

**Arkenets**  
**Modification to Application for Experimental License**  
**File No. 0745-EX-CN-2019**  
**Call Sign WJ2XVJ**

**Narrative Statement**

Arkenets seeks to modify the above-captioned experimental authorization to do the following:

- Delete sites that are no longer needed
- Add additional sites
- Specify 2 km radius for operations from each site

Arkenets notes that it has already been granted experimental authorization to test at two of the sites to be added. *See* File No. 0238-EX-CN-2019, Call Sign WK2XEE. Arkenets will ask the Commission to cancel that authorization after the modification requested herein has been granted.

In addition, Arkenets has withdrawn its application, File No. 0416-EX-CN-2019.

A full list of sites to be added and deleted is included below in the response to Question 6.

**(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.**

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**(2) Description of why experimental authority is needed.**

Arkenets is developing an innovative solution, using commercial off-the-shelf components, to produce a low-power radar system for detecting and identifying unmanned aerial vehicles

(UAVs), including drones. Arkenets' radars would be deployed around sensitive commercial sites, including stadiums, petroleum production facilities, corporate and college campuses, and airfields.

The radar uses separate antennas for transmit and receive. Arkenets would deploy up to 12 radar units at each specific site in order to undertake its testing.

Grant of experimental authority will allow Arkenets to test and demonstrate its technology.

**(3) Description of the operation to be conducted and its purpose.**

Please see the response to Question 2.

**(4) Time and dates of proposed operation.**

The experimental authorization was granted for a two-year period: December 19, 2019 – January 1, 2021.

**(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).**

Radiolocation service. The transmitting stations will operate at fixed locations only.

**(6) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.**

This modification application will combine two granted authorizations and one pending application into a single authorization.

*Sites to be retained are in bold; sites to be deleted are crossed out.*

**File No. 0745-EX-CN-2019; Call Sign WJ2XVJ**

**(1) Belmont (MIDDLESEX), MA - NL 42-23-47; WL 71-10-46**

**(2) Burlington (MIDDLESEX), MA - NL 42-28-40; WL 71-11-49**

**(3) Boston (SUFFOLK), MA - NL 42-20-47; WL 71-05-52**

**(4) Foxboro (NORFOLK), MA - NL 42-05-50; WL 71-16-12**

**(5) Mattapoisett (PLYMOUTH), MA - NL 41-39-09; WL 70-45-25**

~~(6) Stow (MIDDLESEX), MA - NL 42-25-02; WL 71-29-41~~

**(7) Stow (MIDDLESEX), MA - NL 42-27-39; WL 71-31-07**

**(8) Boston (SUFFOLK), MA - NL 42-21-19; WL 71-03-52**

~~(9) New York City (NEW YORK), NY - NL 40-45-32; WL 73-59-07~~

~~(10) Boston (SUFFOLK), MA - NL 42-20-58; WL 71-04-44~~

**(11) Burlington (MIDDLESEX), MA - NL 42-28-45; WL 71-12-31**

**File No. 0238-EX-CN-2019, Call Sign WK2XEE**

~~(1) San Bernardino (SAN BERNARDINO), CA - NL 34-07-02; WL 117-16-39~~

~~(2) Redlands, CA - NL 34-05-24; WL 117-12-53~~

~~(3) Highland (SAN BERNARDINO), CA - NL 34-06-32; WL 117-11-28~~

~~(4) New Bedford (BRISTOL), MA - NL 41-40-34; WL 70-57-30~~

~~(5) West Tisbury (DUKES), MA - NL 41-23-35; WL 70-36-44~~

~~(6) Worcester (WORCESTER), MA - NL 42-16-05; WL 71-52-29~~

~~(7) Arlington (MIDDLESEX), MA - NL 42-25-57; WL 71-12-07~~

**(8) Woburn (MIDDLESEX), MA - NL 42-28-32; WL 71-11-34**

**(9) Boston (SUFFOLK), MA - NL 42-21-11; WL 71-02-23**

~~(10) Boston (SUFFOLK), MA - NL 42-20-42; WL 71-01-33~~

**File No. 0416-EX-CN-2019**

Acton, MA: NL 42-29-60; WL 71-27-41

North Hill Retirement Community: NL 42-17-28; WL 71-15-14

Babson College: NL 42-17-43; WL 71-15-55

UMass Boston: NL 42-18-50-07; WL 71-02-11

Fox Hill Village Retirement Community: NL 42-14-12; WL 71-12-33

Linden Ponds Retirement Community: NL 42-11-41; WL 70-54-59

MCI Concord: ~~NL 42-27-56; WL 71-23-44~~

~~Northeast Correctional Center: NL 42-28-19; WL 71-23-50~~

MIT: NL 42-21-37; WL 71-05-22

San Bernadino, S. Leland Norton Way: NL 34-05-52; WL 117-14-49

San Bernadino, S Tippecanoe Ave: NL 34-05-20; WL 117-15-27

Lake Nona, FL: NL 28-25-10; WL 81-15-46

Newport Shipyard and Marina: NL 41-29-26; WL 71-19-20

**(7) Transmit equipment to be used, including name of manufacturer, model and number of units.**

Manufacturer and model number: Arkenets UAV Detection Radar 1

Number of units: Arkenets seeks authority to operate a maximum of 120 devices across the United States, using up to 12 devices a maximum of 10 specific sites at any given time.

**(8) Frequencies desired.**

Transmit: 9500 – 9800 MHz (9.5 – 9.8 GHz)

Receive: 9500 – 9800 MHz (9.5 – 9.8 GHz)

**(9) Maximum output power and maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).**

Peak input (transmitter) power will be 1 watt. ERP will be 59 watts.

**(10) Emission designator (see §2.201 of this chapter) or describe emission (bandwidth, modulation, etc.)**

150MF0N

**(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).**

The overall height of the antenna above ground level (or roof top level) will not exceed 6 meters.

**(12) Additional Technical Information**

Directional antenna: No  
Width of beam in degrees at half-power point: N/A  
Orientation of horizontal plane: N/A  
Orientation of vertical plane: N/A  
Frequency tolerance: 0.001%.

**Stop buzzer POC**

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