STATE OF VERMONT

ENVIRONMENTAL COURT

In re: State of Vermont Agency of Transportation (Caledonia County State Airport)	} } }	Docket No. 188-10-04 Vtec

Decision and Order

Appellant-Applicant State of Vermont Agency of Transportation (Vermont Agency of Transportation or "VTrans") appealed from certain conditions imposed by the Zoning Board of Adjustment (ZBA) and Planning Commission of the Town of Lyndon, in their respective grants in 2004 of conditional use approval and site plan approval for an airport location beacon proposed for the Caledonia County State Airport.

Appellant-Applicant Vermont Agency of Transportation is represented by Trevor R. Lewis, Esq.; the Town is represented by Franklin L. Kochman, Esq.; and Interested Persons Gene Arnoff, Catherine M. Boykin, Herbert DiGioia, Rita DiGioia, Carl Edwards, Lizbeth Edwards, Barbara Hill, Phyllis H. Josselyn, David A. Lussier, Steven Mitchell, Sr., James R. Tobin, Allen D. Young, Alley Young, and Bethany Young, initially appeared and represent themselves, although they did not take an active role at trial and did not file post-trial memoranda. The Court issued a decision on summary judgment in February of 2006 regarding whether the continuous nighttime[1] operation attribute of the airport location beacon at issue in this application was preempted by federal regulation.

The sole issue remaining for decision as posed by Applicant VTrans in its statement of questions (Questions 1, 2, 3, and 6) after the summary judgment decision and order was whether a condition requiring the proposed airport location beacon to be pilot-radio-

[1] Sometimes referred to as dusk-to-dawn.

controlled, on the same basis that the runway lighting is pilot-radio-controlled, interferes with the intended functional use of the airport under 24 V.S.A. §4413(a)(1).[2] The summary judgment decision had specifically stated that the "question of whether, on the merits, any such conditions should be imposed, remains to be decided after an evidentiary hearing on the application," but the Court's June 26, 2006 entry order reflects that the only issue Applicant VTrans wished to litigate is whether the radio-control condition or the shielding condition placed on the rotating airport location beacon by the Planning Commission and ZBA "interferes with the intended functional use of the airport, and therefore exceeds the municipal authority under 24 V.S.A. §4413(a)." That entry order warned the parties that, if that were the scope of the remaining statement of questions, then the Court would not be hearing evidence on the merits of whether the proposed rotating airport location beacon should be approved as proposed, that is, in the proposed location and with continuous nighttime operation (not pilot-radio-controlled. Applicant VTrans was given the opportunity to amend its statement of questions to address the merits of the application for the airport location beacon at issue in this appeal; however, it declined to do so.

An evidentiary hearing was held in this matter before Merideth Wright, Environmental Judge. The parties were given the opportunity to submit written memoranda and requests for findings. Upon consideration of the evidence and of the written memoranda and requests for findings filed by the parties, the Court finds and

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[2] The summary judgment decision in this matter determined that federal aviation law does not preempt the municipal zoning and planning authority, and hence the authority of this Court, to impose a condition requiring that a rotating-light airport location beacon be radio-controlled or that such a beacon be shielded appropriately. Applicant VTrans renewed its summary judgment arguments in its post-trial memoranda. The Court has fully reviewed its summary judgment decision as to the issue of federal preemption and declines to change it; it is hereby incorporated in this decision.

concludes as follows.

The Vermont Agency of Transportation owns a 78-acre parcel on the westerly side of Pudding Hill Road in a Commercial zoning district of the Town of Lyndon, on which it operates the Caledonia County State Airport. The property surrounding the airport is in the Rural Residential zoning district. The airport has a single runway, 3300 feet long by 60 feet wide. Seventeen private airplanes are kept at the airport. Interstate Highway 91 is a divided limited-access highway with two lanes in each direction running in a north-south direction located within a few miles of the airport.

Prior to the zoning approvals for airport lighting improvements received by Applicant VTrans in 2003, which are not at issue in the present appeal, the lighting at the airport had been insufficient to allow the FAA to authorize landings at night under instrument flight rules, that is, when poor visibility limits the visual information available to pilots for navigation. The runway lights were too dim, and the airport lacked hazard beacons and obstruction lights. It is important to understand at the outset that all of these lighting systems are distinct from the airport location beacon at issue in the present appeal, and that the necessary improvements to all of these lighting systems were approved in 2003.

