

Burlington Vermont Air Guard Station F-35A Basing Fact Sheets

(August 2013)

I. NEGATIVE ENVIRONMENTAL IMPACTS of F-35A Basing at Burlington Air Guard Station

A. BASIC FACTS – 2013 Revised Draft Environment Impact Statement (RDEIS)

1. *McEntire JNGB* in South Carolina is the *environmentally preferable alternative* base (Page 2-30).
2. There are negative impacts to the Burlington area in the following categories: noise, air quality, land use, socioeconomics, environmental justice/protection of children, community facilities and public services, ground traffic and transportation, climate change, cumulative effects, and irreversible commitment of resources (RDEIS).

3. LAND USE

Noise levels increase under both scenarios (scenario 1 bases 18 F-35As; scenario 2 bases 24 F-35As). **“In general, residential land uses normally are not compatible with outdoor DNL values above 65 dB....” (Page C-13).**

4. Baseline conditions (current F-16s) and F-35A impacts (based on 2010 U.S. census data) are as follows:

Baseline (F-16s) affects 1,963 acres; 371 residential acres; 1,966 households; 4,602 people; 463 (10%) low-income and 581 (13%) minorities; 11 receptors
 Scenario 1: 2,252 acres; 564 residential acres; 2,963 households; 6,663 people; 1,064 (16%) low-income and 748 (11%) minorities; 16 receptors
 Scenario 2: 2,635 acres; 667 residential acres; 3,410 households; 7,719 people; 1,224 (16%) low-income and 856 (11%) minorities; 17 receptors

NOTE: AF reports that 4,692 children live in South Burlington and Winooski; but they did not report how many children live and/or go to school in the noise zone. Local assessors estimate there are about 1,500 children in the noise zone.

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 (Pages BR 4-22, 4-28, 4-33, 4-66, 4-80-83)

5. Of the other Air Guard bases under consideration in the RDEIS, **only Burlington has an increase in base residential land use impacts.** For example, the residential impact **increases by 80% in Burlington.** It **decreases by 100% at McEntire, SC, and decreases by 71% at Jacksonville, FL** (Page ES-70).

At Jacksonville AGS: 45 households and 170 people (scenario 1); or 57 households and 210 people (scenario 2) will be affected by the F-35A basing (Page ES-29).
 At McEntire JNGB: 91 households and 245 people (scenario 1); or 120 households and 321 people (scenario 2) will be affected by the F-35A basing (Page ES-37).

B. SAFETY IMPACTS

1. "The F-35A is a new type of aircraft; historical trends show that mishaps rates of all types decrease the longer an aircraft is operational and as flight crews and maintenance personnel learn more about the aircraft's capabilities and limitations...." (Page ES-12).
2. "Accident Protection Zones are established at military airfields to delineate recommended surrounding land uses for the protection of people and property on the ground." These areas in the vicinity of an airfield "have the highest potential to be affected if an aircraft mishap were to occur." "Similar to APZs, but used at civilian airports, RPZs (Runway Protection Zones) are trapezoidal zones extending outward from the ends of active runways at commercial airports and delineate those areas recognized as having the **greatest risk of aircraft mishaps (crashes), most of which occur during take-off or landing**" (Page 3-26).
3. "...there have not been enough flight hours to accurately depict the specific safety record for this new aircraft" (Page 3-28).

C. HEALTH IMPACTS of Noise on Adults and Children

1. The RDEIS uses decades old studies regarding the health impacts to adults and children. More recent studies show overwhelming evidence that noise causes physical and psychological harm to human beings. In the case of children, there is convincing evidence that noise, in particular, aircraft noise, cause cognitive impairment in children.
2. "A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks" (Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, 2003).
3. Even using old data, the RDEIS still cites studies reporting physical harm from noise.

"Other studies have reported hearing losses from exposure to aircraft noise" (RDEIS Page 30).

