

EXPERT ANALYSIS

Making Agricultural Aviator Safety a Priority

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For the last 20 years, wind energy has become a viable and profitable source of energy. As a result, investors have turned from conventional electrical power to investing in harnessing the environment, something the federal government has encouraged by giving tax breaks and incentives to developers of wind energy projects.

As the need for renewable resources and wind energy has increased, the demand for suitable sites has also dramatically risen. Installing large wind turbines that produce electrical energy requires vast open areas of land, and farmers have discovered that selling or leasing their property to developers of wind turbines to produce energy can be extremely profitable.

The demand for suitable locations has encouraged secrecy in finding locations where profitable wind turbines can be installed. The wind energy industry recognizes that this type of “prospecting” for wind leads to developers not wanting others to know areas they are considering for their wind turbines.

As a result, developers erect meteorological towers, or METs, which measure wind output, without notifying individuals in the agricultural aviation community.

Manufacturers of METs know the towers’ locations might be concealed.¹ The METs are essentially invisible due to their steel gray appearance, which effectively results in the towers being camouflaged against the skies in agricultural areas.

These METs, which are being installed across the United States, have resulted in multiple deaths of agricultural aviators who fly into them because the towers are not marked with aviation visibility paint or warning lights, and the pilots are not notified of their locations.²

Such incidents are often chalked up to pilot error or “aggressive” flying.

The reality, however, is that agricultural pilots recognize risk far better than other aviators due to the nature of their job.

They need exquisite flying skills and abilities.

AGRICULTURAL AVIATOR’S FATAL FLIGHT

Steve Allen, owner and operator of Alexander AG Flying Service Inc., was such a pilot and was considered by the people who knew him in the agricultural industry as an elite pilot and far from a risk taker. He knew his trade, prepared for his runs and was diligent in planning his method of application. He had flown more than 26,000 accident free hours.

Bouldin Farming Co. hired Allen to drop wheat seed on the Web Tract agricultural land in Contra Costa County, Northern California, leased from Delta Wetlands Properties.³

Unbeknownst to Allen, Delta had entered into a partnership with Renewable Resources Group and Western Development and Storage to evaluate this exact area for the potential of wind generated

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power. These parties had hired Shah & Associates, doing business as PDC Corp., to erect two 60-meter METs that they purchased from manufacturer NRG Systems Inc.

Shah hired Adam Smith, an unlicensed contractor who operated Echelon Environmental Energy and installed METs throughout California, to erect the tower on Web Tract. The NRG tower came with a warning:

If installing the tall tower in an agricultural area, notify the appropriate parties and install warning devices as needed. Towers can pose a threat to low flying, crop dusting aircraft.

The landowner, farmer, developer and the installer all knew that this was an agriculture area and that low flying agricultural planes would potentially apply seed here.⁴

On Jan. 10, 2011, Allen did not know there were a number of parties “prospecting” for wind in an area where he had previously dropped seed without having to deal with the presence of a MET. He was flying an approach at the altitude of 175 feet for the aerial application of wheat seed. He struck the tower with the starboard wing of his Rockwell International S-2R “Air Tractor,” shearing the wing off, causing the plane to plummet 175 feet for three to four seconds and resulting in his death.

His widow, Karen, and surviving adult daughters, Gail Back and Angela Lucero, retained Roger A. Dreyer of Dreyer Babich Buccola Wood Campora LLP and began a detailed legal investigative and critical look into the wind industry and how it was that an unmarked and essentially invisible 60-meter tower could be installed in a designated agricultural area without alerting the pilot hired to drop seed at that exact location.

The family sued NRG, Bouldin Farming, Delta, Renewable Resources, Western Development, Shah and Echelon for their role in Allen’s death.⁵ Each defendant took the position that the incident was entirely Allen’s fault. Their employees and representatives all testified it was their view that the tower was easily observable from the ground and that Allen should have seen and avoided it. Bouldin Farming foreman Jaime Barajas knew of the MET tower, was aware that it had been erected since Allen’s previous trip to the area and admitted that he never informed Steve Allen of its existence.⁶

FAA’S TOWER HEIGHT REQUIREMENTS

The U.S. Federal Aviation Administration recognizes the danger of towers and obstructions to pilots and requires that any tower 200 hundred feet, or 61 meters, or taller be marked with orange and white aviation paint and a warning light device to give notice to pilots as they approach a tower.⁷

The 60-meter NRG tower Allen’s plane struck stands just over 197 feet tall. This tower is outfitted with a lightning rod with specific instructions as to how to attach it to the top of the tower. With the lightning rod attached, the total height of the MET is 62 meters and therefore requires obstruction warning devices. NRG provided literature with its towers detailing how the attachment of the lightning rod would make the MET pass the FAA height compliance mark.

