UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): October 21, 2026

TERRESTRIAL ENERGY INC.

(Exact name of registrant as specified in its charter)

Delaware	**001-42252**	**98-1785406**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

2730 W. Tyvola Road, Suite 100
Charlotte, NC 28217
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: **(646) 687-8212**

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.0001 per share	IMSR	The Nasdaq Stock Market LLC
Redeemable Warrants, each whole warrant exercisable for one Common Stock at a price of $11.50 per share	IMSRW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

Terrestrial Energy Announces Share Repurchase Program

CHARLOTTE, N.C.-- (BUSINESSWIRE) -- October 27, 2026 -- Terrestrial Energy Inc. (Nasdaq: IMSR) ("Terrestrial Energy" or the "Company"), a leader in Generation IV molten salt nuclear plants supplying electricity and high-temperature industrial heat, today announced that its Board of Directors has authorized a share repurchase program of up to $25 million of the Company's common stock.

Share Repurchase Program Details

Under the program, the Company may repurchase shares of its common stock from time to time through open market purchases, privately negotiated transactions, block trades or other means, including under a trading plan adopted in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance with Rule 10b-18 under the Exchange Act and other applicable laws, rules and regulations. The timing, manner, price and amount of any repurchases will be determined by management at its discretion based on general economic and market conditions, the Company's share price, capital requirements, applicable legal requirements and other factors.

The program will be funded from the Company's existing cash on hand. It does not obligate the Company to repurchase any particular amount of common stock, may be modified, suspended or discontinued at any time at the Company's discretion without prior notice, and will expire on October 22, 2027. As of October 23, 2026, the Company had approximately 105.9 million shares of common stock outstanding, including shares of common stock issuable upon exchange of outstanding exchangeable shares.

About Terrestrial Energy

Terrestrial Energy is a developer of Generation IV nuclear plants powered by its Integral Molten Salt Reactor (IMSR) technology, delivering innovation in efficiency, cost, versatility and functionality. The IMSR Plant is small, modular and designed to supply low-cost, reliable, high-temperature heat and electricity for industrial applications, including data centers, and chemical and petrochemical supply. By extending nuclear energy beyond power markets, IMSR Plant supports clean firm heat and power, self-reliance, grid reliability and economic growth. Using proven U.S. molten salt technology and inexpensive, readily available standard-assay low-enriched uranium fuel, Terrestrial Energy is working with regulators, suppliers, customers and industrial partners to commission a fleet of IMSR plants across the U.S. in the 2030s. Learn more: terrestrialenergy.com.

Forward-Looking Statements

This press release includes "forward-looking statements" within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, as amended. Statements that refer to expectations, milestones, projections, forecasts, beliefs, intentions and strategies are forward-looking statements. These forward-looking statements include, but are not limited to, statements regarding the share repurchase program, including the timing, manner, price and amount of any repurchases and the impact of the program on our share price, our capital allocation framework and priorities, our business strategies, and our expectations, milestones, beliefs, intentions or strategies regarding the future. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “will,” “would” and similar expressions identify forward-looking statements.

These forward-looking statements are based on our current expectations and beliefs concerning future developments and their potential effects on the Company. There can be no assurance that future developments affecting the Company will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) and other assumptions that may cause actual results or performance to differ materially from those expressed or implied, including risks related to (i) the development, manufacture and construction of IMSR Plants and key components, including delays, cost overruns and contractor performance issues; (ii) our ability to obtain regulatory approvals and licenses on a timely basis or at all; (iii) the accuracy of our estimates, and the underlying assumptions, regarding lifetime revenue and gross margin of IMSR Plants and our serviceable addressable market; (iv) the ability of management to manage growth; (v) the possibility that we may be adversely affected by other economic, business, and competitive factors (including from alternative energy technologies, energy price volatility, and competition from other advanced reactor developers); (vi) potential supply chain constraints and cost inflation for specialized nuclear-

grade materials and components; (vii) failure to comply with laws and regulations governing the use, transportation, and disposal of toxic, hazardous and radioactive materials; (viii) changes in domestic and foreign business, financial and political conditions and in applicable laws and regulations (including tariffs); (ix) our ability to raise additional funding in the future; (x) the outcome of any legal proceedings; and (xi) other risks and uncertainties described in documents we file with the Securities and Exchange Commission, including the risks and uncertainties described in our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q.

In addition, there may be other risks that we are not currently aware of, or that we currently believe are immaterial, that could also cause actual results to differ from those described herein. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Contacts

Terrestrial Energy Investor Center:

https://www.terrestrialenergy.com/investors

Terrestrial Energy Media & Investor Contact:

investor@terrestrialenergy.com

media@terrestrialenergy.com

Source: Terrestrial Energy Inc.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: October 27, 2026

TERRESTRIAL ENERGY INC.

By: /s/ Brian Thrasher
Name: Brian Thrasher
Title: Chief Financial Officer