

Fly Low, Fly Safe

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Wind Turbines and Aerial Application

I recently attended the Mid-States Ag Aviation Conference in Bettendorf, Iowa and the topic of wind turbines was discussed extensively. Richard S. Porter, an attorney with Hinshaw & Culbertson LLP located in Rockford, Illinois provided an overview of legal issues associated with the expansion of wind turbines throughout the Midwest. In 2005, government tax credits and other grants and subsidies were initiatives which dramatically increased the number of wind turbines that were being assembled through rural America.

There are numerous hazards, specifically to aerial applicators, which can affect the safety of an operation near wind turbines and ultimately affect the operators business as a whole. According to the NAAA Tower Policy, every recorded tower collision by an aerial applicator resulted in a fatality and there have been a total of eight accidents involving aerial applicators and towers, and an additional eighteen involved guy wires.

Such hazards include physical and visual obstacles, wake turbulence and shadow flicker.

A typical commercial wind farm has approximately 2.5 turbines per square mile and in some states like Wisconsin, there are 5–6 turbines per square mile. A radius of one half mile from the target site is commonly utilized for maneuvering between swath runs. This creates a total operations area of two square miles and approximately 10–12 turbines inside the operations area. Turbine shadow flicker occurs when the turbine is in between the sun and the viewer and the blades are perpendicular to the line between the sun and the viewer. This can lead to visual “tricks” and pilot disorientation. The layout of the wind farm, specifically where the turbines are located,

can dramatically impact the ability of the application and its associated cost. It is advised that operators discuss any layout issues with clients prior to signing any contract with a wind energy company.

Another obstacle to be aware of are MET towers. These narrow, freestanding towers are used to measure wind and climate conditions and can be constructed without warning. This can be especially dangerous if the MET tower is less than 200 feet, because they are not required to be painted or lighted. The majority of all MET towers are shorter than 200 feet.

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Wind Turbines (cont'd.)

The primary goal associated with discussing the wind turbine development in your area is to enable the farmers to have flexibility in contracts to approve exact locations of turbines. This is essential for operators to be able to continue applying to customers' fields. It is important for operators to educate their customers that ground applicators cannot respond fast enough when needed. Some suggestions are to provide educational literature to customers on the negative impacts wind turbines have and to make your position clear in your invoices: "Wind Energy Development is proliferating in our state. If you or your neighbors are contemplating a wind energy development, please contact (your business) immediately. Wind energy development may reduce or eliminate the availability of aerial crop protection services". *Ag Aviation Magazine*, May/June 2010.



In order to inform entities involved with the tower industry of the aerial application industry's concerns, the NAAA Tower Safety Guidelines were developed and suggests the following:

- Construction petitions should be provided to zoning authorities, landowners and applicators within at least ½ mile of each tower, and the regional agricultural aviation association.
- Towers should not be built on prime agricultural land in a manner that may inhibit spray.

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Generations of Successful Ag Aerial Applicators Requires Commitment and Patience

Thomas R. Summersill, Inc. has operated an aerial application service for more than 50 years in Belle Glade, Florida, and was started by my grandfather, Thomas Ray Summersill. Three generations of pilots have come from this family, all with different levels of experience.

Thomas Ray Summersill was working in the merchant marines during the 1940s when he decided to get into the crop dusting business. After a few years of being a gypsy crop duster, he ended up flying in central Florida and Georgia. He saw an opportunity in the 1950s to start his own flying service south of Lake Okeechobee, so with a 220 hp Ag-Cat, he formed Thomas R. Summersill, Inc. When Tommy Ray was flying in the 1950s, the south Florida season was only about six-to-eight weeks long. Now, with the development of the farmland and citrus groves all over south Florida, flying is year round. The progression of aircraft in that day was slow and manageable.

Back in the 40s and 50s aircraft such as the Stearman was used as a trainer for the military, and perfect for training a new breed of pilot, the crop duster. Other slow and simple airplanes were used such as a J-3 cub. Many pilots were given time to

hone their skills in aircraft like these, often flying the same plane year after year. As my father started flying, the progression of ag aircraft started to increase, including Pawnee, Brave and the favored Ag-Cat. We flew these type airplanes for 30 years. In the 80s, we started flying Air Tractors, first 600 hp 301s.