It was established during litigation that the MET the defendants erected was higher than 200 feet and required proper warning devices to alert pilots like Allen.⁸ In their application to Contra Costa County, however, the developers represented the MET was less than 200 feet tall based upon the 60-meter height and purportedly “in compliance with FAA standards.”

The attorneys representing the Allen family discovered documentation that the developers and the installer considered the installing warning lights and orange visibility balls on the Web Tract tower.⁹ All the defendants’ representatives admitted in sworn testimony that they appreciated and acknowledged this was a designated agricultural area and it was foreseeable that agricultural aviators would be flying near the MET.¹⁰

It was further discovered that these same parties had installed another MET on Bouldin Island in San Joaquin County, which is adjacent to Contra Costa County. San Joaquin County told the

Defendants they were required to install warning light devices on the MET because that location was in an area where agricultural aviators would be flying.

The defendants recognized that San Joaquin County required them to put visibility and warning devices on their MET, whereas Contra Costa County, where the Web Tract tower was to be erected and which the defendants had told would be lower than 200 feet, did not require the defendants to do so.

The Allen family's counsel retained experts on visibility and conspicuity. Robert Post, an expert on vision and how the eye and brain work in perceiving items at high speed, testified as to the difficulty an agricultural pilot would have perceiving an unmarked NRG MET while flying and the lack of conspicuity of the tower against the background of agriculture fields and sky.

Additionally, counsel for the Allens conducted a visibility study to show what a MET, like the one involved in Allen's death, would actually look like from the vantage point of a pilot flying 125 mph. A high-resolution camera recorded the visibility study and demonstrated that these 60-meter-tall, 8-inch-wide, galvanized gray metal towers were essentially invisible to a pilot until one or two seconds before impact when it would be too late to avoid the tower while traveling at normal aviation air speed for agricultural flights.

A visibility study was then conducted to demonstrate what the MET would look like with a white strobe light. This visibility study demonstrated that the tower became visible 20 to 25 seconds before impact, giving an agricultural aviator ample time to perceive the MET and avoid contact.¹¹

FAA FLIGHT ALTITUDE REQUIREMENTS

The FAA requires planes fly above 500 feet, but there is a category of aircrafts and pilots that the agency recognizes must fly below that height in order to carry out the duties and responsibilities of their occupation.¹² Agricultural aviators are in such a category because by definition they must fly below 500 feet.

In the Allen family's case, the defendants claimed Steve Allen should not have been flying below 200 feet at the time he struck the tower. They said he should have stayed above 500 feet and surveyed the area before he went to drop the wheat seed. The incident was his fault because he conducted his survey below 200 feet, they said.

The visibility study showed, however, that from 500 feet or above, it would have been impossible to see the MET because of its color and the background of the agricultural fallow or furrowed fields. The tower blends into the surface and once again is invisible.

Agricultural aviators conduct a survey looking for obstructions and hazards that they are aware are present. No one wants to avoid obstructions more than these aviators. This is why they expect farmers will notify them of new hazards.

The Dreyer firm had multiple farmers in the area testify that it was their practice and responsibility to notify agricultural pilots of new obstructions erected in their fields.

The reality is that a MET cannot be seen and that is what has led to the deaths of multiple agricultural pilots. They do not expect to see an unmarked, 200-foot-tall tower in an agricultural area. Trying to discern an 8-inch-wide gray pole against a gray sky is essentially impossible, as the visibility studies the Dreyer firm conducted demonstrated.

NRG understands the necessity for marking these towers, as demonstrated by the warning in its brochure. The company manufactures and sells towers with alternating aviation orange and white paint and visibility balls and markets these towers with strobe and red light devices to warn air traffic.

WEB TRACT WIND STUDY INACTIVE

During litigation in the Allen family's suit discovered that the MET's electronic sensors, which provided the wind flow data to the developers on Web Tract, had ceased to function months prior to Steve Allen's death.

Pilot Stephen Allen did not know there were a number of parties "prospecting" for wind in an area where he had previously dropped seed.

The defendants testified the tower was easily observable from the ground and that the pilot should have seen and avoided it.

Additionally, the developers and the installer had had numerous conversations concerning the need to remove the tower because the one-year permit Contra Costa County issued had lapsed and the tower was not providing electronic data. Instead of incurring the expense to remove it, the developers let it remain in the agricultural area useless and invisible to Allen.

