

EXHIBIT 1.
Dominion Energy Virginia Power

1. Applicant: Dominion Virginia Power

Attention: Rob Mitchell. IT Infrastructure Architect
707 East Main Street
Richmond, Virginia 23219
E-Mail Address: rob.mitchell@dominionenergy.com
Phone Number: 804-771-4866

2. Reasons for Seeking Special Temporary Authorization

Dominion Energy Virginia Power (“Dominion”) seeks a Special Temporary Authorization to conduct a second equipment test, of a series of equipment tests, with the Electric Infrastructure Security Council (“EISC”). Dominion and EISC are developing equipment recommendations for a Black Sky Emergency Communications and Coordination System (“BSX System”) for use by Dominion, other United States electric utilities, and potentially other critical infrastructure providers for service restoration in the event of a so-called “Black Sky Event.” Dominion is a subsidiary of Dominion Energy. EISC is a 501(c)(3) organization dedicated to the protection of the security of the electrical power grid by facilitating public-private sector collaboration and planning to strengthen critical infrastructure resilience against particularly severe hazards resulting in extreme power outage scenarios.

The continental United States has not yet experienced a Black Sky Event: an extreme subcontinent-scale power outage causing cascading, long duration failures across U.S. critical infrastructure, including existing wire line and wireless communications and emergency networks. A restart of the regional electric grid and coordination with the national electric power grid in a Black Sky Event will require high levels of coordination and communications. Accordingly, Dominion and EISC have sought to identify technology to create an interoperable, all-sector, all-hazard-protected emergency communications to be used specifically and exclusively in a Black Sky Event to save lives and support infrastructure restoration.

By this application, Dominion now seeks a further Special Temporary Authority for a more extensive test using additional BNET units

By this request, Dominion Energy seeks authority to import eight units of Rafael Advanced Systems Ltd. BNET radio system, along with necessary engineering, design, and installation, more specifically described in Exhibit D. The contemplated tests would further demonstrate and validate key design and performance features for utility personnel and provide information for further refinement of the proposal for a BSX System and will be tied into a larger test being conducted by the Electricity Subsector Coordinating Council (ESCC), the U.S. Department of Energy (DOE), the telecommunications sector, the Electric Power Research Institute (EPRI), and the Utilities Technology Council (UTC) as part of the Resilient Communications Working Group (RCWG) resilient communications test planned for October 2019. Results from the combined tests will be part of an industry report to be briefed at Grid Ex V on November 13 & 14 2019, and will be used to inform the decision of key industry decision

makers on resilient communications capable of supporting restoration in the event of a Black Sky. The BNET units to be tested are not certified under the Commission's current equipment authorization rules and do not comport with current rules, so temporary authority is necessary for the importation of the BNET equipment into the United States for the proposed test program as described below. The BNET units to be tested have the capacity to be programmed and restricted in operation so that they can be operated within the service footprint of existing authorized Dominion private radio stations and within the channelization of those stations. These capabilities were demonstrated, July 2019, at Dominion Energy facilities as part of system testing completed under FCC Special Temporary Authorization 0837-EX-ST-2019.

Summary of Contemplated tests:

Eight BNET-V transceivers manufactured by Rafael Advanced Systems Ltd. will be import into the United States for the purpose of testing and evaluation by Dominion as part of their power grid resilience program.

Three BNET radios will be installed at the following fixed site stations owned and operated by Dominion. Frequency prefix for each call sign is 451/456.

Callsign: KNEZ373 (.425) – Chesterfield Power Station

Class of Station: FB, FB2,

Nature of Service: Land Mobile Radio

Latitude: North 37 23 01.5

Longitude: West 77 23 21.9

Callsign: WNHB731 (.375, .425) - Elmont

Class of Station: FB, FB2

Nature of Service: Land Mobile Radio

Latitude: North 37 41 53.9

Longitude: West 77 29 00.0

Callsign: KJE512 (.375, .425) - OJRP

Class of Station: FB, FB2

Nature of Service: Land Mobile Radio

Latitude: North 37 32 15.5

Longitude: West 77 26 19.9

Two units will be installed in a Dominion provided vehicle in order to evaluate mobile operations within the defined footprint of the test area.

Callsign: KZ2786 (.375, .425)

Class of Station: MO

Nature of Service: Land Mobile Radio

Area of Operation: Nationwide

Three units will be maintained as a system spares, and for contemplated future tests and implementations designed to connect critical power generation and transmission sites. See Exhibit A.

¹ *Dominion Power will purchase and retain the units for anticipated further testing. When not being employed in testing authorized by the Commission, the BNET units to be stored and secured by Dominion Energy Virginia Power.*

Initial tests of the BNET transceivers were conducted as part of FCC Experimental Special Temporary Authorization 0837-EX-ST-2019 (see exhibit B). Results of this test demonstrated operational compliance of the BNET-V within the Commission's rules reference frequency tolerance and power limitation.

The contemplated tests of this special temporary authorization test will build upon and expand the operational testing of Experimental Special Temporary Authorization 0837-EX-ST-2019.

The BNET radios will be installed at the three previously identified fixed test sites utilizing existing antennae and coaxial cable located at each site. The minimum power levels necessary will be used to achieve effective site-to-site communications while minimizing potential interference to other stations. Two BNET transceivers will be installed in Dominion provided vehicles, which will move throughout the defined test area. The minimum necessary power to achieve effective communications will be used.

All tests will be done on Dominion licensed spectrum. Rafael Advanced Systems Ltd. will provide on-site engineers at the beginning of the test period in order to ensure all system operate as intended and ensure harmful interference for other stations does not occur. Dominion and Rafael Advanced Systems Ltd. will immediately cease test operations should harmful interference be identified.

