

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE**

EXPERIMENTAL
(Nature of Service)

WN2XFE
(Call Sign)

XR MO
(Class of Station)

0083-EX-CN-2022
(File Number)

NAME Geometric Energy Corporation (GEC)

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(a & d) of the Commission's Rules

Station Locations

- (1) MOBILE: Trans Lunar Injection and Lunar Orbit
- (2) MOBILE: Trans Lunar Injection and Lunar Orbit

Frequency Information

MOBILE: Trans Lunar Injection and Lunar Orbit

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2289.5 MHz	MO	1M00F1D	0.43 W (ERP)	0.00005 %

MOBILE: Trans Lunar Injection and Lunar Orbit

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
8212.5 MHz	MO	375MG1D	48.55 W (ERP)	0.0001 %

This authorization effective November 30, 2023 and will expire 3:00 A.M. EST October 01, 2025

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (1) Upon receipt of a conjunction warning from the JSpOC or other source, the licensee must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.
- (2) Following launch of the satellite, the licensee must notify the FCC through electronic submission to the license file, of the status of the satellite (transmissions commenced, etc.), not later than 7 days after commencement or expected commencement of transmissions, and of termination of transmissions, not later than three months after such termination.
- (3) The licensee shall provide the Commission with all information required for the Advance Publication, Coordination and Notification of frequency assignments pursuant to the International Radio Regulations. This includes the preparation of draft materials, to be provided to the Commission prior to submission to the International Telecommunication Union. The authorized operations require notification of frequency assignments pursuant to Article 11 of the ITU Radio Regulations. Licensee shall provide the FCC, not later than 30 days after a frequency assignment is brought into use, the documents required for notification (including SpaceCap Notification MDB file) of such frequency assignments. The licensee shall also prepare materials for informing the ITU that a frequency assignment has been brought into use, or that its use has been suspended or permanently discontinued.
- (4) All operations are on a strict non-interference basis to authorized federal users. Geometric Energy Corporation shall be aware that requests for operation in the 2025-2110 MHz, 2200-2290 MHz, and 8025-8400 MHz bands are considered on a case-by-case basis, and Geometric Energy Corporation shall have no expectations that future requests, including requests for renewal, will be approved. Any future request for operations in the 2200-2290 MHz band must include a federal contract number and point of contact of the agency sponsoring the operations, and all planned operations must be coordinated through the established federal coordination processes prior to submission of regulatory applications for operation. This authorization will expire two years after launch of the DOGE-1 mission or October 30, 2025, whichever occurs first.
- (5) Geometric Energy Corporation operations using the 2200-2290 MHz frequency bands shall be strictly limited to durations when the DOGE-1 is visible to the earth station located at Goonhilly Downs in Cornwall, United Kingdom.
- (6) Uplink transmissions from the earth station located at Goonhilly Downs in Cornwall, United Kingdom to the DOGE-1 shall be limited to a frequency of 2071.4 MHz and shall employ an emission bandwidth no greater 450 kHz.
- (7) Uplink transmissions from the earth station located at Goonhilly Downs in Cornwall, United Kingdom to the DOGE-1 shall cease when the NASA WISE (NORAD designation 36119, International Spacecraft ID 2009-071A) is within horizon-to-horizon view of the earth station.
- (8) Geometric Energy Corporation shall coordinate the addition of any earth station location operating in the 2025-2110 MHz, 2200-2290 MHz, or 8025-8400 MHz bands (including earth station locations outside the US&P) with the NTIA and federal agencies prior to submitting applications for regulatory approval.
- (9) Satellite transmissions from the DOGE-1 shall cease operation when not in view of the supporting earth stations.

Special Conditions:

- (10) All transmissions in the band 2200-2290 MHz and 8025-8400 MHz band shall comply with national and international power flux density limits, unless otherwise coordinated with the NTIA and federal agencies. PFD analysis shall be submitted with the FCC application and provided to the NTIA for US Government review.
- (11) Geometric Energy Corporation shall be aware that the 8025-8400 MHz band is allocated to the Earth Exploration-Satellite Service and satellite transmissions within this band are limited to information relating to the characteristics of the Earth and its natural phenomena. Geometric Energy Corporation shall have no expectations that future requests for operations in this band that do not satisfy this requirement, including requests for renewal, will be approved.
- (12) Geometric Energy Corporation shall submit the appropriate advance publication and information to the International Telecommunications Union (ITU) prior to operations of the DOGE-1, and transmissions from foreign earth stations to the DOGE-1 shall obtain the appropriate regulatory approvals from the respective foreign administrations prior to operations.