SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

Factorial Energy Inc.

(Name of Issuer)

Class A Common Stock, par value $0.00001 per share

(Title of Class of Securities)

(CUSIP Number)

WAVE Equity GP LP
67 Batterymarch St, Suite 500
Boston, MA, 02110
(617) 350-9808

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

06/05/2026

(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. ☐

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

SCHEDULE 13D

CUSIP No.

1	Name of reporting person WAVE Equity Fund, L.P.
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)
3	SEC use only

4	Source of funds (See Instructions) WC
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐
6	Citizenship or place of organization CAYMAN ISLANDS

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 10,584,189.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 10,584,189.00

11	Aggregate amount beneficially owned by each reporting person 10,584,189.00
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐
13	Percent of class represented by amount in Row (11) 9.9 %
14	Type of Reporting Person (See Instructions) PN

Comment for Type of Reporting Person:	Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person WAVE Factorial Energy I, LLC
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)
3	SEC use only
4	Source of funds (See Instructions) WC
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐
6	Citizenship or place of organization DELAWARE

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 634,715.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 634,715.00

11	Aggregate amount beneficially owned by each reporting person 634,715.00
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐
13	Percent of class represented by amount in Row (11) 0.6 %
14	Type of Reporting Person (See Instructions) OO

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person WAVE AAC/LIO Co-Invest III, LLC
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)
3	SEC use only
4	Source of funds (See Instructions) WC
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐
6	Citizenship or place of organization DELAWARE

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 255,548.00
	9	Sole Dispositive Power 0.00

	10	Shared Dispositive Power 255,548.00
11	Aggregate amount beneficially owned by each reporting person 255,548.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐	
13	Percent of class represented by amount in Row (11) 0.2 %	
14	Type of Reporting Person (See Instructions) OO	

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person WAVE Equity GP LP		
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)		
3	SEC use only		
4	Source of funds (See Instructions) AF, WC		
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐		
6	Citizenship or place of organization CAYMAN ISLANDS		
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00	
	8	Shared Voting Power 10,839,737.00	
	9	Sole Dispositive Power 0.00	
	10	Shared Dispositive Power 10,839,737.00	
11	Aggregate amount beneficially owned by each reporting person 10,839,737.00		
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐		

13	Percent of class represented by amount in Row (11) 10.1 %
14	Type of Reporting Person (See Instructions) PN

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person WAVE Equity LLC		
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)		
3	SEC use only		
4	Source of funds (See Instructions) AF		
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐		
6	Citizenship or place of organization DELAWARE		
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00	
	8	Shared Voting Power 634,715.00	
	9	Sole Dispositive Power 0.00	
	10	Shared Dispositive Power 634,715.00	
11	Aggregate amount beneficially owned by each reporting person 634,715.00		
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐		
13	Percent of class represented by amount in Row (11) 0.6 %		
14	Type of Reporting Person (See Instructions) OO		

Comment for Type of Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

Reporting Person:

SCHEDULE 13D

CUSIP No.

1	Name of reporting person Mark Robinson	
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)	
3	SEC use only	
4	Source of funds (See Instructions) AF	
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐	
6	Citizenship or place of organization UNITED STATES	
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 11,474,452.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 11,474,452.00
11	Aggregate amount beneficially owned by each reporting person 11,474,452.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐	
13	Percent of class represented by amount in Row (11) 10.7 %	
14	Type of Reporting Person (See Instructions) IN	

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person Praveen Sahay	
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)	
3	SEC use only	
4	Source of funds (See Instructions) AF	
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐	
6	Citizenship or place of organization UNITED STATES	
Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 11,474,452.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 11,474,452.00
11	Aggregate amount beneficially owned by each reporting person 11,474,452.00	
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐	
13	Percent of class represented by amount in Row (11) 10.7 %	
14	Type of Reporting Person (See Instructions) IN	

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

CUSIP No.

1	Name of reporting person U. Haskell Crocker
2	Check the appropriate box if a member of a Group (See Instructions) ☐ (a) ☐ (b)

3	SEC use only
4	Source of funds (See Instructions) AF
5	Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e) ☐
6	Citizenship or place of organization UNITED STATES

Number of Shares Beneficially Owned by Each Reporting Person With:	7	Sole Voting Power 0.00
	8	Shared Voting Power 11,474,452.00
	9	Sole Dispositive Power 0.00
	10	Shared Dispositive Power 11,474,452.00

11	Aggregate amount beneficially owned by each reporting person 11,474,452.00
12	Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) ☐
13	Percent of class represented by amount in Row (11) 10.7 %
14	Type of Reporting Person (See Instructions) IN

Comment for Type of Reporting Person: Based upon a total of 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding.