In September of 2003, the Planning Commission and the ZBA granted site plan and conditional use approval to Applicant VTrans' applications for upgraded runway lighting, obstruction lights, and hazard beacons. The Planning Commission and ZBA approved the pilot-activated[3] medium-intensity runway lighting system, a medium-intensity taxiway lighting system, a runway end identification lighting system, two runway precision

[3] The runway lighting is activated by a radio signal from the pilot, and remains illuminated for twenty minutes.

approach path indicators, five obstruction lights, and a new wind sock, all to be located on the airport property. In addition, at three locations off the airport property in the area surrounding the airport, features in the landscape encroach into the airspace 250 feet above the airport, an area within which pilots expect to be able to fly safely. The 2003 Planning Commission and ZBA decisions approved fixed-bulb hazard beacons, two each on seventy-foot-tall towers and one on an eighty-foot-tall tower, at these three locations. All three locations are on private land in the Rural Residential zoning district surrounding the airport.

As distinct from a hazard beacon, an airport location beacon is simply an aid to the orientation of pilots that an airport is located somewhere in the vicinity within a 5,000-foot radius (just under a mile) of the beacon's location. Pilots use airport location beacons as well as other landscape features, such as permanent hazard beacons, lit radio or telecommunication towers, the lights of a town or city, or the lights of automobiles on a highway, to orient themselves in the landscape during a night flight, having prepared the trip in advance by examining the maps on which these features are displayed. The maps used by pilots to prepare their flights show all such features, and indicate their location; the maps show the elevation and height above ground of certain obstructions and their lighting. Notes on the maps and in an associated Airport/Facility Directory referred to in the map legend give details involving airport lighting, navigation aids, and services, including information as to whether such features are lit, blinking, pilot-activated, or in any way non-standard.

An airport location beacon need not be located at the airport or on airport property; indeed, the one that was proposed in 2003 (see below) was proposed to be located more than 4000 feet from the airport property. An airport location beacon is a beacon visible from the air at night from approximately nine miles away (at the typical altitude of 10,000 feet at which general aviation aircraft using this airport typically fly) to identify the general

vicinity of the airport on the ground. An airport location beacon is not required by the FAA regulations if an airport does not require FAA certification, as smaller airports such as the Caledonia County State Airport do not.

In its 2003 application, Applicant VTrans had proposed that the beacon on the taller tower off the airport property should be a rotating-light (that is, a 'blinking' light) airport location beacon, proposed to be lit continuously from dusk to dawn, controlled by a light sensor. The Planning Commission and ZBA disapproved the rotating-light airport location beacon to be installed on the neighboring property,[4] but allowed a third hazard beacon to be placed at that third location instead. In denying conditional use approval, the ZBA concluded that it would have "an adverse impact on the rural character of the surrounding area due to aesthetic reasons, and due to the intrusion of the light onto properties and into people's homes." In denying site plan approval, the Planning Commission concluded that "the site plan did not provide adequate screening or landscaping to the rotating beacon to achieve maximum compatibility with the protection of adjacent property."

No party appealed the September 2003 Planning Commission or ZBA decisions; therefore they became final and cannot now be challenged, either directly or indirectly. 24 V.S.A. §4472; City of South Burlington v. Dep't of Corrections, 171 Vt. 587, 588-89 (2000) (mem.).

Applicant VTrans does not propose to improve the airport to the point of serving

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[4] If a rotating-light airport beacon is installed at an airport, it must meet certain specifications to distinguish, for example, civilian airports from military airports. Specifications for airport location beacons, covering their flash rate, duration, color, light intensity and angle of visibility, are provided in Advisory Circular 150/5345-12E. The airport location beacon proposed for the Caledonia County State Airport would rotate at a rate of twenty-four times per minute, making twelve white flashes alternating with twelve green flashes per minute. 14 C.F.R. § 139.311(c)(3).

passenger-carrying operations at a level requiring certification[5] by the FAA. Rather, as stated in its post-hearing memorandum, Applicant VTrans seeks to upgrade the lighting system at the airport "to obtain FAA authorization for nighttime instrument approach landings," and also to "broaden the functionality of the airport so as to serve a greater role for emergency preparedness, medical response, and similar mission-sensitive[6] purposes" for which aircraft may need to use the airport under less than ideal weather and flying conditions. The Court understands these purposes to be the intended functional use of this airport. The improvements to the lighting systems already approved in 2003, including the pilot-activated runway lights, would qualify the airport for nighttime or other instrument approach landings, and would allow medical evacuation, search-and-rescue and other similar use of the airport by aircraft able to use this length of runway.