"Since the CHABA (a NIOSH and USEPA commissioned group) report (in 1981), there have been further studies that suggest that noise exposure may cause hypertension and other stress-related effects in adults" (RDEIS Page C-26).

"Children who were chronically exposed to aircraft noise...had modest (although significant) increases in blood pressure, significant increases in stress hormones, and a decline in quality of life" (RDEIS Page 30).

"The research reviewed does suggest that environments with sustained high background noise can have variable effects, including noise effects on learning and cognitive abilities and reports of various noise-related physiological changes" (RDEIS Page C-28).

"In 2002 ANSI refers to studies that suggest that loud and frequent background noise can affect the learning patterns of young children" (RDEIS Page C-28).

"It is generally accepted that young children are more susceptible than adults to the effects of background noise. Because of the developmental status of young children (linguistic, cognitive, and proficiency), barriers to hearing can cause interference or disruptions in developmental evolution" (RDEIS Page C-28-29).

“The Haines and Stansfield study indicated that there may be some long-term effects (to children) associated with exposure....” (RDEIS Page C-29).

“...there is increasing awareness that chronic exposure to high aircraft noise levels can impair learning. This awareness has led the WHO and a NATO working group to conclude that daycare centers and schools should not be located near major sources of noise, such as highways, airports, and industrial sites” (RDEIS Page 29).

More recent studies including those compiled and reviewed in the 2011 *World Health Organization* Report, “Burden of Disease from Environmental Noise” show overwhelming evidence of harm caused by noise.

“There is sufficient evidence from large-scale epidemiological studies linking the population’s exposure to environmental noise with adverse health effects. Therefore, environmental noise should be considered not only as a cause of nuisance but also a concern for public health and environmental health” (WHO Page xvii).

“There is overwhelming evidence that exposure to environmental noise has adverse effects on the health of the population” (WHO Page 105).

“It has been suspected for many years that children’s learning and memory are negatively affected by noise. Over 20 studies have shown negative effects of noise on reading and memory in children...” (WHO Page 45-53).

“Exposure during critical periods of learning at school could potentially impair development and have a lifelong effect on educational attainment” (WHO Pages 45-53).

D. ECONOMIC IMPACTS of Noise on Residents

1. “In general, residential land uses normally are not compatible with outdoor DNL values above 65 dB...” (RDEIS Page C-13).
2. HUD, FAA, and VA recommend written disclosures to all prospective buyers or lessees of property within this noise area (RDEIS Pages C-49-50).

NOTE: “The seller has a duty to disclose any issues he or she may be aware of...the seller should disclose any problem as truthfully and accurately as possible (on the Seller’s Property Information Report—SPIR). The SPIR was developed by the Vermont Association of Realtors as a way to cut down on lawsuits by buyers against sellers. Whether or not a SPIR is filled out, if it is later discovered the seller was aware of problems and did not disclose them to the buyer, it could be considered misrepresentation or omission under Vermont Consumer Fraud Act, 9 V.S.A. 2451-2480” (Vermont Property Owners Report, Feb-March 2013).
3. Properties in noise areas over 65 dB DNL may not be eligible for federally guaranteed loans, program assistance, subsidy, or insurance (RDEIS Pages C-49-50).
4. One study showed a 1.8 to 2.3% decrease in property values per dB increase of cumulative noise exposure (RDEIS Page C-50).
5. Another study showed decreases in property values usually range from 0.5 to 2% per dB increase of cumulative noise exposure (RDEIS Pages C-50).
6. “...the EIS acknowledges the potential and extent of noise from the F-35A has to affect property values” (RDEIS Page GO-17).
7. There are dozens of economic studies related to noise on property values. Virtually every study, including an FAA study, concludes that airport noise has a negative impact on property values.

Locally, an independent appraisal company conducted an analysis of 110 South Burlington homes purchased under the FAA buyout program. The average home in the 65 dB DNL noise zone lost 15% (approximately over \$33,000) in value because of its location (Larson Appraisal, Airport Noise Impact on Residential Property Values, July 2013).