SCHEDULE 13D

Item 1.	Security and Issuer
(a)	Title of Class of Securities: Class A Common Stock, par value $0.00001 per share
(b)	Name of Issuer: Factorial Energy Inc.
(c)	Address of Issuer's Principal Executive Offices: 805 Middlesex Turnpike, Billerica, MASSACHUSETTS , 01821.
Item 2.	Identity and Background
(a)	This Schedule 13D is filed by: (i) WAVE Equity Fund, L.P. ("WAVE Equity Fund"), WAVE Factorial Energy I, LLC ("WAVE Factorial") and WAVE AAC/LIO Co-Invest III, LLC ("WAVE Co-Invest," and together, the "Funds"); (ii) WAVE Equity GP LP ("WAVE GP"), the general partner of WAVE Equity Fund and WAVE Co-Invest; (iii) WAVE Equity LLC ("WAVE LLC"), the general partner of WAVE Factorial; and (iv) the three managers who share voting and investment control over WAVE GP and WAVE LLC, Mark Robinson, Praveen Sahay and Haskell Crocker (the "Managers"). Voting and investment power over WAVE GP and WAVE LLC is shared equally among the three Managers, each holding a one-third vote, such that any voting or disposition of the securities requires the concurrence of at least two of the three Managers and no single Manager may act unilaterally or exercise sole control. The Reporting Persons are filing jointly pursuant to the Joint Filing Agreement filed as an exhibit hereto.

(b) The business address of the Reporting Persons is 67 Batterymarch St, Suite 500, Boston, MA 02110.

(c) Each Manager is one of three members who share voting and investment control over the general partners of the Funds; the principal occupation of each Manager is manager of WAVE Equity Partners LLC and its funds. Each of the Funds, WAVE GP and WAVE LLC is principally engaged in the business of making, holding and disposing of investments.

(d) During the last five years, none of the Reporting Persons has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction as a result of which it was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(e) During the last five years, none of the Reporting Persons has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction as a result of which it was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Each of WAVE Equity Fund and WAVE GP is organized under the laws of the Cayman Islands, and each of WAVE Factorial, WAVE Co-Invest and WAVE LLC is organized under the laws of Delaware. The citizenship of each Manager is the United States.

Item 3. Source and Amount of Funds or Other Consideration

The shares of Class A common stock of the Issuer (the "Class A Common Stock") reported as beneficially owned by the Reporting Persons were acquired by the Funds on June 5, 2026 (the "Closing") in connection with the consummation of the Issuer's business combination with Cartesian Growth Corporation III, a Cayman Islands exempted company (the "Business Combination"), as a result of which the Company is named Factorial Energy Inc. The Class A Common Stock was received by the Funds in respect of equity interests held prior to the Business Combination; no additional cash consideration was paid by the Funds at the Closing in respect of such shares. The source of the funds used by the Funds to acquire their pre-existing interests was capital contributions from the limited partners (or members, as applicable) of the Funds. In the case of WAVE Equity Fund, such capital was raised contributions by its limited partners and general partner.

Item 4. Purpose of Transaction

The Reporting Persons acquired the Class A Common Stock reported herein as a result of the Business Combination and hold such securities for investment purposes. The shares held by the Funds are being registered for resale by the Issuer on a Registration Statement on Form S-1. Other than as described in this Item 4, none of the Reporting Persons presently has any plans or proposals that relate to or would result in any of the transactions or matters specified in clauses (a) through (j) of Item 4 of Schedule 13D, although the Reporting Persons may review or reconsider their position and formulate plans or proposals with respect thereto.

Item 5. Interest in Securities of the Issuer

(a) The percentages below are calculated based on 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding. Each Fund directly holds, and shares with the applicable general partner and the Managers the power to vote and dispose of, the following shares of Class A Common Stock: (i) WAVE Equity Fund: 10,584,189 shares (or 9.9% of the Class A Common Stock issued and outstanding); (ii) WAVE Factorial: 634,715 shares (or 0.6% of the Class A Common Stock issued and outstanding); and (iii) WAVE Co-Invest: 255,548 shares (or 0.2% of the Class A Common Stock issued and outstanding). WAVE GP, as general partner of WAVE Equity Fund and WAVE Co-Invest, may be deemed to share voting and dispositive power over the shares held by those two Funds. WAVE LLC, as general partner of WAVE Factorial, may be deemed to share voting and dispositive power over the 634,715 shares held by WAVE Factorial. Voting and investment power over WAVE GP and WAVE LLC is shared equally among the three Managers, each holding a one-third vote and none acting alone; accordingly, each Manager may be deemed to share voting and dispositive power over, and to beneficially own, all of the shares held by the Funds, representing approximately 10.7% of the Class A common stock in the aggregate. No Reporting Person holds sole voting or dispositive power over any shares. Each Reporting Person disclaims beneficial ownership of the reported securities except to the extent of its or his pecuniary interest therein.

