

# Wind learns to cope with safety crackdown

An influx of federal cash has helped trigger closer scrutiny of the US wind sector's safety practices. As a result, this relatively young industry has to educate regulators about its needs while learning from other industries how to deal with safety problems, finds [Mark Anderson](#)



**Hanging on a string**  
Safety is an essential consideration when being suspending from a wind turbine

With government aid comes government scrutiny. Wind already faced a crackdown on safety practices triggered by the collapse of two construction cranes in New York City in 2008 (see box, page 84). The keener gaze from the regulators is supported by the Barack Obama administration, which is eager to ensure that its federal dollars do not end up in the hands of unsafe businesses.

Although the US Department of Labor's Occupational Safety and Health Administration (Osha) has been busy growing its ranks and gathering information as it casts an increasingly watchful eye on the safety practices of an industry still in adolescence, it has no standards specific to wind power. Instead it relies on long-established regulations aimed broadly at manufacturing, construction and traditional power plants. These are a blunt tool for dealing with the peculiar safety regime faced by wind developers — the only type of plant that regularly operates lattice cranes in unusually windy places. And wind is unique in welcoming companies staffed with

inexperienced employees and asking them to work in confined spaces atop 80-metre poles.

The situation is made even more challenging by the fact that Osha is under new leadership, has ten regional offices and has to deal with 22 states that each have their separate, largely autonomous rule-making bodies, while the remaining 38 states follow federal policy. This fragmented organisation now faces the daunting task of examining wind in addition to other renewable energy sectors and the many old-guard industries it has regulated since it was founded in 1970. The agency recently requested contact information for all US wind projects from the American Wind Energy Association (AWEA). Osha is getting ready to deal with wind.

"Osha is showing more interest," says Gary LeMoine, US health and safety director at Spanish energy company Iberdrola Renewables and a member of AWEA's safety steering committee. "They still want to get a lot more engaged with the wind industry. They basically told us they want to form an alliance."

That alliance should help Osha better understand wind's complexities. The information from AWEA will be crucial as

Osha steps up its operations in the wind sector: It plans to send more inspectors into the field, develop an industry-wide survey of injury reports, oversee basic training courses and revise crane-safety regulations.

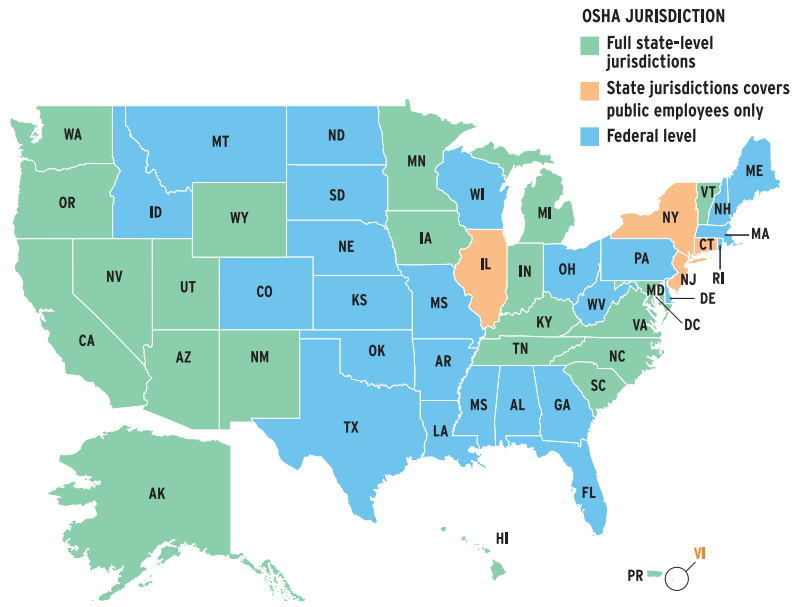
"Overall, there's an increased level of enforcement," says Steve Yohay, an attorney at Ogletree Deakins, which represents employers in federal and state Osha investigations. Obama's American Recovery and Reinvestment Act opened the door to grants and incentives for green economic development. But Yohay says: "The recovery act legislation came with a direction for Osha to follow the money and pay attention to projects, not just in the wind industry but also in construction."