A study, conducted by the GBIC, who has been outspoken in favor of the F-35A basing, concluded that noise levels did not affect property values. The study was seriously flawed.

- i. It did not address whether the homes were located in the noise zone.
 - ii. Its sample size was extremely small: (15 homes in 10 years in Winooski and 9 homes in 10 years in South Burlington sold to private individuals).
 - iii. It included the FAA buy-out sales in South Burlington as “evidence” that homes are selling well and at market value.
 - FAA buyouts require market value purchases; and the appraisal value of the house specifically excludes the fact that the house is located near an airport.
 - These homes were purchased *because* they were the noise zone of the F-16.
 - iv. It grouped all sales (condo, single family homes, etc) together, thus distorting the sale price of single-family homes.
8. In South Burlington, 180 homes were identified as being in the 65 and higher dB DNL noise zones for the F-16 (2008 FAA report Page 29).

The FAA Part 150 Update, dated April 2008, states “...the Air National Guard is one of the dominant noise contributors to the DNL contours, as documented in the August 2006 NEM Update....” (FAA Page 21).

“Land acquisition and relocation is the only alternative that would eliminate the residential incompatibility” (FAA Page 29).

“...noise barriers provide little, if any, reductions of noise from aircraft that are airborne and can be seen over the barrier” (FAA Page 35).

9. The FAA report states what the Burlington airport was required to do...and then finds it did not take the appropriate action. “A real estate disclosure policy would be developed for land uses within the 65 dB DNL contour, and implemented through revisions to zoning ordinances (ROA Section II. C. 15). *Status: Not implemented. The Airport has not actively encouraged the use of Real Estate Disclosures for properties within the 65 dB DNL contour but will be working with the City of South Burlington and the City of Winooski in that regard*” (FAA Part 150 Report Page 16).
10. To date, over 127 affordable homes in South Burlington have been demolished because of their proximity to the airport and the noise from military aircraft. Another 54 are awaiting demolition because of F-16 noise.

MYTHS

II. **ECONOMIC MYTH: It will bring jobs and benefit the area economically.**

- A. RDEIS states there is NO economic gain under scenario 1. There would be no increase in jobs (Page BR4-77).
- B. RDEIS states there would be only “minor” economic effect from the 266 additional **military** persons (83 full-time and 183 part-time) that would be added under scenario 2 (Page BR4-78 and 4-79).
 - 1. Some or all of the 83 full-time military could be transferred here from other places around the U.S. (Page BR4-78).
 - 2. The 183 part-time jobs would likely be filled through local recruitment (Page BR4-78).
- C. MG Dubie said that the Air Guard would *LOSE* maintainer jobs if the F-35A were to be based here, but he did not say how many jobs would be lost (public hearing, April 19, 2010).
 - 1. The F-35A will not be maintained at the Burlington Air Guard Station, as is the F-16. The F-35A will be maintained at a centralized location.
 - 2. At least half of the full-time VT Air Guard jobs are maintainer jobs.

III. **NOISE MYTHS**

A. **TIME MYTH: The F-35A will cause noise for only six minutes a day, four days a week, and this is a minor inconvenience.**

- 1. The RDEIS spends 58 pages, and cites 184 references and studies explaining noise, noise modeling, noise metrics, and noise effects (Pages C1-58). The noise metrics include:
 - maximum sound level (Lmax)
 - peak sound level
 - equivalent sound level (Leq)
 - sound exposure level (SEL)
 - day-night average sound level (DNL)
 - onset-rate-adjusted monthly day-night average sound level (Ldnmr)
 - number-of-events above a threshold level (NA)
 - time above a specified level (TA)
- 2. The RDEIS analyzes noise effects on the following:
 - non-auditory health
 - annoyance
 - speech interference
 - sleep disturbance
 - hearing impairment
 - performance
 - learning and cognitive abilities
 - children
 - domestic animals and wildlife
 - property values
 - structures
 - terrain
 - cultural resources
- 3. The F-35A will fly 7,296 operations annually under scenario 2, and 5,486 operations annually under scenario 1, with all occurring during environmental daytime hours (between 7:00 a.m. and 10:00 p.m.) 260 days per year (Page BR4-4).
- 4. Using Air Force projections of 7,296 F-35A operations over 260 days per year, residents will

experience unsafe noise levels **28 times per flying day, or one-to-two times per waking hour.**

5. Ads claiming six minutes of noise per day count only F-16 takeoff noise, ignoring noise produced on landing and during overhead pattern events from F-16s and other aircraft. But even just six minutes a day is more than 12 times the safe standard.

