

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

FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

NET POWER INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

98-1580612

(I.R.S. Employer
Identification Number)

**320 Roney Street, Suite 200
Durham, North Carolina 27701
(919) 287-4750**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Approximate date of commencement of proposed sale to the public:
From time to time after the effective date of this registration statement**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

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 7(a)(2)(B) of the Securities Act.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where an offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED NOVEMBER 15, 2024

PROSPECTUS



NET POWER INC.

**\$750,000,000
Class A Common Stock
Preferred Stock
Warrants
Rights
Units**

and

2,806,243 Shares of Class A Common Stock Offered by the Selling Stockholder

We may offer and sell, from time to time, in one or more series or classes, separately or together, and in amounts, at prices and on terms to be set forth in one or more supplements to this prospectus, the following securities: shares of our Class A common stock, par value \$0.0001 ("Class A Common Stock"); shares of our preferred stock, par value \$0.0001 per share ("preferred stock"); warrants to purchase shares of our Class A Common Stock or preferred stock; rights to purchase shares of our Class A Common Stock, preferred stock, warrants or units; or units comprised of shares of any of the foregoing securities or any combination thereof. The aggregate initial offering price of all securities sold by us under this prospectus (the "securities") will not exceed \$750,000,000.

The specific terms of the securities will be set forth in the applicable prospectus supplement and will include, among other things and as applicable: (i) in the case of our Class A Common Stock, any public offering price; (ii) in the case of our preferred stock, the specific designation and any dividend, liquidation, redemption, conversion, voting and other rights, and any public offering price; (iii) in the case of warrants, the duration, offering price, exercise price and detachability; (iv) in the case of rights, the number being issued, the exercise price and the expiration date; and (v) in the case of units, the title of the series of units, the type and terms of securities comprising the units, and any public offering price. The applicable prospectus supplement will also contain information, where applicable, about certain U.S. federal income tax consequences relating to, and any listing on a securities exchange of, the securities covered by such prospectus supplement. It is important that you read both this prospectus and the applicable prospectus supplement before you invest.

We may offer the securities directly, through agents, or to or through underwriters. The prospectus supplement will describe the terms of the plan of distribution and set forth the names of any underwriters involved in the sale of the securities. See "Plan of Distribution" for more information on this topic. No securities may be sold without delivery of a prospectus supplement describing the method and terms of the offering of those securities.

This prospectus also covers the offering and resale by the selling stockholder identified herein (the "selling stockholder") of up to 2,806,243 shares of our Class A Common Stock, from time to time, in amounts, at prices and on terms that will be determined at the time of the applicable offering. The selling stockholder may offer and sell such shares directly, through agents, or to or through underwriters. See "Plan of Distribution" for more information about how the selling stockholder may sell or otherwise dispose of such shares. Our registration of these shares does not mean that the selling stockholder will offer or sell any shares of our Class A Common Stock. We will not receive any proceeds from the sale or other disposition of the Class A Common Stock by the selling stockholder.

Our Class A Common Stock and warrants initially sold as part of the units issued in our initial public offering (our "IPO") are listed on the New York Stock Exchange ("NYSE") under the symbols "NPWR" and "NPWR WS," respectively.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 and have elected to comply with certain reduced public company reporting requirements.

Investing in our securities involves risks that are described in the "Risk Factors" section beginning on page 3 of this prospectus and in the documents incorporated by reference herein.

Neither the Securities and Exchange Commission (the "SEC") nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2024.

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ABOUT THIS PROSPECTUS

This prospectus is part of a shelf registration statement. Under this shelf registration statement, we may sell, from time to time and in one or more offerings, up to \$750,000,000 of any combination of the securities described in this prospectus. This prospectus provides you with a general description of our securities that we may offer and is not meant to be a complete description of each of the securities. In addition, the selling stockholder may sell, from time to time and in one or more offerings, up to an aggregate of 2,806,243 shares of our Class A Common Stock.

You should read carefully the entirety of this prospectus and any applicable prospectus supplement, as well as the documents incorporated by reference in this prospectus and any applicable prospectus supplement, before making an investment decision. You should also read and consider the information in the documents we have referred you to in the sections of this prospectus entitled “Incorporation of Certain Information by Reference” and “Where You Can Find More Information.”

You should rely only on the information provided or incorporated by reference in this prospectus or any applicable prospectus supplement. We and the selling stockholder have not authorized anyone to provide you with different or additional information.

