl; temperature -3 degrees Celsius; dew point -4 degrees Celsius; altimeter setting 29.63 inches of mercury.

At 1316 cst: Wind 140 degrees true at 6 knots; visibility 1-1/2 sm with mist; sky overcast at 400 feet agl; temperature -3 degrees Celsius; dew point -4 degrees Celsius; altimeter setting 29.63 inches of mercury.

The next closest weather reporting facility was at Rochester International Airport (KRST), about 15 nm north-northeast of the accident site. The airport was equipped with an automated surface observing system (ASOS). The local weather conditions were continually broadcast and accessible on an Airport Terminal Information Service (ATIS) frequency. The following weather conditions were reported by the RST ASOS:

At 1254 cst: Wind 130 degrees true at 9 knots; visibility 2-1/2 sm with mist; sky overcast at 600 feet agl; temperature -3 degrees Celsius; dew point -5 degrees Celsius; altimeter setting 29.64 inches of mercury. The surface visibility was 3 sm.

At 1308 cst: Wind 120 degrees true at 8 knots; visibility 3 sm with mist; sky overcast at 600 feet agl; temperature -3 degrees Celsius; dew point -5 degrees Celsius; altimeter setting 29.64 inches of mercury. The surface visibility was 3 sm.

Satellite infrared imagery depicted extensive layer of low stratiform clouds over the route of flight and accident site, with cloud tops in the range of 7,000 feet msl. Satellite visible imagery depicted a low overcast layer of stratus to nimbostratus clouds over the route of flight and the accident site.

The Terminal Aerodrome Forecasts (TAF) at the departure airport and airports along the route of flight forecasted IFR conditions with low ceilings and visibilities at the time of departure and during the accident flight.

During the accident flight, there was an active advisory for IFR conditions across Wisconsin, Minnesota, and northern Iowa. The advisory warned of ceilings below 1,000 feet agl and/or visibility below 3 sm in precipitation. There was also an active advisory for moderate icing conditions below 8,000 feet msl and a freezing level at the surface. The NWS Current Icing Product indicated a 70 percent probability of icing conditions at 2,000 feet msl.

The pilot accessed the FAA Direct Users Access Terminal (DUAT) and obtained three weather briefings before departing on the accident flight. The evening before the accident, he obtained outlook and route briefings. On the morning of the accident, at 0426 cst, he obtained a low altitude weather briefing for the intended route of flight. All of the obtained weather briefings forecasted that IFR conditions would exist along the planned route.

COMMUNICATIONS

The pilot did not communicate with air traffic control (ATC) during the accident flight, nor did he file or open any form of a flight plan.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in a level, snow covered field. The airplane impacted in a nose-low, left-wing-down attitude. The debris path, from the initial impact to the main wreckage, was

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FACTUAL REPORT

AVIATION

NTSB ID: CHI08LA080

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Occurrence Type: Accident

Narrative (Continued)

approximately 300 feet long and was oriented on a 210-degree magnetic bearing. There were numerous 400-foot tall wind turbines to the south and west of the accident site. The closest wind turbine was located about 300 feet south of the main wreckage. There was no evidence that the airplane impacted any of the wind turbines during the accident flight.

The main wreckage consisted of the entire fuselage structure, empennage, right and left wings, and engine. The main cabin and aft fuselage was highly fragmented. There was no evidence of a fire. All flight control surfaces were accounted for at the accident site. Flight control cable continuity was established from each flight control surface to the cockpit. The flaps were fully retracted. There were areas of snow under the main wreckage that were stained a blue color, consistent with 100 low-lead aviation fuel. The fuel selector was positioned to draw fuel from both fuel tanks. The altimeter's Kollsman window was set to 29.76 inches of mercury.

The engine remained partially attached to the airframe. The propeller had separated from the crankshaft and both blades exhibited blade twist, spanwise bending, and chordwise scratching. The magnetos produced spark to all four wires when spun with the impulse coupling. The muffler heat shrouds were opened and contained no evidence of exhaust leakage.

Examination of the airframe, engine and propeller did not reveal any anomalies associated with a pre-impact failure or malfunction.

MEDICAL AND PATHOLOGICAL INFORMATION


On February 11, 2008, an autopsy was performed on the pilot at the Mayo Clinic in Rochester, Minnesota. The pilot's cause of death was attributed to multiple blunt force injuries sustained during the accident.

The FAA's Civil Aeromedical Institute in Oklahoma City, Oklahoma, performed toxicology tests on the pilot. No carbon monoxide or cyanide was detected in blood and no ethanol was detected in vitreous. Diphenhydramine was present in urine, but not detected in blood. Ibuprofen was detected in urine.


Diphenhydramine is an over-the-counter antihistamine with sedative effects, most commonly used to treat allergy symptoms, severe nausea, and itching. Ibuprofen is an over-the-counter anti-inflammatory drug used to treat the symptoms of arthritis, primary dysmenorrhea, fever, and as an analgesic.

Updated on Apr 16 2009 8:35AM

National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: CH108LA080			
		Occurrence Date: 02/08/2008			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used N/A	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Approach/Arrival Flow: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer CESSNA		Model/Series 140		Serial Number 14809	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Tailwheel					
Amateur Built Act? No	Number of Seats: 2	Certified Max Gross Wt.	1450 LBS	Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Teledyne Continental Motor		Model/Series: C90-12F	Rated Power: 90 HP	
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 01/2007	Time Since Last Inspection 2.6 Hours		Airframe Total Time 1970.6 Hours	
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /		ELT Operated?		ELT Aided in Locating Accident Site?	
Owner/Operator Information					
Registered Aircraft Owner Phillip Ray Edgington		Street Address 10862 Gregory Road			
		City Sanger		State TX	Zip Code 76266
Operator of Aircraft Phillip Ray Edgington		Street Address 10862 Gregory Road			
		City Sanger		State TX	Zip Code 76266
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					
<div style="text-align: center;">FACTUAL REPORT - AVIATION</div> <div style="text-align: right;">Page 2</div>					