When counsel for the Allen family asked why the MET was not removed, the defendants did not give an explanation. Renewable Resources' and Delta's representatives could not articulate a response when asked why they had not provided warnings to the agricultural aviators.¹³

Bouldin Farming foreman Barajas testified that no one affiliated with the developers had informed him or instructed him to notify agricultural aviators of this danger, nor did anyone provide him with NRG's warnings that specifically stated the need to warn agricultural pilots.¹⁴ The foreman had no aviation experience and less than a high school education.

Renewable Resources, a Los Angeles-based alternative energy business that invests in and develops alternative energy products, was the driving force behind the Delta Wetlands wind project. Renewable Resources was not a contractor and did not have a contractor's license. It had done other wind energy developments but the company's representatives, when deposed, acknowledged that they had never done any investigation or research into the hazards or dangers associated with the installation of the MET.¹⁵

Renewable Resources was responsible for providing information to counties and obtaining the necessary permits for the MET as well as its twin in San Joaquin County. When confronted in deposition with the dangers and the need to notify agricultural pilots of the installation of METs, Renewable Resources' representatives said they relied on the contractors and the installers to provide that information to public entities. Renewable Resources acknowledged it did not want to kill agricultural pilots but said it looked to others to provide the appropriate warnings.

When confronted in deposition with its own literature that showed its misrepresentations to Contra Costa County regarding the MET's height and its decision to not put warning lights or visibility balls on the subject tower, the company offered no explanation.¹⁶

MET DANGERS FOR PILOTS

The reality of the situation is that with the promulgation of wind energy, agricultural pilots are at risk. The safety of these pilots has to be a priority, and the responsibility for warning them needs to be with those individuals who are profiting from the development of wind energy.

The defendants in the Allen family's case hid behind the FAA requirement that pilots are to fly above 500 feet and the FAA regulation that towers under 200 feet did not require warning devices.

This defense and attempt to avoid responsibility is, unfortunately, made viable by the federal government not requiring warning devices being placed on METs in agricultural areas. Installers are also ignoring the fact that the height of these 60-meter towers passes the FAA's 200-foot mark with the installation of the lightning rods.

The installer of the MET in Web Tract claimed the lightning rod was not an "appurtenant," or part of the tower, and therefore did not need to be included in the calculation of the tower's overall height.¹⁷

These types of excuses and rationalizations underscore what agricultural pilots are facing when corporate America, in its effort to turn profits from selling wind-generated power, is not willing to take the simple and inexpensive steps of protecting agricultural aviators by providing warning devices on METs as well as providing the agricultural aviation community written notices of installation of these "widow-makers."

Following her husband's death, Karen Allen did more than just hire the Dreyer Babich Buccola Wood Campora LLP law firm, she attempted to get legislation passed in different states across the country to protect other "crop dusters" from being subjected to the dangers caused by METs and developers' refusal to provide warnings and notifications of their existence.

In particular, she played a large role in California Assembly Bill 511, which the Legislature passed and Gov. Jerry G. Brown Jr. signed in August 2012. That statute modified Cal. Pub. Util. Code § 21417 and required METs over 50 feet tall and less than 200 feet to be marked with aviation orange and white paint and have visibility balls placed on the cables and orange bands placed on support cables to alert agricultural aviators. The statute also recommended marking the towers with warning lights.

Because of Allen's efforts, Colorado passed similar legislation, HB 14-1216, which Gov. John Hickenlooper signed in 2014.

The National Agricultural Aviation Association recognized Allen for her efforts on the part of agricultural pilots and awarded her its outstanding service award in 2014.

DEFENDANTS SETTLE WITH ALLEN FAMILY

The litigation the Allen family filed over the wrongful death of Steve Allen took nearly three years and hundreds of thousands of dollars to prosecute. The matter was ultimately set for trial for Oct. 6, 2014, in Contra Costa County. In the weeks leading up to the trial, both sides deposed multiple expert witnesses regarding the issue of safety and the responsibility of the parties involved with this tragic incident.

The defendants changed their position from blaming Allen for his own death and offering the plaintiffs nothing, to recognizing their exposure to a potential large verdict against them for their failure to do the appropriate and responsible things to protect Allen and other agricultural aviators.

Four days before the case was set to start jury selection, the defendants made a global offer to Karen Allen, Back and Lucero that resulted in a \$6.7 million settlement.¹⁸ This is believed to be the largest settlement for a wrongful-death action involving an agricultural aviator striking a MET.

