# FEDERAL COMMUNICATIONS COMMISSION
# APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

## Applicant Name

**Name of Applicant:** Peter Driessen

## Address

**Attention:** Peter Driessen
**Street Address:** 3800 Finnerty Road
**P.O. Box:** EOW 448
**City:** Victoria
**State:**
**Zip Code:** V8P5C2
**Country:** Canada
**E-Mail Address:** peterdri@gmail.com

## Best Contact

**Give the following information of person who can best handle inquiries pertaining to this application:**
**Last Name:** Driessen
**First Name:** Peter
**Title:** Professor
**Phone Number:** 250-213-9425

## Explanation

**Please explain in the area below why an STA is necessary:**
An STA is required to allow transmission of signals as part of an observation time grant awarded by the Long Wavelength Array radio observatory. This facility can receive terrestrial and celestial signals in the 4-88 MHz range, is located in the Sevilleta National Wildlife Refuge, New Mexico, and is operated by the University of New Mexico as part of the University Radio Observatory Program supported by the National Science Foundation.

## Purpose of Operation

**Please explain the purpose of operation:** The purpose is to measure properties of the ionosphere using the 256-element Long Wavelength Array in New Mexico to receive signals from a terrestrial transmitter just outside ground wave distance via near verticalincidenceskywave(NVIS).Thetransmitterwillemitbothcontinuouswavesandlinearfrequency sweepsupto70KHzwideatarateof0.1-10sweepspersecondovera4hourperiodoncenter frequencies suitable for NVIS in the range 4-7 MHz at a 100 watt power level. The data from each of the 256 elements will be processed digitally to create time-varying images of the ionosphere that can be interpreted to detect earth-disturbing events such as earthquakes.

## Information

**Callsign:**
**Class of Station:** FX
**Nature of Service:** Experimental

## Requested Period of Operation

**Operation Start Date:** 07/01/2019
**Operation End Date:** 12/31/2019

## Manufacturer

**List below transmitting equipment to be installed (if experimental, so state)**
**if additional rows are required, please submit equipment list as an exhibit:**

| Manufacturer | Model Number | No. Of Units | Experimental |
|---|---|---|---|
| ICOM | IC7610 | 1 | No |

## Certification

**Neither the applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. The applicant hereby waives any claim to the use of any particular frequency or electromagnetic spectrum as against the regulatory power of the United States because of the prvious use of the same, whether by license or otherwise, and requests authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.) The applicant acknowledges that all statements made in this application and attached exhibits are considered material representations, and that all the exhibits part hereof and are incorporated herein as if set out in full in this application; undersigned certifies that all statements in this application are true, complete and correct to the best of his/her knowledge and belief and are made in good faith. Applicant certifies that construction of the station would NOT be an action which is likely to have a significant environmental effect. See the Commission's Rules, 47 CFR1.1301-1.1319.**

**Signature of Applicant (Authorized person filing form):** Peter Driessen

**Title of Applicant (if any):** Professor

**Date:** 2019-04-16 00:00:00.0

## Station Location

| City | State | Latitude | Longitude | Mobile | Radius of Operation |
|---|---|---|---|---|---|
| Santa Fe | New Mexico | North 35 42 41 | West 106 0 30 | | |

**Datum:** NAD 83

**Is a directional antenna (other than radar) used?** No

**Exhibit submitted:** No

**(a) Width of beam in degrees at the half-power point:**

**(b) Orientation in horizontal plane:**

**(c) Orientation in vertical plane:**

**Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building, will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building?** No

**(a) Overall height above ground to tip of antenna in meters:** 6.00

**(b) Elevation of ground at antenna site above mean sea level in meters:** 2080.00

**(c) Distance to nearest aircraft landing area in kilometers:**

**(d) List any natural formations of existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft:**

| Action | Frequency | Station Class | Output Power/ERP | Mean Peak | Frequency Tolerance (+/-) | Emission Designator | Modulating Signal |
|---|---|---|---|---|---|---|---|
| New | 4000.00000000-kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 1H00A0 | NONE |

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|---|---|---|---|---|---|---|---|
| New | 4000.00000000-kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 75K0A1A | SWEEP |

| Action | Frequency | Station Class | Output Power/ERP | Mean Peak | Frequency Tolerance (+/-) | Emission Designator | Modulating Signal |
|---|---|---|---|---|---|---|---|
| New | 5300.00000000-5375.00000000 kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 1H00A0 | NONE |

| Action | Frequency | Station Class | Output Power/ERP | Mean Peak | Frequency Tolerance (+/-) | Emission Designator | Modulating Signal |
|---|---|---|---|---|---|---|---|
| New | 5300.00000000-5375.00000000 kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 75K0A1A | SWEEP |

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| Action | Frequency | Station Class | Output Power/ERP | Mean Peak | Frequency Tolerance (+/-) | Emission Designator | Modulating Signal |
|---|---|---|---|---|---|---|---|
| New | 7050.00000000-7125.00000000 kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 1H00A0 | NONE |

| Action | Frequency | Station Class | Output Power/ERP | Mean Peak | Frequency Tolerance (+/-) | Emission Designator | Modulating Signal |
|---|---|---|---|---|---|---|---|
| New | 7050.00000000-7125.00000000 kHz | FX | 100.000000 W<br>100.000000 W | M | 1.00000000 % | 75K0A1A | SWEEP |