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: CHI08LA080																																																																																											
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Name		City	State	Date of Birth	Age																																																																																								
On File		On File	On File	On File	54																																																																																								
Sex: M	Seat Occupied: Left	Occupational Pilot? Yes		Certificate Number: On File																																																																																									
Certificate(s): Airline Transport; Flight Engineer																																																																																													
Airplane Rating(s): Multi-engine Land; Single-engine Land; Single-engine Sea																																																																																													
Rotorcraft/Glider/LTA: Helicopter																																																																																													
Instrument Rating(s): Airplane; Helicopter																																																																																													
Instructor Rating(s): None																																																																																													
Current Biennial Flight Review? 12/2007																																																																																													
Medical Cert.: Class 1		Medical Cert. Status: Without Waivers/Limitations		Date of Last Medical Exam: 09/2007																																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">- Flight Time Matrix</th> <th style="width: 10%;">All A/C</th> <th style="width: 10%;">This Make and Model</th> <th style="width: 10%;">Airplane Single Engine</th> <th style="width: 10%;">Airplane Multi-Engine</th> <th style="width: 10%;">Night</th> <th style="width: 10%;">Instrument Actual</th> <th style="width: 10%;">Instrument Simulated</th> <th style="width: 10%;">Rotorcraft</th> <th style="width: 10%;">Glider</th> <th style="width: 10%;">Lighter Than Air</th> </tr> <tr><td>Total Time</td><td>21000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Pilot In Command(PIC)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Instructor</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Instruction Received</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Last 90 Days</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Last 30 Days</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Last 24 Hours</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>						- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air	Total Time	21000										Pilot In Command(PIC)											Instructor											Instruction Received											Last 90 Days											Last 30 Days											Last 24 Hours										
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Seatbelt Used? Yes		Shoulder Harness Used? Yes		Toxicology Performed? Yes																																																																																									
				Second Pilot? No																																																																																									
Flight Plan/Itinerary																																																																																													
Type of Flight Plan Filed: None																																																																																													
Departure Point		State	Airport Identifier	Departure Time	Time Zone																																																																																								
New Richmond		WI	KRNH	1211	CST																																																																																								
Destination		State	Airport Identifier																																																																																										
Oskaloosa		IA	KOOA																																																																																										
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National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: CHI08LA080																																																																																	
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KAUM	1316	CST	1234 Ft. MSL	14 NM	270 Deg. Mag.																																																																														
Sky/Lowest Cloud Condition:			Ft. AGL	Condition of Light: Day																																																																															
Lowest Ceiling: Overcast		400 Ft. AGL	Visibility: 1.5	SM	Altimeter: 29.63 "Hg																																																																														
Temperature: -3 °C	Dew Point: -4 °C	Weather Conditions at Accident Site: Instrument Conditions																																																																																	
Wind Direction: 140	Wind Speed: 6	Wind Gusts:																																																																																	
Visibility (RVR):	Ft.	Visibility (RVV)	SM																																																																																
Precip and/or Obscuration: Light - Mist																																																																																			
Accident Information																																																																																			
Aircraft Damage: Substantial		Aircraft Fire: None		Aircraft Explosion: None																																																																															
<table border="1"> <thead> <tr> <th>- Injury Summary Matrix</th> <th>Fatal</th> <th>Serious</th> <th>Minor</th> <th>None</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>First Pilot</td> <td>1</td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>Second Pilot</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Student Pilot</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Flight Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Check Pilot</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Flight Engineer</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cabin Attendants</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other Crew</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Passengers</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- TOTAL ABOARD -</td> <td>1</td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>Other Ground</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- GRAND TOTAL -</td> <td>1</td> <td></td> <td></td> <td></td> <td>1</td> </tr> </tbody> </table>						- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL	First Pilot	1				1	Second Pilot						Student Pilot						Flight Instructor						Check Pilot						Flight Engineer						Cabin Attendants						Other Crew						Passengers						- TOTAL ABOARD -	1				1	Other Ground						- GRAND TOTAL -	1				1
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL																																																																														
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 <p>National Transportation Safety Board</p> <p>FACTUAL REPORT</p> <p>AVIATION</p>	NTSB ID: CHI08LA080	
	Occurrence Date: 02/08/2008	
	Occurrence Type: Accident	
Administrative Information		
Investigator-In-Charge (IIC) Andrew T. Fox		
Additional Persons Participating in This Accident/Incident Investigation: Richard D Zellner Federal Aviation Administration - Minneapolis FSDO Minneapolis, MN		
<div>FACTUAL REPORT - AVIATION</div> <div>Page 5</div>		

National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: SEA04LA027		Aircraft Registration Number: N434SW	
		Occurrence Date: 12/15/2003		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Vansycle	State OR	Zip Code 97682	Local Time 1416	Time Zone PST	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer Erickson (Glasair)		Model/Series SHA Glasair TD		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>*** Note: NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report. ***</p> <p>On December 15, 2003, approximately 1416 Pacific standard time an Erickson SHA Glasair TD homebuilt aircraft, N434SW, registered to/operated by and being flown by an airline transport rated pilot was destroyed during collision with a pole/wires and subsequent ground impact during an unknown phase of operation approximately one nautical mile north of Vansycle, Oregon. The pilot and passenger both sustained fatal injuries. Visual meteorological conditions existed and no flight plan had been filed. The flight, which was personal, originated from Yakima, Washington, approximately 1345, and its destination was reported to be Walla Walla, Washington (refer to Chart I).</p> <p>An ear witness reported hearing an explosive sound and noted smoke in the direction of the sound. Upon investigating the location he found the aircraft heavily fragmented at the ground impact site.</p> <p>The aircraft was a single engine, homebuilt, composite, two-place plane with side-by-side seating (refer to Attachment G-I). Records maintained by the Federal Aviation Administration (FAA) showed the pilot/owner was issued a certificate of registration for the aircraft on July 31, 2000.</p> <p>The pilot had been issued an airline transport certificate with a multi-engine land rating on May 31, 1985, including commercial privileges in aircraft single-engine land. Additionally, he held type ratings in the Boeing 737, Beech 1900 and Swearingen SA-227 aircraft. A single flight log in the pilot's name was reviewed and the total flight time between the first flight logged (10/06/1966) and the last flight logged (12/11/2003) was approximately 11,212 hours. According to records maintained by the FAA he reported a total of 16,150 hours of flight experience as of the medical examination conducted on April 23, 2003, at which time he was issued a third class medical.</p> <p>The medical contained a limitation that the pilot must wear corrective lenses. It was not known whether he was in compliance with this requirement at the time of the accident. Toxicological evaluation of samples from the pilot was reported as negative (refer to attached report). Post mortem examination of the pilot was conducted by R. Stefancik, M.D., at Munselle Rhodes Funeral Home, Milton-Freewater, Oregon, on December 17, 2003.</p> <p>An inspector assigned to the FAA's Hillsboro Flight Standards District Office conducted the on site examination. The accident site was located within an area of wind turbines and an anemometer pole measuring 50 meters in height was observed to have the top portion separated and lying on the ground near wing fragments, with the aircraft approximately 1,000 feet further east-northeast and the occupants thrown clear (refer to Chart II and photographs 1 through 6). A post crash fire consumed most of the aircraft. There were no known eyewitnesses to the accident.</p> <p>The power company managing the wind turbine farm reported that Met tower number 132 stopped reporting wind information from its top anemometer approximately 1416 (refer to Attachment PC-I).</p>					
FACTUAL REPORT - AVIATION					