CONCLUSION

Certainly no amount of money will ever compensate Karen Allen for the loss of her husband or Back and Lucero for the loss of their father. The true value of their effort in retaining counsel and using the civil justice system to prosecute this case was putting the entities that are engaged in the wind industry on notice that they will be held responsible for failing to take the necessary steps to protect agricultural aviators.

As a result of this litigation and the parties that were involved, measures are now being taken to protect these pilots from METs. Litigation of this nature exemplifies the importance of the civil justice system in holding corporate America responsible for its conduct in making certain that making money is not put above saving lives.

Steve Allen's death was tragic and completely avoidable. It would never have happened if the defendants took the appropriate steps instead of attempting to conceal the very existence of the MET. His death has driven change in the industry and legislation, but the efforts to protect and save agricultural pilots is far from complete.

Until laws are passed in agricultural states protecting pilots from METs, as well as amendments to the Code of Federal Regulations to require warnings and advisories of the existence of METs lower than 200 feet, pilots are still at risk.

Manufacturers of METs, developers and landowners have been put on notice by the Allen family's case of their potential exposure to substantial civil jury verdicts if they do not take the proper precautions to ensure the safety of agricultural pilots. Unfortunately, it is that financial exposure that drives safety and change. While it is too late for Steve Allen, hopefully the actions of his family will save other agricultural pilots from his fate.

NOTES

¹ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Oct. 29, 2013) (testimony of Robert Clay, NRG Systems Inc.); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Oct. 30, 2013) (testimony of Julia Austin, NRG Systems Inc.).

² According to the National Agricultural Aviation Association, there were 12 tower strikes resulting in five fatalities from 2005 to 2014. These tower strikes have taken place in Arkansas, Arizona, California, Florida, Iowa, Kansas, Louisiana, Mississippi and Texas.

³ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Nov. 21, 2013) (deposition of Jaime Barajas, Bouldin Farming).

⁴ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 8, 2013) (testimony of John Winther, Bouldin Farming Co.); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 3, 2013) (testimony of David Forkel, Delta Wetlands Properties); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 2, 2013) (testimony of Frederick Stephens, Delta Wetlands Properties); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Feb. 18, 2014) (testimony of Jacob Ari Swiller, Renewable Resources Group).

⁵ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880, *complaint filed* (Cal. Super. Ct., Contra Costa Cty. Mar. 26, 2012).

⁶ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Nov. 21, 2013) (deposition of Jaime Barajas, Bouldin Farming).

⁷ 14 C.F.R. § 77; U.S. Dep't of Transp. FAA Advisory Circular AC70/7460-1K Chapter 2, Item 20, available at http://www.faa.gov/documentlibrary/media/advisory_circular/ac%2070%207460-1k.pdf.

⁸ Appendix G from NRG brochure for 60-meter METs.

⁹ Kelsey Fischer of Dreyer Babich Buccola Wood Campora LLP and Stanley Fleshman formerly of Dreyer Babich Buccola Wood Campora LLP worked with Dreyer throughout the litigation. Fleshman unearthed handwritten documents of conversations between representatives of Renewable Resources and Shah and other key documents.

¹⁰ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 8, 2013) (testimony of John Winther, Bouldin Farming Co.); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 3, 2013) (testimony of David Forkel, Delta Wetlands Properties); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. July 2, 2013) (testimony of Frederick Stephens, Delta Wetlands Properties); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Feb. 18, 2014) (testimony of Jacob Ari Swiller, Renewable Resources Group).

¹¹ The visibility studies were conducted by Paul Kayfetz Inc.

¹² 14 C.F.R. § 137.49.

¹³ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. May 28, 2014) (testimony of Michael Kaschak, Renewable Resources Group).

¹⁴ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Nov. 21, 2013) (deposition of Jaime Barajas, Bouldin Farming).

¹⁵ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Feb. 18, 2014) (deposition of Jacob Ari Swiller, Renewable Resources Group); *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. May 29, 2014) (deposition of Cole Frates, Renewable Resources Group).

¹⁶ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. May 28, 2014) (testimony of Michael Kaschak, Renewable Resources Group).

¹⁷ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880 (Cal. Super. Ct., Contra Costa Cty. Apr. 19, 2013) (deposition of Adam Smith, Echelon Environmental Energy).

¹⁸ *Allen et al. v. NRG Sys. et al.*, No. MSC12-00880, *notice of settlement filed* (Cal. Super. Ct., Contra Costa Cty. Sept. 8, 2014).



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