As discussed fully in the summary judgment decision, not only is an airport location

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[5] The Caledonia County State Airport does not serve passenger-carrying operations at a level requiring certification by the Federal Aviation Administration (FAA). 14 C.F.R. Part 139. Airports must receive FAA certification only if they either serve scheduled passenger-carrying operations of an air carrier operating aircraft designed for more than nine passenger seats, 14 C.F.R. §139.1(a)(1), or if they serve unscheduled passenger-carrying operations of an air carrier operating aircraft designed for at least thirty-one passenger seats, 14 C.F.R. §139.1(a)(2).

[6] At trial the Applicant VTrans witnesses did not specify such purposes, although they alluded to the proximity of this airport with the Canadian border. To the extent that these unspecified purposes involve homeland security or drug interdiction purposes related to the proximity of this airport approximately 30 miles from the Canadian border, no evidence was presented to show that an airport location beacon would benefit those carrying out the law enforcement functions over those seeking a small rural airport near the border at which to land unobtrusively. No suggestion was made that any law enforcement personnel are proposed to be stationed at the airport to intercept such landings. More importantly, no evidence was presented of any special federal or state requirements imposed by statute or regulation on small rural airports within any particular distance of the Canadian border.

beacon not required for this airport (after its other improvements) by the federal FAA in its regulatory capacity, but an airport location beacon is not required by the regulations governing the FAA in its capacity as making grants to states for airport improvements under the Airport and Airway Improvement Act. Indeed, the Advisory Circular on airport location beacons was deleted from the list of Advisory Circulars that are a condition of federal funding.[7]

On July 7, 2004, Applicant VTrans filed the present application for site plan and conditional use approval for a dusk-to-dawn[8] rotating-light airport location beacon approximately a quarter-mile from the location of the previous proposal and on a shorter tower on the Caledonia County State Airport property itself. It is proposed to be located eight hundred feet southerly of the existing hanger, on a 34.5-foot tower, shielded to the northwest where its light was expected to intercept the terrain, and set at the maximum allowed angle of 12 degrees (to minimize its effect on ground-based structures). It is this

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[7] To the extent that the FAA granting authority may continue to make it a condition of certain grant contracts (referred to at trial as 'grant assurances'), Applicant VTrans was willing to construct the other approved improvements without constructing an airport location beacon at all, or with the pilot-activation condition, if the FAA would waive this condition of the grant funding for the other approved improvements.

[8] It is also proposed to be illuminated during the daytime when visibility is less than three miles or the cloud ceiling is less than one thousand feet. The Town and the other parties do not oppose this daytime, poor-visibility continuously-operating blinking light, they only oppose the nighttime continuously-operating blinking light. As the parties do not oppose having the airport location beacon operating continuously (that is, not pilot-activated) in the daytime during poor weather conditions, the occurrence of any daytime accidents are not probative of any issues in this case. The only accidents at the Caledonia County State Airport are the four that have occurred in daytime hours, including a fatal accident in 1980 in which the pilot landed off the runway and should not have attempted the landing due to the inadequate visibility..

application alone that is before the Court in the present appeal.

The Planning Commission and ZBA both ruled that the 2004 application was sufficiently different from the 2003 application to be considered as a successive application. In re Armitage, 2006 VT 113. During the 2004 application proceedings Applicant VTrans conducted a demonstration for the municipal board members and neighboring landowners of the rotating airport location beacon at night, at a height of approximately twenty-seven feet and located on top of the hangar, that is, about eight hundred feet northerly of its actual proposed location. The demonstration beacon was shielded to the northwest.

In the 2004 decisions before the Court in the present appeal, the ZBA and Planning Commission approved the application for the rotating airport location beacon on a 34.5-foot tower on the airport property, but imposed additional conditions requiring that the rotating-light airport location beacon be shielded to the east as well as to the northwest, and that the beacon be pilot-activated by radio control and shut off within twenty minutes of activation, in the same manner as the runway lighting system.