City

<div><div><div>TRANS PORTATION SAFETY BOARD</div><div>National Transportation Safety Board</div><div>FACTUAL REPORT</div><div>AVIATION</div></div></div>	NTSB ID: SEA04LA027	
	Occurrence Date: 12/15/2003	
	Occurrence Type: Accident	
Narrative (Continued)		
<p>The latitude and longitude of the tower was reported as 45 degrees 58.237 minutes North and 118 degrees 43.529 minutes West respectively. The FAA inspector reported the latitude and longitude of the ground impact site as 45 degrees 58.228 minutes North and 118 degrees 43.296 minutes West respectively (refer to Chart III).</p> <p>Aircraft logs and records as well as the pilot's logbook and associated paperwork were returned to the aircraft's co-owner via two-day Federal Express on June 8, 2004.</p>		
FACTUAL REPORT - AVIATION		Page 1a

National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: SEA04LA027			
		Occurrence Date: 12/15/2003			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type: Unknown					
Runway Surface Condition: Unknown					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer Erickson (Glasair)		Model/Series SHA Glasair TD		Serial Number 434	
Airworthiness Certificate(s): Experimental (Special)					
Landing Gear Type: Tailwheel					
Amateur Built Act? Yes	Number of Seats: 2	Certified Max Gross Wt.	1600 LBS	Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Lycoming	Model/Series: O-320-E3D	Rated Power: 150 HP		
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 04/2003	Time Since Last Inspection 60 Hours	Airframe Total Time 1135 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner Erickson, Verdie B.		Street Address			
		City Walla Walla	State WA	Zip Code 99362	
Operator of Aircraft Erickson, Verdie B.		Street Address			
		City Walla Walla	State WA	Zip Code 99362	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					
FACTUAL REPORT - AVIATION Page 2					

 FACTUAL REPORT AVIATION		NTSB ID: SEA04LA027	
		Occurrence Date: 12/15/2003	
		Occurrence Type: Accident	

First Pilot Information				
Name		City	State	Date of Birth
On File		On File	On File	Age
				58

Sex: M	Seat Occupied: Left	Occupational Pilot? Unknown	Certificate Number: On File
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Certificate(s):	Airline Transport; Commercial
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Airplane Rating(s):	Multi-engine Land; Single-engine Land
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Rotorcraft/Glider/LTA:	None
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Instrument Rating(s):	Airplane
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Instructor Rating(s):	None
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Current Biennial Flight Review?	01/2003
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Medical Cert.: Class 3	Medical Cert. Status: Valid Medical—w/ waivers/lim.	Date of Last Medical Exam: 04/2003
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	11212									
Pilot In Command(PIC)										
Instructor										
Instruction Received										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used?	Shoulder Harness Used?	Toxicology Performed? Yes	Second Pilot? No
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Flight Plan/Itinerary				
Type of Flight Plan Filed: None				
Departure Point		State	Airport Identifier	Departure Time
Yakima		WA	YKM	1345
Destination		State	Airport Identifier	Time Zone
Walla Walla		WA	ALW	PDT

Type of Clearance:	Unknown
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Type of Airspace:	Class G
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Weather Information	
Source of Wx Information:	
Unknown	

FACTUAL REPORT - AVIATION	Page 3
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National Transportation Safety Board FACTUAL REPORT AVIATION			NTSB ID: SEA04LA027																																																																																
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Weather Information																																																																																			
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site																																																																														
PDT	1353	PST	1497 Ft. MSL	17 NM	175 Deg. Mag.																																																																														
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Day																																																																														
Lowest Ceiling:			Ft. AGL	Visibility: 10 SM	Altimeter: 30.29 "Hg																																																																														
Temperature: 7 °C		Dew Point: -2 °C	Weather Conditions at Accident Site: Visual Conditions																																																																																
Wind Direction: 140		Wind Speed: 10		Wind Gusts:																																																																															
Visibility (RVR): Ft.		Visibility (RVV) SM																																																																																	
Precip and/or Obscuration:																																																																																			
Accident Information																																																																																			
Aircraft Damage: Destroyed			Aircraft Fire: Ground		Aircraft Explosion: None																																																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">- Injury Summary Matrix</th> <th style="width: 10%;">Fatal</th> <th style="width: 10%;">Serious</th> <th style="width: 10%;">Minor</th> <th style="width: 10%;">None</th> <th style="width: 10%;">TOTAL</th> </tr> </thead> <tbody> <tr><td>First Pilot</td><td style="text-align: center;">1</td><td></td><td></td><td></td><td style="text-align: center;">1</td></tr> <tr><td>Second Pilot</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Student Pilot</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Flight Instructor</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Check Pilot</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Flight Engineer</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Cabin Attendants</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Other Crew</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Passengers</td><td style="text-align: center;">1</td><td></td><td></td><td></td><td style="text-align: center;">1</td></tr> <tr><td>- TOTAL ABOARD -</td><td style="text-align: center;">2</td><td></td><td></td><td></td><td style="text-align: center;">2</td></tr> <tr><td>Other Ground</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>- GRAND TOTAL -</td><td style="text-align: center;">2</td><td></td><td></td><td></td><td style="text-align: center;">2</td></tr> </tbody> </table>						- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL	First Pilot	1				1	Second Pilot						Student Pilot						Flight Instructor						Check Pilot						Flight Engineer						Cabin Attendants						Other Crew						Passengers	1				1	- TOTAL ABOARD -	2				2	Other Ground						- GRAND TOTAL -	2				2
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL																																																																														
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FACTUAL REPORT - AVIATION																																																																																			


<p>National Transportation Safety Board</p> <p>FACTUAL REPORT</p> <p>AVIATION</p>	NTSB ID: SEA04LA027	
	Occurrence Date: 12/15/2003	
	Occurrence Type: Accident	
Administrative Information		
<p>Investigator-In-Charge (IIC)</p> <p>Steven A. McCreary</p>		
<p>Additional Persons Participating in This Accident/Incident Investigation:</p> <p>Tim Moon FAA FSDO Hillsboro, OR</p>		
<p>FACTUAL REPORT - AVIATION</p> <p>Page 5</p>		