### Relationship building

A year ago, AWEA hired its first manager of safety policy, Michele Myers, to help the wind industry come together and accelerate its relationship with Osha. "Osha does have money in the budget to hire more inspectors," Myers says. "And they are starting that process, along with more regulators, meaning more people to write Osha regulations."

Myers, a former safety director for the Associated General Contractors of America, co-ordinates more than half a dozen active AWEA safety committees, which have 400 members in total from across the wind sector's many factions as part of an ongoing effort to assist Osha in shaping policy. "We are meeting with Osha and trying to educate them about wind," Myers says. "We can be a resource for them when they are writing or revising any regulations. Whether you're trying to be extra stringent about the safety initiatives or extra stringent about the business initiatives, there has to be a middle ground."

Yohay is among many who are convinced that, regardless of any outcome, the result will inevitably mean an increasingly active approach for Osha as the Obama administration raises the bar on safety. "The wind industry — as is true of many others — enjoyed the relatively benign approach of the prior administration," Yohay says. "And I think many managers don't yet believe it when they're told Osha could come and create quite



a lot of problems for them."

Companies need to realise the difference between managing for safety and managing for Osha compliance, adds Yohay. This means that, as well as providing training and adopting exemplary safety practices, they also need to painstakingly document policies and procedures. "Let's say you've had a major accident and the compliance officer comes out," Yohay says. "He'll say: 'Show me your confined-space programme. Show me this and show me that.'"

Any such concerns are unlikely to be allayed by the existence of the 22 state-run Osha enforcement mechanisms, which are generally considered more stringent than federal supervision. "It's really a patchwork," Yohay says. "You're only talking about maybe 60% of the country where federal Osha has actual enforcement jurisdiction. It's pretty complicated stuff."

There is a simple reason why the UK, for example, has been able to make headway on a set of consistent standards and common protocols for wind construction and operations. Scale is key. "It's easier in the UK because it's smaller," says Kevin Devlin, operations vice-president at Iberdrola. "Obviously, AWEA has got a much bigger area to cover and a lot more different policies and standards across the US. You're trying to herd a lot of cats here to try and get everybody together."

### Cross-sector experience

Devlin believes traditional industries remain ahead of wind regarding overall safety protocol. "I came out of [oil giant] Exxon," he says. "So I was immersed in safety when I first joined that company. I think that we're well behind the oil industry in terms of the standards that we enforce. We also have growing pains in an industry that's growing very fast. It would be wrong to characterise wind as an unsafe industry. But I think it would be right to characterise it as an industry with inconsistent standards. There's been good progress, but you can never go fast enough on this stuff."

Indeed, much of wind's improvement in the safety field comes from an influx of professionals from other mainstream industries. "Maybe they were in the oil

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**Be prepared** Iberdrola rescue training exercise at the Big Horn wind farm in Washington





**Weight lifting**  
Removal of one of four generators in a Clipper 2.5 MW turbine via an onboard jib crane

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industry before or the chemical industry, or other types of construction,” says LeMoine. “They know what they’re doing and so they can apply those programmes they’ve seen at other places to our companies.”

Craig Christenson, a vice-president at US turbine maker Clipper, also views the cross-industry trend as a significant development. Christenson, an engineer with 15 years’ experience in wind, spent five of them with GE Energy.

“I learned a lot from that environment about the role of product safety and the focus on product safety,” he says. “The entry into this industry by companies like General Electric, Siemens, BP or one of our new partners — United Technologies — is helping this industry evolve. We have taken it out of that niche-type of cottage industry and into the mainstream.”