3. Nature and Objectives of Operations to Be Conducted

Dominion Energy proposes to purchase and import eight BNET transceivers from Rafael Advanced Systems Ltd, an Israeli defense systems company with extensive experience in design of military and emergency communications. Three of the units will be designated for fixed site use, two will be designated for mobile use and three systems will serve equipment spares and future testing/use.

The BNET radio is an Electro-Magnetic Pulse (EMP) hardened, advanced software defined radio capable of achieving high levels of spectral efficiency for Mobile Ad Hoc Networking (MANET). The contemplated tests of this phase of system development will be limited to narrowband LMR frequencies owned by Dominion and will comply with all power requirements and channel spacing as defined by the licensing agreement and unlicensed use within the operating limitation of unlicensed frequency regulations. Exhibit D describes more fully the characteristics of the BNET system and the units to be tested.

The three fixed units will be placed at the following locations:

Callsign: KNEZ373 (.425) – Chesterfield Power Station

Class of Station: FB, FB2,
Nature of Service: Land Mobile Radio
Latitude: North 37 23 01.5
Longitude: West 77 23 21.9

Callsign: WNHB731 (.375, .425) - Elmont

Class of Station: FB, FB2
Nature of Service: Land Mobile Radio

Latitude: North 37 41 53.9
Longitude: West 77 29 00.0

Callsign: KJE512 (.375, .425) - OJRP

Class of Station: FB, FB2

Nature of Service: Land Mobile Radio

Latitude: North 37 32 15.5

Longitude: West 77 26 19.9

The units installed at the fixed site locations will use existing tower, antennae, and cabling systems already installed at the location.

Two units will serve as mobile units. The channels to be used in the proposed test will be narrowband land mobile radio channels at frequencies for which Dominion already is licensed for as part of its LMR service.

In the proposed test, the BNET units will be configured to operate at power levels that maintain the test signals within the service footprint of Dominion's existing channels and to maintain emissions within the emission mask of those authorized stations.

The purpose of these test is to build upon the results of Experimental Special Temporary Authorization 0837-EX-ST-2019 through: expanding the number of operational fixed sites, expanding the number operational mobile systems, expanding the operational distance, and validating the interoperable interface capabilities by interfacing with the ESCC RCWG Resilient Communications project.

These tests will further validate the system's ability to operate on the intended frequencies and not produce harmful interference as part of an expanded size and scope. Engineers from Dominion will be on hand throughout the tests in order to ensure the systems comply with all regulatory requirements in regard to operational frequency, channel spacing, and emissions.

Information gleaned from these tests, combined with information gleaned from Experimental Special Temporary Authorization 0837-EX-ST-2019 will provide Dominion communications engineers with the confidence in regards to the configurability of the system and its ability to operate within designated parameters necessary for anticipated expansion of the geographic scope of operation in connection with the future development and testing of the system as a backbone for a BSX System. This will include a contemplated future test for which Dominion will seek separate authorization, involving relay of communications from Richmond Virginia, to the northern tip of North Carolina, a key path for restoration of Dominion services if a Black Sky Event should occur.

Dominion and Rafael will also conduct further test of the ability to connect the BNET Radio to fiber optic cabling. These tests are designed to test the viability of connecting two or more BNET radios, over a large geographic distance using fiber optic cabling. This will allow the BNET radio to serve as wireless end-points with a fiber backhaul between them. Fiber optic test will use both the BNET radio and third-party routers with fiber optic module. These tests will be limited to Dominion owned fiber optic cabling and will not create harmful interference

4. Time and dates of proposed operation.

15 September 2019- 30 November 2019

5. Class(es) of station

The proposed tests will use three fixed stations and two land mobile stations with the power and service area falling within the service contour of Dominion's existing stations.

Station Information for proposed operation:

Callsign: Chesterfield Power Station

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 23 01.5

Longitude: West 77 23 21.9

Callsign: Elmont

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 41 53.9

Longitude: West 77 29 00.0

Callsign: OJRP

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 32 15.5

Longitude: West 77 26 19.9

Class of Station: MO – Unit 1

Nature of Service: Land Mobile Radio

Area of Operation: Within the operational constraints of existing license.

Class of Station: MO – Unit 2

Nature of Service: Land Mobile Radio

Area of Operation: Within the operational constraints of existing license.

6. Locations and Geographical Coordinates of Proposed Operations

Station Information for proposed operations:

Callsign: Chesterfield Power Station

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 23 01.5

Longitude: West 77 23 21.9

Callsign: Elmont

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 41 53.9

Longitude: West 77 29 00.0

Callsign: OJRP

Class of Station: FX

Nature of Service: Land Mobile Radio
Latitude: North 37 32 15.5
Longitude: West 77 26 19.9

Class of Station: MO – Unit 1

Nature of Service: Land Mobile Radio

Area of Operation: Within the operational constraints of existing license.

Class of Station: MO – Unit 2

Nature of Service: Land Mobile Radio

Area of Operation: Within the operational constraints of existing license.

7. Equipment to be used

See Exhibit D.

8. Frequency (or frequency bands) requested

See STA application.

9. Maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).

See STA application.

10. Emission designator or describe emission (bandwidth, modulation, etc.)

See STA application.

11. Antenna structures to be used:

For the purposes of these tests, the approved antenna and antenna structures at the following sites will be used:

Callsign: Chesterfield Power Station

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 23 01.5

Longitude: West 77 23 21.9

Callsign: Elmont

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 41 53.9

Longitude: West 77 29 00.0

Callsign: OJRP

Class of Station: FX

Nature of Service: Land Mobile Radio

Latitude: North 37 32 15.5

Longitude: West 77 26 19.9