National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX01FA253		Aircraft Registration Number: N25063	
		Occurrence Date: 07/20/2001		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Palm Springs	State CA	Zip Code 92262	Local Time 1901	Time Zone PDT	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer McDougal		Model/Series VERI EZE		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***</p> <p>HISTORY OF FLIGHT</p> <p>On July 20, 2001, at 1901 Pacific daylight time, an experimental McDougal VERI EZE, N25063, collided with a wind turbine in the Banning Pass area near Palm Springs, California. The owner was operating the airplane under the provisions of 14 CFR Part 91, and lent it to the pilot for the flight. The private pilot and one passenger sustained fatal injuries; the airplane was destroyed. The personal cross-country flight departed Chino, California, about 1830, en route to Palm Springs. Visual meteorological conditions prevailed, and no flight plan had been filed. The first identified point of contact (FIPC) was at 34 degrees 54.646 minutes north latitude and 116 degrees 34.893 minutes west longitude.</p> <p>PERSONNEL INFORMATION</p> <p>A review of Federal Aviation Administration (FAA) airman records revealed that the pilot held a private pilot certificate with an airplane single engine land rating. The pilot held a third-class medical certificate issued on October 5, 2000. It had the limitations that the pilot must wear corrective lenses. An examination of the pilot's logbook indicated an estimated total flight time of 350 hours. The owner stated that the pilot had about 25 hours in the VERI EZE, all in the accident airplane.</p> <p>AIRCRAFT INFORMATION</p> <p>The operator submitted a written report. He reported that the airplane was a McDougal VERI EZE, serial number MM320. He estimated a total airframe time of 150 hours. He completed the last condition inspection on July 14, 2001. The airplane accumulated about 5 hours between the inspection and the accident. The engine was a Teledyne Continental Motors O-200-A, and according to the owners statement, the serial number was 72-JAEH-A-48. Total time on the engine was 400 hours.</p> <p>METEOROLOGICAL INFORMATION</p> <p>A National Transportation Safety Board meteorologist prepared a factual report. The Surface Analysis Chart depicted a low pressure system and associated troughs with warm air east of the accident site, which indicated a thermal low. There were no frontal systems across California. The Weather Depiction Chart reported visual flight rules (VFR) conditions. The Radar Summary Chart did not depict any echoes over southern California for the time of the accident.</p>					
FACTUAL REPORT - AVIATION <div style="text-align: right;">Page 1</div>					

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: LAX01FA253	
	Occurrence Date: 07/20/2001	
	Occurrence Type: Accident	
Narrative (Continued)		
<p>The report noted that the Banning Pass commonly has turbulent conditions. Upper air soundings indicated that the wind speed was 10 knots or less through 8,000 feet.</p>		
<p>The only pilot report in the region was from the pilot of a Cessna 172 who was 3 miles west of Palm Springs at 2046 PDT. He reported moderate turbulence at 2,300 feet.</p>		
<p>The Area Forecast was for clear skies with unrestricted visibility.</p>		
<p>COMMUNICATIONS</p>		
<p>The airplane was in contact with the Palm Springs air traffic control tower. It did not report any difficulties.</p>		
<p>WRECKAGE AND IMPACT</p>		
<p>The FAA accident coordinator examined the wreckage on site. The wreckage covered an area about 200 feet wide and out to a distance of 400 feet from the FIPC. The airplane was highly fragmented, and the debris field encompassed a wind turbine and its stanchion. The right canard and elevator were not in the main debris field, and recovery personnel did not recover them with the main wreckage. A deputy sheriff found them about 1/2 mile from the main wreckage several days after the accident on a follow-up search requested by the Safety Board investigator-in-charge (IIC).</p>		
<p>MEDICAL AND PATHOLOGICAL INFORMATION</p>		
<p>The Riverside County Coroner completed an autopsy. The FAA Toxicology and Accident Research Laboratory performed toxicological testing of specimens of the pilot. They did not test for carbon monoxide or cyanide, and detected none of the listed drugs. The report contained the following results for volatiles: 15 (mg/dL, mg/hg) ethanol detected in muscle, 2 (mg/dL, mg/hg) acetaldehyde detected in muscle. The report stated that the ethanol found in this case might potentially be from postmortem ethanol formation, and not from the ingestion of ethanol.</p>		
<p>TESTS AND RESEARCH</p>		
<p>Investigators from the Safety Board, the FAA, and Scaled Composites, Inc., examined the wreckage at Eastman Aircraft, Corona, California, on August 8, 2001.</p>		
<p>The engine separated from the airframe and sustained mechanical damage. The carburetor and magnetos separated from the engine. The exhaust was crushed and buckled, but not cracked. Investigators removed the top spark plugs and inspected the interior of the cylinders with a flashlight. They did not observe any mechanical damage on the piston faces. The spark plugs did not display any mechanical damage, and were black and sooty.</p>		
<p>Investigators inspected the fuel selector valve, which separated from the airframe structure. It was about halfway to the ON position.</p>		
<p>The flight control system sustained multiple disconnects. Investigators measured the recovered pieces, and they approximated the total length of the control system. All fracture surfaces were irregular in shape. Both trim springs were stretched and deformed. The rear control stick remained connected; the recovery team did not locate the front control stick.</p>		
<p>The left wing separated into two pieces.</p>		
<p>The canard and elevator damage was not symmetrical. The left canard and elevator remained intact while most of the right canard and the entire elevator separated near the fuselage attachment</p>		
<p style="text-align: center;">FACTUAL REPORT - AVIATION</p> <p style="text-align: right;">Page 1a</p>		