B. NOISE LOUDNESS MYTH: The F-35A will sound similar to the F-16.

1. The RDEIS states the F-35A would be between 17 dB and 20 dB greater in SEL; and between 21 dB and 25 dB greater in Lmax than the F-16 during takeoff and arrival....” (Page NS-40). F-16 take-off noise in military power setting is 94 dB Lmax; F-35A take-off noise in military power setting is 115 dB Lmax (Page BR4-21).
2. “A change in sound level of about 10 dB is usually perceived by the average person as a doubling (or halving) of the sound’s loudness....” (Page C-2).
3. The National Institute for Occupational Safety and Health (NIOSH) reports that the safe time for 115 dB (assessed F-35A noise on take-off) is 14 seconds.
4. The RDEIS says even though F-35A flight operations would be less than the F-16 flight operations, “The effect of the reduction in flight operations would be offset by the F-35A producing a single-event departure SELs 17 dB greater than the F-16s at Burlington AGS” (Pages BR4-28 and 4-33).
5. Any claim that draws conclusions from a single incident of noise ignores science and health studies that show damage from noise is cumulative; and even just a few minutes of tremendous noise, repeated over time, has significant health consequences. Recent scientific analysis clearly shows that extended exposure, even at small intervals, to excessive noise causes irreparable health damage.

Damage from noise is based on amplitude, frequency, time averaging, maximum sound level, peak sound level, sound exposure level, equivalent sound level, day-night average sound level, number of events above a threshold level, time above a specified level, duration, intensity, unpredictability and the cumulative effect of the noise (RDEIS Pages C1-58).

“The cumulative nature of DNL means that the same level of noise exposure can be achieved in an essentially infinite number of ways....Areas exposed to noise levels between DNL 65 dB and 75 dB are “normally unacceptable,” and require special abatement measures and review. Those at 75 dB and above are “unacceptable” except under very limited circumstances” (FAA Part 150 Report Page 5).

“When considering intermittent noise caused by aircraft overflights, a review of the relevant scientific literature and international guidelines indicates that an appropriate criteria is a limit on indoor background noise levels of 35 to 40 dB Leq, and a limit on single events of 50 dB Lmax” (RDEIS Page C-20).

“USEPA (in 1974) identified DNL of 55 dB as ‘ requisite to protect public health and welfare’” (RDEIS Page C-18).

C. NOISE MITIGATION MYTH: The Vermont Air Guard can mitigate the noise.

1. According to the FAA Part 150 Report, “Land acquisition and relocation is the only alternative that would eliminate the residential incompatibility” (FAA Part 150 Report Page 29).

2. Neither the Air Force nor the Air Guard has “plans to acquire or demolish residences as part of the F-35A beddown” (RDEIA Page BR4-17).
3. The only mitigation measures listed in the Air Force report are to operate the F-35A in the same manner as the F-16s: keeping the same flight schedule, employing single takeoffs, and not flying at night (Page BR4-17).
4. Yet, F-35A supporters claim the Air Guard pilots can fly the F-35A quieter than the F-16.

The Air Force report clearly states the F-35A is 3-4 times louder than the F-16.

The Air Guard cannot reduce the noise of the F-16, which they have flown for decades.

In fact, the noise of the F-16 has increased in recent years, and the pilots are unable to mitigate the noise of the plane they now fly.

How credible then is their claim to alter the noise of a plane they have never flown?