Outside observers seem to agree. “We went through a phase when wind became very popular, about four years ago, where employees were getting hurt at a rate [that was out of proportion to the rate of] construction,” says Lary Wehr, senior construction consultant at insurance giant Zurich. “But I’ve seen the trend go away. And I think that was because of education.” Wehr adds that if the industry concentrates on safety it will save money in the long run. “We look for contractors who have good procedures in place, good policies and good practice in the field,” he says. “The better the safety, the better the premiums these companies will get down the road.”

For its part, Osha acknowledges that it is gathering information on the wind industry but declines to make any further comment.

Still, as Osha’s onward march towards wind accelerates, the industry continues to grow and its understanding of good safety practice grows with it. But many months — if not years — are likely to pass before the alliance between Osha and AWEA produces tangible results. For the most part, though, the wind industry seems confident of addressing its own safety problems as it moves forward.

“The expertise is building up faster, the companies are getting better quicker, the manufacturers are getting more responsive,” says LeMoine. “I think the Osha people are well meaning; they have a right to inspect us. So we’d better get ready.” ■■

## UNIQUE CHALLENGES TO CONSIDER GREAT HEIGHTS, EXTREME WEATHER AND REMOTE LOCATIONS

For two decades and counting, the US wind industry has mostly managed to keep itself a step or two ahead of safety inspectors through a combination of good intentions and innovative thinking.

That largely proactive, if scattershot, approach has produced an anecdotally safe industry. But the journey has not been easy. The industry’s transportation distances, weather extremes, wide variety of disciplines and many obvious risks do not easily compare to other sectors. And wind’s unique safety environment is often overlooked.

Not long after two New York City construction cranes collapsed in 2008, the US Department of Labor’s Occupational Safety and Health Administration (Osha) began the arduous process of creating a new standard for cranes. More than a year after the hearings began —

followed by a 1200-page draft and a lengthy comment period — the final results are due soon but will contain nothing specific to wind.

“Osha has told us that their top priority is to get that new standard out,” says Gary LeMoine, health and safety director at energy company Iberdrola Renewables. “We want to make sure that the regulations take us into account. It’s a huge document that talks about different approaches to crane safety — training of operators, crane inspections, teardowns, putting them together.”

LeMoine, who is also an award-winning safety liaison to the American Wind Energy

Association (AWEA), says the process has provided an opportunity to show Osha exactly how cranes are used throughout the industry. “Cranes are so critical to building a wind plant,” he says. “And there are lots of safety rules, but sometimes they don’t get you to the end that you want. It’s hard to write a one-size-fits-all rule. And that’s one reason that those draft regulations and its comments were so long.”

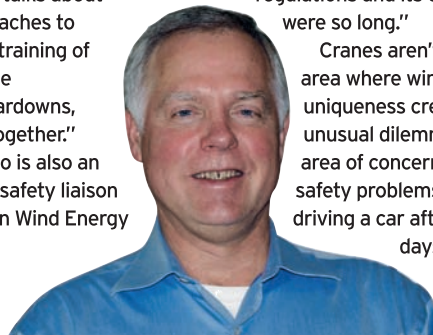
Cranes aren’t the only area where wind’s uniqueness creates an unusual dilemma. Another area of concern is potential safety problems caused by driving a car after 12-hour days and six- or seven-day weeks. “A lot of

these wind plants, the nearest place to live might be 50 miles away,” says LeMoine.

“Oh, and it’s snowy and cold and icy, or it’s dust storms, or — well, you name it,” he says. “One thing we probably emphasise more than anything else, especially on construction, is driving safety. And we still have incidents.”

Such concerns aside, the industry has come a long way in less than 20 years. Mid-1990s turbines were 200-500kW with exposed components and barely room to crawl. Simply shrouding rotating shafts and covering electrical gadgetry was a big step forward.

“We’re talking about literally only a few hundred dollars added to the purchase price on modern machines of \$2-3 million,” says Craig Christenson, a senior vice-president at US turbine manufacturer Clipper.



**Gary LeMoine**