National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: LAX01FA253	
	Occurrence Date: 07/20/2001	
	Occurrence Type: Accident	
Narrative (Continued)		
<p>points. All that remained of the right canard was the top skin, which had scattered patches of paint missing.</p>		
<p>ADDITIONAL INFORMATION</p>		
<p>The owner/builder reported that he and the pilot built the airplane together. They acquired pieces for the airplane from different sources, and assembled the airplane. The original inboard elevator hinges were misaligned, and they had removed them and replaced them with the current configuration. He was unsure who built the original elevator. They built the new airfoil over the old one, as indicated in the drawings that he had. He said that they added weight to the bell horn and balanced according to the specifications that they had. They obtained advice and technical suggestions from various builders of the model at their home field. They did not contact the kit manufacturer during construction.</p>		
<p>The kit manufacturer representative reported that they sell the kits with a serial number. The serial number for the airplane did not match their records. They require builders to join their association, and they maintain close contact with their builders through newsletters and a company website.</p>		
<p>The kit manufacturer designed an improvement to the elevator, which incorporated a wider chord. They recommended that owners make the change if they had not flown their airplane. The manufacturer provided a diagram; builders could physically place their piece on top of the drawing to insure that their manufactured piece conformed to the drawing. Investigators examined the accident elevator, and found that it did not conform to the kit manufacturer's instructions. It had a wider chord than specified. In a newsletter to builders, the manufacturer informed them that their airplane would be difficult or even dangerous to fly if the elevators did not have the correct cross section.</p>		
<p>The kit manufacturer repeatedly stressed the importance of the correct shape, weight, and balance of the elevators in their newsletters. On two occasions, once in 1979 and again in 1988, they noted that builders had installed balance weights in improper locations. One case noted that the builder experienced flutter. He added weight to balance a reconstructed elevator. Instead of dividing the added weight between inboard and outboard mass balance points, he placed them all on the inboard point. The manufacturer emphatically noted that this was incorrect. The articles emphasized that the balance weights should not be installed inboard. They stated that any variance of weight, stiffness, or shape from recommended design specifications should be considered dangerous, and builders should discard elevators that did not conform. The accident airplane had a large number of balance weights, and all of them were at the inboard mass balance point.</p>		
<p>The investigator-in-charge released the wreckage to the owner's representative.</p>		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div data-bbox="581 1898 932 1927">FACTUAL REPORT - AVIATION</div> <div data-bbox="1412 1898 1481 1927">Page 1b</div> </div>		

National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX01FA253			
		Occurrence Date: 07/20/2001			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer McDougall		Model/Series VERI EZE		Serial Number MM320	
Airworthiness Certificate(s): Experimental (Special)					
Landing Gear Type: Retractable - Tricycle					
Amateur Built Act? Yes	Number of Seats: 2	Certified Max Gross Wt.	1300 LBS	Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Teledyne Continental	Model/Series: O-200-A	Rated Power: 100 HP		
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 07/2001	Time Since Last Inspection 5 Hours	Airframe Total Time 150 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner MIKE McDOUGALL		Street Address			
		City TUSCON	State AZ	Zip Code 85741	
Operator of Aircraft MIKE McDOUGALL		Street Address			
		City TUSCON	State AZ	Zip Code 85741	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:		Operator Certificate:			
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					
FACTUAL REPORT - AVIATION Page 2					


 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX01FA253																																																																																													
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Name		City		State	Date of Birth																																																																																										
On File		On File		On File	Age																																																																																										
					42																																																																																										
Sex: M	Seat Occupied: Front	Occupational Pilot?		Certificate Number: On File																																																																																											
Certificate(s): Private																																																																																															
Airplane Rating(s): Single-engine Land																																																																																															
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Source of Wx information:																																																																																															
No record of briefing																																																																																															
FACTUAL REPORT - AVIATION																																																																																															

		NTSB ID: LAX01FA253	
		Occurrence Date: 07/20/2001	
		Occurrence Type: Accident	

Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
PSP	1853	PDT	477 Ft. MSL	7 NM	105 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None			Ft. AGL	Visibility: 10 SM	Altimeter: 29.70 "Hg
Temperature: 37 °C		Dew Point: 9 °C	Weather Conditions at Accident Site: Visual Conditions		
Wind Direction: 330		Wind Speed: 17		Wind Gusts:	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration: No Obscuration; No Precipitation					

Accident Information		
Aircraft Damage: Destroyed	Aircraft Fire: None	Aircraft Explosion: None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers	1				1
- TOTAL ABOARD -	2				2
Other Ground					
- GRAND TOTAL -	2				2

<div style="text-align: center;">  <p>FACTUAL REPORT AVIATION</p> </div>	NTSB ID: LAX01FA253	
	Occurrence Date: 07/20/2001	
	Occurrence Type: Accident	
Administrative Information		
Investigator-In-Charge (IIC) HOWARD D. PLAGENS		
Additional Persons Participating in This Accident/Incident Investigation: THEODORE I NELSON Federal Aviation Administration RIVERSIDE, CA Mike Melvill Scaled Composites Inc. Mojave, CA		
<div style="display: flex; justify-content: space-between;"> FACTUAL REPORT - AVIATION Page 5 </div>		

Cunningham, Christopher

From: Cunningham, Christopher
Sent: Thursday, September 20, 2012 5:32 PM
To: Rostofer, Donald
Subject: FW: Research: Wind Turbine Failures

Chris Cunningham

Public Utilities Commission of Ohio
Energy and Environment
Utility Specialist
(614) 466-0405
christopher.cunningham@puc.state.oh.us
PUCO.ohio.gov



This message and any response to it may constitute a public record and thus may be publicly available to anyone who requests it.

From: Schaefer, Krystina
Sent: Thursday, September 20, 2012 4:44 PM
To: Schramm, Cassandra; Neville, Conor
Cc: Cunningham, Christopher
Subject: Research: Wind Turbine Failures

Cassandra and Conor, I was wondering if you both could do a bit of quick research on open instigations into wind turbine failures...

Back in April, there was an incident with a wind turbine at the Timber Road II Wind Farm in Paulding County, Ohio. The blades on one of the turbines, which are manufactured by Vestas, broke and debris was thrown from the site. Here are a few articles on the Ohio incident:

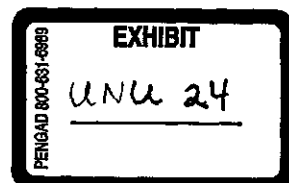
<http://urbanacitizen.com/main.asp?sectionid=3&subsectionid=5&articleid=159987>
<http://timesbulletin.com/main.asp?SubSectionID=4&ArticleID=173338&SectionID=2>

Since, the investigation into this incident is still pending and we have recently received an application to build another wind farm using the same type of turbines, I was hoping you could put together a list of open investigations into similar issues worldwide to help make sure we have appropriate reference material on the matter. If you find notable archived cases, feel free to include those too.

Let me know if you have any questions. Or, if you have any questions on the incident itself or specifics of the turbine, contact Chris Cunningham.

Many thanks!

Krystina Schaefer
Public Utilities Commission of Ohio



**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of	:	
Champaign Wind, LLC , for a Certificate	:	Case No. 12-160-EL-BGN
to Construct a Wind-Powered Electric	:	
Generating Facility in Champaign County,	:	
Ohio.	:	

**PREFILED TESTIMONY
OF
JENNIFER L. NORRIS
ON BEHALF OF THE STAFF OF
THE OHIO POWER SITING BOARD**

STAFF EX. 