You should not assume that the information appearing in this prospectus or any applicable prospectus supplement or the documents incorporated by reference herein or therein is accurate as of any date other than their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

We are not making an offer to sell these securities in any jurisdiction where the offer or sale of these securities is not permitted.

In this prospectus, unless otherwise specified or the context requires otherwise, we use the terms “Net Power,” the “Company,” “we,” “us” and “our” to refer to NET Power Inc. and its consolidated subsidiaries.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any accompanying prospectus supplement and the documents incorporated by reference may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), that are subject to a number of risks and uncertainties, many of which are beyond our control. All statements other than statements of historical fact, including those regarding our strategy, future operations, financial position, estimated revenues and losses, projected costs, prospects, plans and objectives of management, are forward-looking statements. Forward-looking statements can be identified by terms such as “could,” “believe,” “anticipate,” “intend,” “estimate,” “expect,” “may,” “continue,” “predict,” “potential,” “project” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such identifying words.

All forward-looking statements speak only as of the date of the document in which they are contained; we disclaim any obligation to update these statements unless required by law, and we caution you not to place undue reliance on them. Although we believe that our plans, intentions and expectations reflected in or suggested by these forward-looking statements are reasonable, we can give no assurance that these plans, intentions or expectations will be achieved. We disclose important factors that could cause our actual results to differ materially from our expectations under “Risk Factors” in our most recent Annual Report on Form 10-K. These factors, some of which are beyond our control, include, but are not limited to: (i) risks relating to the uncertainty of the projected financial information with respect to the Company and risks related to the Company’s ability to meet its projections; (ii) the ability to recognize the anticipated benefits of the transactions contemplated by that certain Business Combination Agreement, dated as of December 13, 2022 (as amended), by and among NET Power, LLC (“Old NET Power”), Rice Acquisition Corp. II (“RONI”), Rice Acquisition Holdings II LLC (“RONI Opco”), Topo Buyer Co, LLC and Topo Merger Sub, LLC, which were effected on June 8, 2023, and which may be affected by, among other things, competition, the ability of the Company to grow and manage growth profitably and the ability of the Company retain its management and key employees; (iii) the Company’s ability to utilize its net operating loss and tax credit carryforwards effectively; (iv) the capital-intensive nature of the Company’s business model, which will likely require the Company to raise additional capital in the future; (v) barriers the Company may face in its attempts to deploy and commercialize its technology; (vi) the complexity of the machinery the Company relies on for its operations and development; (vii) potential changes and/or delays in site selection and construction that result from regulatory, logistical and financing challenges; (viii) the Company’s ability to establish and maintain supply relationships; (ix) risks related to the Company’s arrangements with third parties for the development, commercialization and deployment of technology associated with the Company’s technology; (x) risks related to the Company’s other strategic investors and partners; (xi) the Company’s ability to successfully commercialize its operations; (xii) the availability and cost of raw materials; (xiii) the ability of the Company’s supply base to scale to meet the Company’s anticipated growth; (xiv) the Company’s ability to expand internationally; (xv) the Company’s ability to update the design, construction and operations of its technology; (xvi) the impact of potential delays in discovering manufacturing and construction issues; (xvii) the possibility of damage to the Company’s Texas facilities as a result of natural disasters; (xviii) the ability of commercial plants using the Company’s technology to efficiently provide net power output; (xix) the Company’s ability to obtain and retain licenses; (xx) the Company’s ability to establish an initial commercial scale plant; (xxi) the Company’s ability to license to large customers; (xxii) the Company’s ability to accurately estimate future commercial demand; (xxiii) the Company’s ability to adapt to the rapidly evolving and competitive natural and renewable power industry; (xxiv) the Company’s ability to comply with all applicable laws and regulations; (xxv) the impact of public perception of fossil fuel-derived energy on the Company’s business; (xxvi) any political or other disruptions in gas producing nations; (xxvii) the Company’s ability to protect its intellectual property and the intellectual property it licenses; (xxviii) risks relating to data privacy and cybersecurity, including the potential for cyberattacks or security incidents that could disrupt our or our service providers’ operations; (xxix) potential litigation that may be instituted against the Company; and (xxx) other risks and uncertainties indicated in this prospectus, including those under the section titled “Risk Factors,” and other documents filed or to be filed with the SEC by the Company.

Should one or more of these risks or uncertainties materialize, or should any of the assumptions made by our management prove incorrect, actual results may vary in material respects from those projected in the forward-looking statements contained in this prospectus. Accordingly, you should not place undue reliance on these forward-looking statements in deciding whether to invest in our securities.