IV. FUTURE OF THE VERMONT AIR GUARD MYTH: If the F-35A does not come here, the Guard Station will close.

1. The Air Force stated that “...if there is no F-35A operational beddown at Burlington AGS the current mission would continue” (RDEIS Page PA-47).
2. No public official (military, government, or politician) has EVER said the base will close if the F-35A is not based here. (Scare tactics imply the base will close.)
3. MG Dubie said in a press conference in July 2012, that if the F-35A does not come here, the base MAY get SMALLER (meaning the Air Guard).
4. BG Cray stated at a press conference in July 2013 that he could not predict what would happen to the Air Guard if the F-35A is not based in Vermont, but he did say that the unit’s mission would be different and most likely would require a lot less personnel.
5. However, in April 2013, the Air Force announced it was upgrading all of the F-16s to keep them flying until the F-35A is fully operational. The Air Force stated it intends to keep the F-16s flying until at least 2030.
6. Nonetheless, there are other missions for the Air Guard, including drones, anti-terrorism missions, and cyber security.
7. The F-35A basing does not affect the VT Army Guard, which comprise the majority of the Vermont National Guard.

The Army Guard has approximately 4,000 members.

VT Air Guard is authorized 1,130 members: 730 part-time military (one weekend a month), and 400 full-time military and civilians members. BG Cray stated that over six hundred members of the Air Guard live in the surrounding communities of the airport.

Guard members often come from other states to serve their monthly weekend Guard duty. It is unclear how much of the reported \$53 million in salaries are paid to Vermonters.

8. Even were the Air Guard Station to close, it’s doubtful that it would have a significant economic impact on our area. Over the past three years, our area added 4,250 new jobs (1,400 new jobs per year).
9. Two possible outcomes are:

The Air Guard Station closes entirely **20 years from now**, and **400** Air Guard members lose their full-time jobs, and **730** Air Guard members lose their part-time (one weekend a month) jobs.

The F-35As arrive here **five years from now**, and **1,500 of our children** suffer physical and cognitive impairment, over **7,719 local residents** lose their quality of life, a decrease in home values, and are trapped in houses that the federal government labels unsuitable for residential use.

10. Comparison to the closing of the former Plattsburg AFB is absurd.

Plattsburgh was an active duty base with over 5,000 full-time active duty personnel, in an area (Plattsburg) with a population of around 20,000.

The Burlington Air Guard Station has 400 full-time personnel, in an area with a population (Burlington and South Burlington) of around 60,000.

The economy of Plattsburgh recovered in half of the time expected (12 years versus the estimated 25 years).

V. NATIONAL SECURITY/ GUARD SUPPORT/ PATRIOTISM MYTHS: National Security, Guard Support, Patriotic duty depend on the F-35A being based here

A. National Security

1. Military experts, politicians, and academics agree that the current major threats to the U.S. are terrorism and cyber-warfare.
Fighter-bombers have no role in countering these threats in the U.S.
2. The only threat from military aircraft comes from Russia and China.
Vermont is a poor location to respond to these threats.
Current F-16s are more than sufficient to defend the U.S.; are more reliable, have better performance characteristics, and cost 75% less than the F-35A.
3. The F-35A can and might carry nuclear weapons.
This makes an F-35A base a huge target for terrorists/other enemies.
AF has had recent problems with nuclear weapons security.

B. Vermont Air Guard Support

1. Supporting the Guard means looking long-term. Actively recruiting and accepting new missions which counter current and future threats to our democracy is the best way to ensure a stable future for the VT Air Guard.
2. Supporting the Guard means providing all the services our Guard families need when their Guard member is deployed, and most importantly all the services the guardswomen and guardsmen and their families need when they return to Vermont from war zones.

C. Patriotism

1. Patriotism does not mean blindly accepting whatever weapon system defense contractors propose and politicians support.