November 5, 2012

1 1. Q. Please state name and business address.

2 A. My name is Jennifer L. Norris. My business address is 2045 Morse Road,
3 Columbus Ohio.

4

5 2. Q. By who are you employed?

6 A. I am employed by the Ohio Department of Natural Resources (ODNR),
7 Division of Wildlife.

8

9 3. Q. What is your present position and duties with respect to the Ohio Power
10 Siting Board (OPSB)?

11 A. I am a Wildlife Research Biologist and specifically work as the ODNR
12 Wind Energy Biologist and State Bat Biologist. ODNR is a voting member
13 of the OPSB. As the ODNR Wind Energy Biologist, I serve as a technical
14 expert to the OPSB staff for wildlife related issues on wind facility applica-
15 tions. I am the lead ODNR contact for proposed and developed wind
16 energy facilities. Using biological appropriate methods and ODNR's
17 standardized protocols for pre- and post-construction monitoring for birds
18 and bats at wind facilities, I provide guidance regarding what level of mon-
19 itoring should occur and then evaluate the results of the wildlife monitor-
20 ing. I also review wind facility applications and provide recommendations
21 with respect to the potential impacts to wildlife.

22

1 4. Q. Would you briefly state your educational background and work history?
2 A. I have a Bachelor of Science in Biology from Allegheny College,
3 Meadville, PA and a Master of Science in Fish and Wildlife Biology from
4 Arkansas Tech University. I have 15 years of experience as a wildlife
5 biologist and have worked for the State of Ohio, the U.S. Fish and Wildlife
6 Service, and universities as a researcher.
7
8 5. Q. Have you previously testified before the OPSB?
9 A. No.
10
11 6. Q. What is the purpose of your testimony in this case?
12 A. I am testifying in support of the Staff Report of Investigation, in particular
13 those issues dealing with wildlife. These issues include the developed
14 Habitat Conservation Plan (HCP) for a federal incidental take permit for the
15 federally endangered species, Indiana bat, and the standardized post-con-
16 struction monitoring used to assess the impacts of wildlife at facilities in
17 Ohio.
18
19 7. Q. Can you please describe ODNR's standardized On-Shore Bird and Bat Pre-
20 and Post- Construction Monitoring Protocol for Commercial Wind Energy
21 Facilities in Ohio?

1 A. These standardized protocols that were first developed in 2009 are used to
2 assess the perceived risks to wildlife of proposed wind facilities during pre-
3 construction and for post-construction to document the species being
4 impacted, relative numbers of birds and bats being killed, the impact of
5 weather events on wildlife mortality, and any influence on habitat features
6 within landscapes in Ohio may have on wildlife mortality patterns. Factors
7 such as the spatial distribution of mortality will guide future monitoring and
8 our efforts to assess the potential impacts within Ohio. Results from post-
9 construction monitoring will allow us to evaluate if wind facility operations
10 are causing overall unacceptable level of impact on wildlife, as well as
11 potentially rare events in Ohio. Results from post-construction monitoring
12 will enable ODNR Division of Wildlife to make recommendations on addi-
13 tional minimization or mitigation measures that can be employed, if
14 needed. The standardized protocols should be consistent among all initial
15 wind facilities in Ohio, so we can adequately assess and compare the
16 potential impacts among Ohio's facilities.

17
18 8. Q. How will Condition 26 ensure that the Applicant will be required to meet
19 these standardized protocols?

20 A. Condition 26 requires the Application to implement all conservation
21 measures and conditions outlined in the final HCP and USFWS' Incidental
22 Take Permit, including the Avian and Bat Protection Plan (ABPP) found in

1 the USFWS' draft EIS, which is subject to inclusion as an environmental
2 commitment in the USFWS' Record of Decision. The purpose of the
3 ABPP is to provide a framework on how the Applicant has or plans to
4 avoid, minimize, and mitigate the potential impacts the facility may have
5 on non-federally listed birds and bats (which could include state-listed
6 species). This condition does contemplate and allow for amendment and
7 modification to the ABPP. In the event the ABPP is modified or amended,
8 we would expect compliance with the ABPP, as amended. ODNR Division
9 of Wildlife and Staff recommend no revisions or changes to Condition 26
10 as it is currently written, to ensure that standardized protocols are followed.

11
12 9. Q. How will Condition 28 ensure that the Applicant will be required to meet
13 these standardized protocols?

14 A. Condition 28 states that the Applicant shall develop a post-construction
15 monitoring plan that is consistent with ODNR's standardized Protocol. It
16 also states that the post-construction monitoring shall occur with a sample
17 of turbines that will be searched daily for the first two years of operation.
18 This Condition strikes a balance between following ODNR's standardized
19 protocols and the life-time monitoring required in the federal incidental
20 take permit when issued as stated in the Buckeye HCP. This recommenda-
21 tion has been previously provided to the Applicant both verbally and in
22 writing during the review of the draft federal HCP for the facility. In my

1 letter (dated September 25, 2012) reviewing the HCP and relevant docu-
2 ments during the public review period, I stated, "ODNR DOW appreciates
3 Buckeye Wind LLC incorporating an ODNR DOW approved post-con-
4 struction monitoring protocol for the first 2 years of operation and includ-
5 ing a sample of turbines that are searched every day (as noted specifically
6 in the draft ABPP)." ODNR Division of Wildlife and Staff recommend no
7 revisions or changes to Condition 28 as it is currently written, to ensure that
8 standardized protocols are followed.

9
10 10. Q. Does this conclude your testimony?

11 A. Yes, it does. However, I reserve the right to submit supplemental testi-
12 mony as described herein, as new information subsequently becomes avail-
13 able or in response to positions taken by other parties.

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Prefiled Testimony of Jennifer L. Norris, submitted on behalf of the Staff of the Ohio Power Siting Board, was served via electronic mail, upon the following parties of record, this 5th day of November, 2012.

/s/ Summer J. Koladin Plantz

Summer J. Koladin Plantz
Assistant Attorney General

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In

Case No(s). 12-0160-EL-BGN

Summary: Testimony of Jennifer L. Norris submitted by Assistant Attorney General Summer J. Koladin Plantz on behalf of the Staff of the Ohio Power Siting Board. electronically filed by Kimberly L Keeton on behalf of Ohio Power Siting Board

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of	:	
Champaign Wind, LLC , for a Certificate	:	Case No. 12-160-EL-BGN
to Construct a Wind-Powered Electric	:	
Generating Facility in Champaign County,	:	
Ohio.	:	

**PREFILED TESTIMONY
OF
DONALD E. ROSTOFER
ON BEHALF OF THE STAFF OF
THE OHIO POWER SITING BOARD**

STAFF EX. 2

November 5, 2012

1 1. Q. Please state your name and business address.

