Turbines may interfere with military radar

BY ANNE ADAMS • STAFF WRITER

MONTEREY — Tower-mounted wind powered turbines rising 400 feet over ridge tops could pose a risk for military air traffic flying over Highland County, officials say. They are waiting for the information they need to evaluate the possibility.

The military's obstruction evaluation program has not yet received information from the Federal Aviation Administration regarding Highland New Wind Development's plans for a turbine utility on Allegheny Mountain, a spokesman for the program said this week. The FAA is charged with coordinating wind facility applications with the overflight patterns of various military units.

One of the concerns the military has is whether the project could interfere with radar, both on the ground and inside a cockpit. There is some evidence turbulence caused by the turbines 100-foot blades affects radar signals and, as a result, the military has drafted guidance for its armed services to follow where wind utilities are concerned.

HNWD's project site is located within the Evers Military Operations Area, used by the Air Force for training, and very close to a military training route used by the U.S. Navy for high-speed, low-altitude mission practice.

Lt. Col. William Crowe at the Pentagon says Air Force instructors and air space managers will be encouraged to stay in close contact with local planners as wind utilities are introduced. In particular, Crowe says, the military is concerned about radar interference after a U.K. study that showed turbines could have an adverse effect. "

The Department of Defense is now doing its own study on it," Crowe said. "For long range radar, (turbines) could be picked up as false targets or could block the signal with a blind spot behind them, but we don't know yet. Radar on board low-flying aircraft look to the front and down for upcoming obstacles like ridges, so we don't know if that's a factor, too."

Crowe says whether the military approves of certain facilities also depends on optical interference, and each unit is responsible for assessing whether a project would interfere with its missions. "The question is, can we live with it? Each unit will need to determine that and, are there any other mitigations? The unit makes that decision."

For mountainous terrain, military aircraft have to remain a certain number of feet above the ground. In the Evers MOA, that is typically 1,000 feet. The guidance being drafted will help military units make decisions about how a wind energy project might affect them. They must consider flight safety, electromagnetic interference with on-board navigation, and national security "The biggest purpose is to tell our folks to get out there, meet the local planners, and talk ahead of time. We don't want to give bad information."

Crowe said military units will be encouraged to stay involved at local levels and educate the public about their flying areas.

Aside from the Evers MOA, Crowe said, wind turbines can be a real concern along military training routes. "For those, radar interference and obstacles are a real problem."

Last fall, Crowe spoke to the National Wind Coordinating Committee to explain Air Force policy. "I told them we accept any project provided it does not interfere with our training. We can fly in another area, and we've moved training routes before, but it takes a lot of time and a lot of money."

Crowe says moving an MTR can take up to three years, especially where new environmental assessments are required.

While the military has given up some air spaces it no longer uses, "We know we fly out there," he said, referring to western Highland.

John Clemens, air space manager with the 1st Fighter Wing, Langley Air Force Base, agreed. "The average MOA fly-over is 1,000 feet above ground," Clemens said. "But on those other MTRs, those planes can go a lot lower. For those guys, a 400-foot tower might be a huge problem."

Military Training Routes traverse the entire country, Clemens explained, and are owned by different military services. "If a company wants to build something (like a wind energy facility), it needs FAA approval." The FAA, he said, coordinates reviews of the project with all military services, and the units affected can comment on them.

Clemens said he was not familiar with HNWD's plans or the European radar study, and a lot depends on what kind of radar is impacted. "The Air Force would need more definitive information," he said. "If they're going to build those things, we certainly would need to know about it."

The Air Force mainly uses space over the east coast for its training, Clemens said, but when bad weather prevents training missions, it uses the MOA. "They have two to three (aircraft) in there running radar interception and doing basic flight maneuvers," he said. "But on average, we don't use it that much."

While the MOA is a defined piece of air space, Clemens said, the training routes going through it are more like "roads in the sky" and most are used for flights doing pinpoint navigation. "They use them to practice wartime scenarios like dropping bombs and for other missions."

The training route closest to HNWD's site is exactly the kind used by the Navy for high-speed flights at very low altitudes. Most residents in Highland can attest to seeing these fighters fly by at nearly eye level with ridgelines. A military official who asked not to be named said the route over Highland is considered a visual route, meaning pilots rely on seeing out the window instead of depending on their instruments to guide them, and fly lower and faster than most other routes. "I have no doubt those (turbines) will interfere with them," he said. "Any type of obstruction or additional interference is a problem and I don't know what military technicians could possibly do to mitigate it. Is it potentially dangerous? Yes."

Unlike cell towers, which can cause some interference, turbines as they spin can cause a larger atmospheric disturbance in air waves that interfere with radar.

Military officials were not at liberty to say how low these aircraft can fly on the routes, nor how often they are currently used.

Chief Mark Moon, a Navy liaison who serves as the obstruction evaluation program manager for the Eastern seaboard, says he has not seen any information on HNWD's project yet from the FAA. "I don't know how much I can divulge, but we are basically in partnership with the FAA, with all military services, so that we speak with one voice through the FAA."

Moon says according to federal law, an applicant like HNWD must submit a study showing the aeronautical effects of its project.

“We all study it, and make comments, and then it always boils down to one FAA person in that state to issue the final report. I’ve had some I’ve objected to, and some I haven’t.”

Radar interference is not under Moon’s purview, he says. “My speciality is protecting the military training routes in an area, and looking at the effects a project might have on those. If it’s a gigantic windmill (that interferes), I will strongly object if it means we can’t get quality training. But if it’s below 500 feet, it may have less of an effect.”

Ultimately, he said, the military units must decide whether they can live with the project in their training areas. “Usually it boils down to commerce. Commerce is a major thing with the FAA.”

Moon says “in the real world,” it could take the military 30 days to review information on a project from the FAA. “In the long run, if we object to it, it (the wind applicant) won’t get licensing from the (State Corporation Commission).”

He agrees moving training routes is a long process, though not overly difficult. “But it’s much easier just to cap an altitude.”

Asked how the military might consider this project, Moon said, “I can’t discuss a lot of things, but I guess you could contact the Pentagon with a Freedom of Information request. That will take several months, though.”