Forward-looking statements speak only as of the date they are made. Except to the extent required by applicable law or regulation, we undertake no obligation to update the forward-looking statements contained herein to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events. The Company gives no assurance that it will achieve its expectations.

SUMMARY

Net Power is a clean energy technology company that has developed a novel power generation system (which we refer to as the “Net Power Cycle”) designed to produce clean, reliable and low-cost electricity from natural gas while capturing virtually all atmospheric emissions. Old Net Power was founded in 2010 and methodically progressed the technology from a theoretical concept to reality with the construction and commissioning of the Company’s demonstration facility in La Porte, Texas (the “Demonstration Plant”). The Net Power Cycle is designed to inherently capture carbon dioxide (“CO₂”) while producing virtually no air pollutants such as sulfur oxides, nitrogen oxides and other particulates. It can operate as a traditional baseload power plant, providing reliable electricity to the grid at capacity factors targeted to be above 90%. It can also complement intermittent renewables, providing clean dispatchable electricity that can be programmed on demand at the request of power grid operators and according to market needs, while demonstrating substantial improvements in effectiveness, affordability and environmental performance as compared to existing carbon capture technologies for power generation. It leverages existing natural gas infrastructure and avoids issues of generation capacity and grid transmission overbuild created by other technologies, helping to further reduce system-wide decarbonization costs.

The Net Power Cycle is designed to achieve clean, reliable and low-cost electricity generation through Net Power’s patented highly recuperative oxy-combustion process. This process involves the combination of two technologies:

- *Oxy-combustion*, a clean heat generation process in which fuel is mixed with oxygen such that the resulting byproducts from combustion consist of only water and pure CO₂; and
- *Supercritical CO₂ power cycle*, a closed or semi-closed loop process that replaces the air or steam used in most power cycles with recirculating CO₂ at high pressure, as supercritical CO₂, (“sCO₂”) producing power by expanding sCO₂ continuously through a turbo expander.

In the Net Power Cycle, CO₂ produced in oxy-combustion is immediately captured in a sCO₂ cycle that produces electricity. As CO₂ is added through oxy-combustion and recirculated, excess captured CO₂ is siphoned from the cycle at high purity for export to permanent storage or utilization.

The Net Power Cycle was first demonstrated at our 50 MWth Demonstration Plant in La Porte, Texas, which broke ground in 2016 and began testing in 2018. We conducted three testing campaigns over three years and synchronized to the Texas grid in the fall of 2021. Through these tests, we achieved technology validation, reached critical operational milestones and accumulated over 1,500 hours of total facility runtime as of December 31, 2023.

Net Power plans to license its technology through offering plant designs ranging from industrial-scale configurations between 25-115 MW net electric output to utility-scale units of up to 300 MW net electric output capacity. This technology is supported by a portfolio of 447 issued patents (as of December 31, 2023) in-licensed on an exclusive, irrevocable basis (in the applicable field) from 8 Rivers Capital, LLC as well as significant know-how and trade secrets generated through experience at the Demonstration Plant.

Over the next several years, Net Power plans to conduct additional research and equipment validation testing campaigns at its Demonstration Plant and construct its first utility-scale plant. Net Power began purchasing and expects to make additional purchases of initial long-lead materials for the first utility-scale plant in 2024 and 2025 and targets initial power generation between the second half of 2027 and the first half of 2028. Net Power intends to deploy its technology in the United States and around the world by leveraging experience gained from the Demonstration Plant as well as from the support and expertise of Net Power’s current owners, including OLCV NET Power, LLC, Baker Hughes Energy Services LLC (“BHES”), and Constellation Energy Generation, LLC.

Net Power’s potential customers include electric utilities, oil and gas companies, midstream oil and gas companies, technology companies and industrial facilities, both in domestic and international markets. Net Power has engaged in active dialogue with potential customers in each of these industries. Net Power’s end-markets can be broken down into three general categories: baseload generation, dispatchable generation and industrial applications. Baseload generation includes replacing emitting fossil fuel-fired facilities (brownfield) or installing new clean baseload capacity (greenfield). Net Power believes many customers will seek its dispatchable technology to balance the intermittency of renewable generation. Potential industrial customers, such as data centers, direct air capture facilities, steel facilities, chemical plants and hydrogen production facilities, include those that have significant 24-hour energy needs and goals to decarbonize. Net Power’s technology can provide the necessary clean, reliable, low-cost electricity and heat energy to these facilities as well.