2 A. My name is Donald E. Rostofer. My business address is 180 E. Broad
3 Street, Columbus, Ohio 43215-3793
4

5 2. Q. By who are you employed?

6 A. I am employed by the Public Utilities Commission of Ohio (PUCO) as a
7 Utility Specialist 2 in the Facilities, Siting & Environmental Analysis
8 Division of the PUCO's Department of Energy and Environment.
9

10 3. Q. Please summarize your educational background and work experience?

11 A. I received a Bachelor of Science degree in Natural Resource Management
12 from The Ohio State University in 1993. I also obtained an Electrical
13 Power Production Specialist Certification from the United States Air Force
14 (USAF) in 1987. Additionally, I have attended numerous training courses
15 related to environmental studies, the National Environmental Policy Act
16 (NEPA), and management, as offered by the State of Ohio, US Fish and
17 Wildlife Service, and the USAF and received various certificates.
18

19 I was employed by the USAF Reserves, 445th Civil Engineering Squadron,
20 as an electrical power production specialist and section supervisor from
21 1987 to 2003. In 1997, I started my career with the state of Ohio and was
22 employed by the Ohio Department of Natural Resources (ODNR), Division

1 of Real Estate and Land Management, Office of Coastal Management, as a
2 property agent in the Lake Erie Submerged Lands and Coastal Zone
3 Management Program. In 1998, I transferred to the ODNR, Division of
4 Natural Areas & Preserves, Scenic Rivers Section, as the Southwest Ohio
5 Scenic Rivers Manager. In 2001, I transferred to the Ohio Department of
6 Transportation, Office of Environmental Services as an environmental
7 specialist and later became an environmental supervisor. I started working
8 at the Commission and OPSB in 2009. My position includes assigned
9 duties by the Chairman of the Ohio Power Siting Board (OPSB) to
10 investigate applications filed with the OPSB and assist in pre-paring
11 reports. In executing my duties, I have specifically investigated
12 applications for seven proposed wind generation facility projects and six
13 related amendment applications and numerous electric transmission pro-
14 jects.

15
16 4. Q. Have you testified in prior proceedings before the Ohio Power Siting
17 Board?

18 A. No but I have provided prefled written testimony in the Blackfork Wind
19 Farm, LLC generating facility case (Case No. 10-2865-EL-BGN).

20
21 5. Q. What was your role in the Staff Report of Investigation for this project?

22 A. I managed the staff investigation and preparation of the staff report.

1 6. Q. What is the purpose of your testimony in this case?

2 A. On behalf of the Ohio Power Siting Board Staff, I am sponsoring the Staff
3 Report of Investigation in this case.
4

5 7. Q. What are the application procedures that OPSB Staff used to investigate
6 this proposed wind farm project?

7 A. The procedures Staff used to investigate the proposed wind farm project are
8 outlined on pages 1 & 2 of the Staff Report of Investigation for this case.
9

10 8. Q. What criteria were used by OPSB staff to evaluate this wind farm and to
11 develop the Staff Report of Investigation?

12 A. The conclusions and recommended conditions in this Staff Report of
13 Investigation were developed pursuant to the criteria set forth in
14 R.C. Section 4906.10(A). Counsel advises me that under the statute, the
15 Board shall not grant a certificate for the construction, operation, and
16 maintenance of a major utility facility, either as proposed or as modified by
17 the Board, unless it finds and determines all criteria are met. These criteria
18 can be found on page 3 of the Staff Report of Investigation.
19

20 9. Q. Did you consider basis of need in your evaluation of this wind farm pro-
21 ject?

1 A. Yes. Counsel advises me that R.C. Section 4906.10(A)(1) is not applicable
2 to this wind farm project because it is specifically for electric transmission
3 line and gas pipeline facilities.

4
5 10. Q. Why are recommended conditions provided in this Staff Report of
6 Investigation and what is their purpose in this case?

7 A. The recommended conditions of this Staff Report of Investigation are
8 products of the Staff's investigation and conclusions in this case and are
9 intended to reasonably minimize expected impacts of the project. Staff has
10 recommended 70 conditions in this Staff Report of Investigation for the
11 Board's consideration.

12
13 11. Q. Are all impacts or risks associated with construction and operation of this
14 proposed electric generating facility eliminated if all recommended condi-
15 tions are accepted by the Board and made part of a certificate.

16 A. No. Again, Staff's recommended conditions are intended to reasonably
17 minimize impacts and risk.

18
19 12. Q. On page 51 of the Staff Report of Investigation it states, "These recom-
20 mended conditions may be modified as a result of public or other input
21 received subsequent to issuance of this report." Please explain what this
22 means.

1 A. Based on the results of input from the public and others, Staff may modify
2 recommended conditions for the Board's consideration.
3
4 13. Q. After the Board issues a certificate, is Staff simply free to change condi-
5 tions that the Board has adopted?
6 A. No. Only the Board has the authority to modify or change any part of a
7 certificate, including conditions.
8
9 14. Q. What is the definition of "project area" under OAC Chapter 4906-17(B)(1)?
10 A. "Project area" means the total wind-powered electric generation facility,
11 including associated setbacks.
12
13 15. Q. What is the definition of the project area for the Buckeye II Wind Farm?
14 A. The project area for the Buckeye II Wind Farm consists of approximately
15 13,500 acres of leased private land in Goshen, Rush, Salem, Union,
16 Urbana, and Wayne townships in Champaign County, Ohio along with all
17 proposed facilities located within these leased parcels, which various
18 studies were completed to determine the proposed locations of all facilities
19 associated with this wind farm.
20
21 16. Q. What is the definition of "wind-powered electric generation facility" or
22 "wind-energy facility" or facility under OAC Chapter 4906-17(B)(2)?

1 A. “Wind-powered electric generation facility” or “wind-energy facility” or
2 facility means all the turbines, collection lines, any associated substations,
3 and all other associated equipment.
4

5 17. Q. What is the description of the Facility as it pertains to the Buckeye II Wind
6 Farm?