(b) The percentages below are calculated based on 107,023,245 shares of Class A common stock outstanding upon completion of the Business Combination, as reported by the Issuer on its Form 8-K on June 10, 2026, and assumes the exchange of 15,512,744 shares of Issuer's Series B Common Stock outstanding. Each Fund directly holds, and shares with the applicable general partner and the Managers the power to vote and dispose of, the following shares of Class A Common Stock: (i) WAVE Equity Fund: 10,584,189 shares (or 9.9% of the Class A Common Stock issued and outstanding); (ii) WAVE Factorial: 634,715 shares (or 0.6% of the Class A Common Stock issued and outstanding); and (iii) WAVE Co-Invest: 255,548 shares (or 0.2% of the Class A Common Stock issued and outstanding). WAVE GP, as general partner of WAVE Equity Fund and WAVE Co-Invest, may be deemed to share voting and dispositive power over the shares held by those two Funds. WAVE LLC, as general partner of WAVE Factorial, may be deemed to share voting and dispositive power over the 634,715 shares held by WAVE Factorial. Voting and investment power over WAVE GP and WAVE LLC is shared equally among the three Managers, each holding a one-third vote and none acting alone; accordingly, each Manager may be deemed to share voting and dispositive power over, and to beneficially own, all of the shares held by the Funds, representing approximately

10.7% of the Class A common stock in the aggregate. No Reporting Person holds sole voting or dispositive power over any shares. Each Reporting Person disclaims beneficial ownership of the reported securities except to the extent of its or his pecuniary interest therein.

(c) Except for the acquisition of the Class A Common Stock at the Closing as described in Item 3, none of the Reporting Persons has effected any transaction in the Class A common stock during the past sixty days.

(d) None.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer

The Reporting Persons are party to a Joint Filing Agreement, filed as an exhibit hereto. The shares held by the Funds are being registered for resale by the Issuer on a Registration Statement on Form S-1. Except as described herein, there are no other contracts, arrangements, understandings or relationships among the Reporting Persons or between the Reporting Persons and any other person with respect to the securities of the Issuer.

Item 7. Material to be Filed as Exhibits.

1. Joint Filing Agreement, dated as of June 26, 2026, by and among the Reporting Persons.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

WAVE Equity Fund, L.P.

Signature: /s/ Mark Robinson
Name/Title: Mark Robinson/Manager
Date: 06/26/2026

WAVE Factorial Energy I, LLC

Signature: /s/ Mark Robinson
Name/Title: Mark Robinson/Manager
Date: 06/26/2026

WAVE AAC/LIO Co-Invest III, LLC

Signature: /s/ Mark Robinson
Name/Title: Mark Robinson/Manager
Date: 06/26/2026

WAVE Equity GP LP

Signature: /s/ Mark Robinson
Name/Title: Mark Robinson/Manager
Date: 06/26/2026

WAVE Equity LLC

Signature: /s/ Mark Robinson
Name/Title: Mark Robinson/Manager
Date: 06/26/2026

Mark Robinson

Signature: /s/ Mark Robinson
Name/Title: Managing Director
Date: 06/26/2026

Praveen Sahay

Signature: /s/ Praveen Sahay
Name/Title: Managing Director
Date: 06/26/2026

U. Haskell Crocker

Signature: /s/ Haskell Crocker
Name/Title: Managing Director
Date: 06/26/2026

Exhibit 1

Joint Filing Agreement

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the undersigned hereby agree to the joint filing on behalf of each of them of a statement on Schedule 13D (including all amendments thereto) with respect to the Class A common stock, par value $0.00001 per share, of Factorial Energy Inc., a Delaware corporation, and that this Joint Filing Agreement shall be included as an Exhibit to such joint filing and may, as required, be included as an exhibit to subsequent amendments thereto.

Each of the undersigned agrees and acknowledges that each party hereto is (i) individually eligible to use such Schedule 13D and (ii) responsible for the timely filing of such Schedule 13D and any and all amendments thereto, and for the completeness and accuracy of the information concerning such party contained therein; provided that no party is responsible for the completeness and accuracy of the information concerning any other party unless such party knows or has reason to believe that such information is inaccurate.

This Joint Filing Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument. A facsimile, telecopy or other reproduction of this Joint Filing Agreement may be executed by one or more parties hereto, and an executed copy of this Joint Filing Agreement may be delivered by one or more parties hereto by facsimile or similar instantaneous electronic transmission device pursuant to which the signature of or on behalf of such party can be seen, and such execution and delivery shall be considered valid, binding and effective for all purposes as of the date hereof.

[Signature page to follow.]

IN WITNESS WHEREOF, the undersigned hereby execute this Joint Filing Agreement as of June 26, 2026.

WAVE Equity Fund, L.P.

By: WAVE Equity GP LP, its general partner
By: /s/ Mark Robinson
Name: Mark Robinson
Title: Manager

WAVE AAC/LIO Co-Invest III, LLC

By: WAVE Equity GP LP, its general partner
By: /s/ Mark Robinson
Name: Mark Robinson
Title: Manager

WAVE Factorial Energy I, LLC

By: WAVE Equity LLC, its general partner
By: /s/ Mark Robinson
Name: Mark Robinson
Title: Manager

WAVE Equity GP LP

By: /s/ Mark Robinson
Name: Mark Robinson
Title: Manager

WAVE Equity LLC

By: /s/ Mark Robinson
Name: Mark Robinson
Title: Manager

By: /s/ Mark Robinson
Name: Mark Robinson

By: /s/ Praveen Sahay
Name: Praveen Sahay

By: /s/ Haskell Crocker
Name: Haskell Crocker