It is particularly important to note that Applicant VTrans did not avail itself of the opportunity to raise de novo to the Court the merits of whether the proposed continuous nighttime airport location beacon should be approved in its proposed location. As Applicant VTrans' appeal was de novo, the Court's task would have been to apply the substantive standards that were applicable before the tribunals appealed from, 10 V.S.A. §8504(h), to evaluate the proposed airport location beacon in the newly proposed location. The Court would have had to determine whether it would adversely affect "the character of the area affected" under the conditional use standards, Zoning Bylaws §4.2.2.2 , and, with regard to the site plan for the airport improvements, to determine the "adequacy of landscaping, screening and setbacks in regard to achieving maximum compatibility with and protection of adjacent property." Zoning Bylaws §9.1.5.3.

The "character of the area," in turn, is "defined by the purpose or purposes of the

zoning district within which the project is located and [by the] specifically stated policies and standards of the municipal plan." 24 V.S.A. §4414(3)(A)(ii). As Applicant VTrans declined to put the merits of the proposed airport location beacon before the Court, we cannot determine whether it would have been approved as a continuously-operating nighttime beacon under this standard, as it was proposed to be located on property within the zoning district zoned for airport purposes, nor can the Court determine whether the policies and standards of the municipal plan would have supported that airport-related use in that location. Nor did Applicant VTrans conduct a demonstration for the Court in its de novo role in this appeal. Similarly as Applicant VTrans declined to put the merits of the site plan for its airport location beacon before the Court, the Court does not have before it whether its proposed location and screening achieved the maximum compatibility with and protection of adjacent property. That is, Applicant VTrans did not apply to the Court for approval of the airport location beacon without the pilot radio control condition to which Applicant VTrans objects. Rather, all that Applicant VTrans chose to place before the Court was whether the pilot control condition sought by the Town has "the effect of interfering with the intended functional use" of the Caledonia County State Airport under 24 V.S.A. §4413(a)(1).

Applicant VTrans argues that federal and state regulation of airports have fully occupied the field of aviation so that no local land use decisions may affect airports. The summary judgment decision fully addressed the issue of federal preemption; the Court has fully reviewed that decision in light of the evidence at trial and Applicant VTrans' further arguments and, as noted in footnote 1 above, declines to change the summary judgment decision and order as to federal preemption.

As to state preemption or the authority given to municipalities by the state legislature, Applicant VTrans is correct that municipalities are limited to the authority

granted them by the state. However, if the Vermont Legislature had intended that state-owned airport facilities be entirely exempt from local land use review, it would have been able to achieve that result in the 2004 amendments to the state zoning enabling statute that resulted in the current version of 24 V.S.A. §4413(a), especially as the 2003 denial of the off-site airport location beacon had been decided by the Lyndon Planning Commission and ZBA just a few months prior to that legislative session. However, in amending §4413(a), the Legislature did not do so.

By comparison, when the Legislature chose to exempt an infrastructure of state significance from local land use review, it has done so explicitly. For example, 30 V.S.A. §248 entirely exempts electric generation and transmission facilities from local land use review so that no single municipality can block an element of Vermont's integrated electric generation and transmission network. See Glebe Mountain Wind Energy, LLC, Docket No. 234-11-05 Vtec (Vt. Envtl. Ct., Aug. 3, 2006), slip op. at 15 (noting "strong policy arguments, upon which . . . the Legislature relied, supporting the sole jurisdiction of the [Public Service Board] over such facilities"). The Legislature has made no such absolute exemption for state-owned airport facilities, nor has it provided that local land use regulation not interfere with federal funding of airport improvements. Rather, local regulation of such facilities is instead governed by 24 V.S.A. §4413(1), which allows for local regulation with respect to a long list of factors, including lighting, and subject to only the limitation that the local regulation does "not have the effect of interfering with the intended functional use" of the facility.

Thus the only question before that Court is whether the condition imposed in the decision on appeal: that the rotating-light airport location beacon be pilot-radio-controlled, interferes with the intended functional use of the state-owned airport facility to serve general aviation use (by aircraft that can use a 3,300-foot-long runway), including allowing

nighttime and poor-weather instrument landings, and to facilitate its use for medical emergencies and other emergency preparedness which may be necessary at night or in less than ideal weather conditions.