7 A. The Facility consists of up to 56 wind turbine generators, each with a name-
8 plate capacity rating of 1.6 to 2.5 MW (depending on the final turbine
9 model selected), and the total generating capacity of the Facility will be
10 between 89.6 to 140 MW. Therefore, no more than 56 turbines will actu-
11 ally be constructed. The Facility is expected to operate with an average
12 annual capacity factor of 30-35%, generating a total of approximately
13 235,000 to 429,000 MWh of electricity each year, depending on the final
14 turbine selected for the Facility. Figure 05-4 of the application depicts the
15 proposed Facility.
16

17 18. Q. Did OPSB Staff investigate the Vestas V100 as a proposed turbine model
18 for this wind farm project?

19 A. No. The Staff was notified by the Applicant that the Vestas V100 turbine
20 model is not under consideration by the Applicant in this case.
21

1 19. Q. You have reviewed the Applicant's prefiled written testimony, have you
2 not?

3 A. Yes.
4

5 20. Q. You note that the Applicant disagrees with a number of Staff's recom-
6 mended conditions?

7 A. Yes, I do.
8

9 21. Q. Would you care to respond?

10 A. First of all, Staff has considered Mr. Speerschneider's proposed
11 modifications and Staff agrees with some of these. Staff believes the
12 modifications proposed by the Applicant for Conditions 6, 10, 19, 20, 21,
13 22, 31, 33, and 34 are reasonable and would support Board adoption.
14

15 22. Q. You understand that the Applicant has recommended a condition concern-
16 ing Champaign Telephone Company?

17 A. Yes.
18

19 23. Q. Does Staff have an opinion regarding Applicant's proposal?

20 A. Staff has no objection to the Applicant working with Champaign Telephone
21 Company to address their concerns.
22

1 24. Q. What is Staff's position as to the balance of the Staff-proposed conditions
2 that the Applicant takes issue with?

3 A. Staff disagrees with the Applicant and will offer a more in-depth explana-
4 tion while on the stand during their direct examination.

5
6 25. Q. Does this conclude your testimony?

7 A. Yes, it does. However, I reserve the right to submit supplemental testi-
8 mony as described herein, as new information subsequently becomes avail-
9 able or in response to positions taken by other parties.

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Prefiled Testimony of Donald E. Rostofer, submitted on behalf of the Staff of the Ohio Power Siting Board, was served via electronic mail, upon the following parties of record, this 5th day of November, 2012.

/s/ Stephen A. Reilly

Stephen A. Reilly
Assistant Attorney General

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In

Case No(s). 12-0160-EL-BGN

Summary: Testimony of Donald F. Rostofer submitted by Assistant Attorney General Stephen A. Reilly on behalf of the Staff of the Ohio Power Siting Board. electronically filed by Kimberly L Keeton on behalf of Ohio Power Siting Board

BEFORE THE OHIO POWER SITING BOARD

In the Matter of the Application)
of Champaign Wind, LLC, for a)
Certificate to Construct a)
Wind-Powered Electric Generating)
Facility in Champaign County, Ohio)

Case No. 12-0160-EL-BGN

DIRECT TESTIMONY OF JOSEPH C. PICKARD

Q. What is your full name?

Joseph Conlin Pickard

Q. What professional degrees and/or certifications have you achieved?

M. A., Economics, Virginia Tech

B.A., Political Science, Loyola University Maryland

Q. What is your current position?

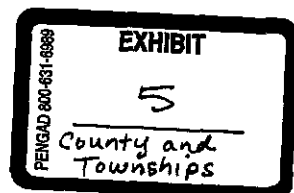
Chief Economist and Director of Commodities, Institute of Scrap Recycling Industries, Inc.

Q. How long have you been in current position?

Two years.

Q. What are some issues which may determine the salvage value of the components of a wind turbine in decommissioning?

Issues likely to impact the salvage value of a wind turbine would include the make and model of the turbine due in part to variations in size, content and design. Other issues that may affect the salvage value would include prevailing scrap market prices for the turbine component parts including but not limited to those made from iron and steel, nonferrous metals, plastics and other materials. Scrap prices in turn are influenced by a wide range of factors such as domestic and global scrap market supply and demand conditions, prices for primary materials and scrap substitutes, demand for intermediate and finished goods, and many other factors. In addition, the costs of dismantling, transporting and processing salvaged wind turbines may be significant and may offset the underlying material value.



Q. In your opinion, would an estimated price for salvage of the components of a wind turbine be a good indication of the price over a three (3) year period? Why or Why not?

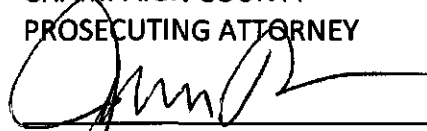
In my current position at ISRI I am strictly prohibited from making any price forecasts regarding future scrap price movements. However, as indicated, scrap market prices can and do vary significantly over time. As a result, given the current levels of commodity and scrap price volatility, current market values may not be accurate indicators of future scrap prices or salvage values.

Q. How volatile or stable are salvage values in general?

To the extent that the salvage values are determined in part by the scrap market prices of the components, those values can and do vary significantly over time. As an example, according to historical scrap price data from published sources such as *American Metal Market*, average annual prices for certain grades of scrap metal have varied by as much as plus or minus 40-60% per annum in recent years.

Respectfully submitted,

NICK A. SELVAGGIO
CHAMPAIGN COUNTY
PROSECUTING ATTORNEY

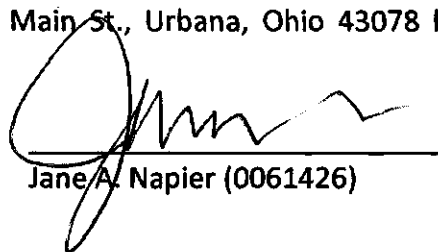


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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing was sent to Miranda R. Leppla, Esq., Vorys, Sater, Seymour & Pease, 52 East Gay Street, P.O. Box 008, Columbus, Ohio 43216-1008, to Chad A. Endsley, Esq., Ohio Farm Bureau Federation, 280 N. High Street, P.O. Box 182383, Columbus, Ohio 43218-2383, to Christopher A Walker, Esq., Van Kley & Walker LLC, 137 North Main Street, Suite 316, Dayton, Ohio 45402, Stephen Reilly and Devin Parram, Assistant Attorneys General, Public Utilities Section, 180 East Broad Street, 6th Floor, Columbus, Ohio 43215-3793 and Kurt P. Helfrich, Philip B. Sineneng and Ann B. Zallocco, Thompson Hine LLP, 41 South High Street, Suite 1700, Columbus, OH 43215-6101 and to Gil S. Weithman, City of Urbana Law Director, 205 S Main St., Urbana, Ohio 43078 by electronic service, this 7th day of November, 2012.



Jane A. Napier (0061426)