Net Power believes that the Net Power Cycle can serve as a key enabling platform for a low-carbon future, addressing shortfalls inherent to alternative options while contributing to an overall lower system-wide cost of decarbonization. Net Power believes that through its innovative process, it can provide a lower cost of electricity, reduction and in some cases elimination of environmental impacts related to thermal power use (air pollution, water use, land use and deforestation), reliability and dispatchability contributing to energy security and lower costs as well as an ability to achieve required carbon reduction targets. Net Power believes the build-out of the Net Power Cycle will provide the world with clean, reliable and low-cost energy.

Corporate Information

Our principal executive offices are located at 320 Roney Street, Suite 200, Durham, North Carolina 27701, and our telephone number at that location is (919) 287-4750. Our website is <https://www.ir.netpower.com>. Information contained on our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties incorporated by reference to our most recent Annual Report on Form 10-K and our subsequent Quarterly Reports on Form 10-Q. You should also consider any risks and uncertainties described under the caption “Risk Factors” in any applicable prospectus supplement and in any document that we file with the SEC after the date of this prospectus that is incorporated by reference herein. Our business, financial condition, results of operations or prospects could be materially adversely affected by any of these risks. The market or trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. Please note that additional risks not presently foreseen by us or that we currently deem immaterial may also impair our business and operations.

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USE OF PROCEEDS

Unless otherwise specified in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities for general corporate purposes, including financing the design and deployment of Net Power plants, making capital expenditures, funding working capital and funding future investments. Further details relating to the use of the net proceeds will be set forth in the applicable prospectus supplement.

Up to 2,806,243 shares of our Class A Common Stock may be sold or otherwise disposed of for the account of the selling stockholder. We will not receive any of the proceeds from the sale or other disposition of the Class A Common Stock by the selling stockholder.

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SELLING STOCKHOLDER

This prospectus covers up to 2,806,243 shares of Class A Common Stock (the “Selling Stockholder’s Shares”) that may be sold or otherwise disposed of by the selling stockholder. The registration of the offer and sale of these shares does not mean that the selling stockholder will sell or otherwise dispose of all or any of these shares. The selling stockholder may sell or otherwise dispose of all, a portion or none of such shares from time to time. We do not know the aggregate number of securities, if any, that will be offered for sale or other disposition by the selling stockholder under this prospectus. We will not receive any of the proceeds from the sales of Class A Common Stock by the selling stockholder.

The Selling Stockholder’s Shares are issuable upon the redemption of the 2,806,243 units (“Opco Units”) of NET Power Operations LLC (“Opco”) issued to BHES (an affiliate of Baker Hughes Company) for services provided by Nuovo Pignone International, S.r.l. (an affiliate of Baker Hughes Company) pursuant to the Amended and Restated Joint Development Agreement, dated December 13, 2022 (as amended, supplemented or otherwise modified from time to time in accordance with its terms, the “Amended and Restated JDA”), by and among Old NET Power, RONI, RONI Opco, Nuovo Pignone International, S.r.l. and Nuovo Pignone Tecnologie S.r.l. For more information on the terms of the Amended and Restated JDA and for information regarding relationships between us and the selling stockholder, see “Certain Relationships and Related Party Transactions — Related Party Transactions — Baker Hughes Agreements” in the proxy statement for our 2024 annual meeting.

The following table sets forth, as of the date of this prospectus, the name of the selling stockholder, the number of shares of Class A Common Stock that the selling stockholder may offer pursuant to this prospectus and the shares of our Class A Common Stock owned by the selling stockholder before and after the offering. Information with respect to beneficial ownership is based on information obtained from the selling stockholder.

When we refer to the “selling stockholder” in this prospectus, we mean the person listed in the table below and the pledgees, donees, transferees, assignees, successors and others who later come to hold any of the offered shares other than through a public sale.

Name	Before the Offering	Number of Shares of Class A Common Stock Being Offered	After the Offering ⁽¹⁾	
	Number of Shares of Class A Common Stock		Number of Shares of Class A Common Stock	Percentage of Outstanding Shares of Class A Common Stock
Baker Hughes Energy Services LLC	10,193,438 ⁽²⁾⁽³⁾	2,806,243	7,387,195 ⁽³⁾⁽⁴⁾	9.0% ⁽⁵⁾

(1) Assumes that the selling stockholder has sold all of its shares offered hereby and that it has made no other sales or purchases of, or otherwise transferred or received, additional shares of Common Stock (as defined below).

(2) Consists of 562,672 shares of Class A Common Stock, 9,630,766 shares of Class B Common Stock and 9,630,766 Opco Units.