From left: Brett, Tommy and Jeff Summersill

When I started, we still had a 450 hp Ag-Cat. I flew two seasons in that, and then moved into a 600 hp Air Tractor 401 for a couple of years. Then we moved into the turbine age, a 402 and 502, and today having a 602 and an 802. I tell people that I was privileged to have that progression, flying each larger airplane for a couple years before moving on to the next. There



is much interest in getting new people into Ag aviation, but the ability for any pilot to immediately fly a large turbine powered aircraft safely is difficult and virtually impossible. There are many good pilots, but there is a difference between a good pilot and a good spray pilot. It takes time. So be patient and listen to experience.

NationAir has really helped us along the way. Other than our relationship with our aircraft dealer and maintenance shop, our ability to continue to be successful is our relationship with NationAir. Their knowledge and experience are exceptional. We are in constant contact with Pete Torell to be



advised on the complexities of the aerial application business. Time and time again, they have advised us in the right direction. With their support, we hope to continue to stay successful for a long time to come.

—Jeff Summersill

This article is an example of a wonderful succession of an aerial application business that spanned through three generations. Each father and son respectively have had to deal with how to transition from smaller to larger and more powerful and expensive turbine aircraft and still maintain a successful business model. Obviously, it was much easier in the day when the aircraft were Pawnees and Ag-Cats as a hull loss could not approach \$1,000,000. I have seen many families successfully do what the Summersills have done. I have also seen several examples where even when there was great interest by a father teaching his son the flying aspect, it did not work out.

A few of these transitions resulted in a significant accident which has caused some to quit. I believe that it takes a great deal of commitment and patience on the part of the operator and the transitioning pilot to safely learn this business whether it is a transition in a family owned business or an operator that is willing to take a new pilot under his wing. In any case, our industry needs to continue to support new, less experienced pilots in a safe manner so that this business can continue to perpetuate as many of our most experienced pilots are nearing retirement age.

—Pete Torell

Wind Turbines (cont'd.)

- Developers should inform all landowners that construction could result in land no longer being accessible to aerial applicators.
- Towers should be freestanding without guy wires and should be built in a linear pattern.
- At the end of construction, a detailed field layout should be made available to all those that work in proximity to the area.



Many state associations are actively involved with the topic. Damon Reabe of Reabe Spraying Service, Inc., Waupun, Wisconsin, has worked extensively on the topic. "My advice to aerial applicators throughout the country is to educate themselves on all the pros and cons of hosting wind power plants from the land owner's perspective," said Raebe. "Communicate what you have learned to your customers one on one. You will be doing a service to your customers by helping them become more educated negotiators when dealing with wind energy developers. Based on our experience, it is important to communicate to all customers, even if you feel wind power plant development is unlikely in your area."

—Alison Hunter



(Photos courtesy of Bill Lavender. Part of this article was supplied by AgAir Update.)

About NationAir

NationAir Aviation Insurance has been committed to the agricultural aviation industry for over 32 years.

A unique business like agricultural aviation requires specialized insurance knowledge. Liability insurance against claims alleging bodily injury, or property damage arising from normal business operations is just the beginning. There are other unique aspects of coverage required to successfully operate an agricultural aviation business.

Fortunately, NationAir has specialized in this area for decades, and understands all the details and issues related to the aerial applications business. Our experience and knowledge in this niche enable us to be effective advocates with the insurance underwriters on behalf of our agricultural aviation clients. We'll help you find the right coverage at the best rates possible, and help you review your coverage periodically to make sure it keeps up with your changing business needs.



Peter Torell
Sebastian, FL
(800) 327-2222



Greg Reba
Pittsburgh, PA
(800) 575-9505



John Worthing
Lincoln, NE
(800) 456-0248



Alison Hunter
Minneapolis, MN
(800) 456-0246