2. Patriotism does not mean bankrupting our country so huge defense contractors can stay in business.
3. Patriotism does not mean that defense contractor executives and shareholders should be the ones who profit most from astronomically expensive weapon systems.
4. Patriotism means supporting what is best for our citizens, including a good job for all who can work, a health system that cares for all regardless of economic status, education that allows all individuals to reach their potential, social security in their old age, and safe housing for everyone.
5. Patriotism means supporting our troops and ensuring that they and their families are taken care of financially and medically. Yet our government is planning to pay for costly and questionable weapon systems, such as the F-35A, by reducing (firing) military personnel; eliminating civilian jobs; freezing military salaries; cutting our troops' benefits; slashing their families' benefits; increasing veterans' health care costs; and cutting programs for homeless, disabled, and unemployed veterans.

VI. SCORING SHEET Problems

A. PURPOSE of the Scoring Sheet

1. The Air Force devised a scoring methodology to explain how bases were chosen. This was done to preclude future disputes and lawsuits such as the one filed against the F-35A basing at Eglin AFB, in Florida. It was intended to bring more transparency to the process.
2. The scoring sheet rated the bases in four areas: Mission, Capacity, Environment and Cost (Page 2-25).

Mission related principally to whether the airspace around the facility would be able to accommodate the flying sorties of the F35A, and how the weather impacted visibility. {60%}
 Capacity related to whether the existing facilities (hangers, maintenance units, simulator bays, munitions, runways, etc.) would be able to accommodate the F-35A. {25%}
 Environment related to **existing** air quality, zoning and land use controls, and **existing** encroachment (meaning "incompatible development"). {5%}
 Cost related to the base's construction costs and is tied to the cost-of-living. {10%}

B. PROCESS Problem

1. Unlike the other criteria, which evaluated whether the airspace and facilities could accommodate the **future needs of F-35A**, the encroachment area (under environment) was related to the **current situation—what exists now for the F-16**.
2. Rather than ask if there **would be** incompatible development in the **F-35A accident and noise zones** around the airport, they asked if there was **currently** incompatible development in the **F-16 accident and noise zones** around the airport.

Since there are different accident and noise zones for the F-16 and the F-35A, (the F-35A noise and crash zones are much larger than the F-16s) it is not logical to assume that the presence or absence of buildings, or the numbers of buildings, for the current F-16 would be the same for the F-35A.

C. DATA Problem

1. Two questions in the 'Encroachment' area under the 'Environmental' category were answered incorrectly. Those questions were:

“Is there incompatible development in clear zones and/or accident potential area?” and
“Is there incompatible development in noise contours above 65 dB DNL?”

2. The answer marked for both questions was ‘No’ meaning that there were NO incompatible buildings in either area (accident and noise). Burlington thus received 3 points for each question (6 total).
3. But, **there is** incompatible development in both areas (accident and noise); meaning Burlington should not have received 6 points.
4. Burlington Air Guard Station received a total score of 91.021 on the scoring sheet given to Senator Sanders in June 2012.
5. For over a year, citizens, the media, and lawyers have been requesting to see the scores of the other Air Guard Stations, especially Jacksonville Air Guard Station in Florida and McEntire Joint National Guard Base in South Carolina, to confirm whether or not another Guard base scored higher than Burlington.

South Burlington City Council requested this from the Vermont Congressional Delegates in July 2012, and was told that the Air Force would not release it to them.

The Air Force denied two Freedom of Information Act (FOIA) requests to get the scoring sheets for other bases.

6. In June 2013, a slide from an Air Force briefing was leaked. This showed the scores of all six bases (three active duty Air Force bases, and three Air Guard bases) under consideration. According to a *New York Times* press report, this slide (and score) came *after* the scoring sheet that was provided to the VT congressional delegation in June 2012. And, both scoring sheets preceded the creation of the EIS. On this slide, Burlington received an overall score of 87.1, which was lower than either of the other two Air Guard bases, Jacksonville and McEntire. No explanation was given for why Burlington’s scores were lowered, or why an outdated scoring sheet was given to Senator Sanders.