Other public airports within a short flight distance of the Caledonia County State Airport are the airports at Newport (approximately 25 air miles to the north), Morrisville-Stowe (approximately 25 air miles to the west), Montpelier-Berlin (approximately 35 air miles to the southwest), and Franklin County (approximately 50 air miles to the west). Each of these airports has radio-operated (pilot-activated) runway lights and each has a rotating airport beacon that operates continuously at night (dusk-to-dawn). Airports in New Hampshire with instrument landing procedures are located 24 air miles to the southeast (Mt. Washington Regional Airport) and 36 air miles to the east (Berlin, NH). The nearest airport with runway lights that operate continuously at night is at Burlington. Other airports at Island Pond and Middlebury also do not have airport location beacons. None of these other airports has a non-standard airport location beacon that is pilot-radio-controlled.

An airport location beacon is visible from about 10 to about 20 miles away, depending on the terrain and the visibility conditions, at the altitude at which general aviation aircraft of the type that use this airport fly. It is preferable but not essential for an airport location beacon to operate continuously at night, if only because pilots expect continuous operation; pilots are expected to be attentive when preparing their flight plans and to know that such a non-standard location beacon requires pilot radio operation, just as they note the location of unlit towers, power lines and other obstructions. Other features, such as lit obstructions, telecommunications towers, wind turbine towers, and the lights of larger towns marked on the aviation maps, all provide orientation for a pilot flying at night; this airport location beacon is not essential to pilot orientation in non-emergency situations.

Approximately 94% of general aviation aircraft have radios; approximately 89% have electrical systems. An airplane without an electrical system is not allowed to fly at night at all. Flying at night without a radio is dangerous, as many smaller airports have runway lights that are pilot-activated through radio control. Once the runway lights are activated, they stay on for about twenty minutes. If an airplane is not equipped with a radio, the pilot is restricted to visual flight rules conditions.

Approximately 92% of general aviation aircraft have GPS (geographic positioning system) units. This technology is increasing sufficiently so that the old non-directional radio beacons, that broadcast a continuous signal, are being phased out, including the one at this airport. After it is phased out, only GPS-equipped airplanes will be authorized to land at night under instrument flight rules at this airport.

A pilot must be able to see the runway to land in instrument flight conditions, and under the FAA regulations is not authorized to descend below the minimum descent altitude (about 800 feet at this airport) without being able to see certain lights in the runway lighting system. The pilot is not allowed to descend below the minimum descent altitude based on the ability to see a rotating airport location beacon or the airport property generally. Neither visual flight rules nor instrument landing rules provide for the use of an airport location beacon during the landing process.

Therefore, the only emergency circumstance in which it might make a difference for the airport location beacon to be continuously lit at night rather than being pilot activated would be if a pilot's radio failed so that he or she was unable to activate the beacon. A pilot unable to activate the beacon would also be unable to activate the runway lights, and therefore would be precluded from landing at this airport.

If intending to land at this airport but able to keep flying, such a pilot would have to go to an airport with continuously operating runway lighting such as Burlington. If intending to use the beacon for orientation on a longer flight past this airport, such a pilot

would have to use other orienting features such as the lights of St. Johnsbury, Lyndonville, Newport and the traffic on I-91, and will be able to orient to Morrisville, Montpelier or the New Hampshire airports depending on the pilot's intended flight path.

If such a pilot has to land in an emergency without any runway lighting, it may be safer to attempt to land on the highway than it would be to approach the unlit runway at this airport by using an airport location beacon at this particular airport. The area around this airport is mountainous; unlighted radio towers and a wind turbine tower project above the ridges to the east and the west of the airport. The airport buildings are located relatively close to the landing zone, and nearby power lines are not visible in the dark. Without the ability to activate the runway lights or to contact flight controllers it would be dangerous to land at the airport and would be dangerous to approach the airport by using the rotating airport location beacon to land, as unlighted hazards could exist in that flight path.

Based on the foregoing, it is hereby ORDERED and ADJUDGED that the condition imposed in the decision on appeal: that the rotating-light airport location beacon be pilot-radio-controlled at night does not interfere with the intended functional use of the Caledonia County State Airport under 24 V.S.A. §4413(a)(1).

Done at Berlin, Vermont, this 23rd day of April, 2007.

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Merideth Wright
Environmental Judge