(3) Pursuant to the limited liability company agreement of Opco, at the request of the holder, each Opco Unit may be redeemed for, at the Company’s election, a newly-issued share of Class A Common Stock or cash, and upon redemption of such Opco Unit, a share of Class B common stock, par value \$0.0001 per share (“Class B Common Stock” and, together with the Class A Common Stock, the “Common Stock”), of the Company shall be surrendered by the holder and canceled by the Company.

(4) Consists of 562,672 shares of Class A Common Stock, 6,824,523 shares of Class B Common Stock and 6,824,523 Opco Units.

(5) Represents the selling stockholder’s percentage ownership of Class A Common Stock, including shares of Class A Common Stock issuable upon redemption of the selling stockholder’s Opco Units, based on the 75,248,435 shares of Class A Common Stock outstanding as of November 12, 2024. Taking into account all shares of Class A Common Stock outstanding and all shares of Class B Common Stock outstanding as of November 12, 2024 (75,248,435 and 140,170,864, respectively), the selling stockholder’s percentage ownership of Common Stock is 3.4%.

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DESCRIPTION OF COMMON STOCK

The following summary description of our Common Stock does not purport to be complete and is subject to and qualified in its entirety by reference to the Delaware General Corporation Law (the “DGCL”) and to our certificate of incorporation (“Certificate of Incorporation”) and bylaws (“Bylaws”). For a more complete understanding of

our Class A Common Stock and our Class B Common Stock, we encourage you to read carefully this entire prospectus, as well as our Certificate of Incorporation and our Bylaws, copies of which are incorporated by reference as exhibits to the registration statement of which this prospectus is a part.

General

Our Certificate of Incorporation authorizes the issuance of (i) 520,000,000 shares of Class A Common Stock and (ii) 310,000,000 shares of Class B Common Stock.

As of November 12, 2024, there were 75,248,435 shares of Class A Common Stock outstanding held of record by 24 holders and 140,170,864 shares of Class B Common Stock outstanding held of record by 28 holders. The number of record holders does not include The Depository Trust Company participants or beneficial owners holding shares through banks, brokers, other financial institutions or other nominees.

Our Class A Common Stock is listed on the NYSE under the symbol “NPWR.”

Class A Common Stock

Voting Rights. Except as provided by law or in a preferred stock designation, holders of Class A Common Stock are entitled to one vote for each share held of record on all matters to be voted upon by the holders of Common Stock and do not have cumulative voting rights. Except as otherwise required by law, holders of Class A Common Stock are not entitled to vote on any amendment to the Certificate of Incorporation (including any certificate of designations relating to any series of preferred stock) that relates solely to the terms of any outstanding series of preferred stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to our Certificate of Incorporation (including any certificate of designations relating to any series of preferred stock) or pursuant to the DGCL.

Dividend Rights. Subject to prior rights and preferences that may be applicable to any outstanding shares or series of preferred stock, holders of Class A Common Stock are entitled to receive ratably in proportion to the shares of Class A Common Stock held by them such dividends (payable in cash, stock or otherwise), if any, as may be declared from time to time by our board of directors (the “Board”) out of funds legally available for dividend payments.

Liquidation Rights. Upon our liquidation, dissolution, distribution of assets or other winding up, the holders of Class A Common Stock are entitled to receive ratably the assets available for distribution to the stockholders after payment of liabilities and the liquidation preference of any of our outstanding shares of preferred stock.

Other Matters. The shares of Class A Common Stock have no preemptive or conversion rights and are not subject to further calls or assessment by us. There are no redemption or sinking fund provisions applicable to our Class A Common Stock.

Class B Common Stock

Generally. Shares of Class B Common Stock will not be transferrable except in connection with a permitted transfer of a corresponding number of Opco Units. Accordingly, each holder of Class B Common Stock will have a number of votes in the Company equal to the aggregate number of Opco Units that it holds.

Voting Rights. Except as provided by law or in a preferred stock designation, holders of shares of Class B Common Stock are entitled to one vote for each share held of record on all matters to be voted upon by the holders of Common Stock and do not have cumulative voting rights. Holders of shares of Class A Common Stock and Class B Common Stock vote together as a single class on all matters presented to our stockholders for their vote or approval, except with respect to the amendment of certain provisions of our Certificate of Incorporation that would alter or change the powers, preferences or special rights of the Class B Common Stock so as to affect them adversely, which amendments must be approved by a majority of the votes entitled to be cast by the holders of the shares affected by the amendment, voting as a separate class or as otherwise required by applicable law. Except as otherwise required by law, holders of Class B Common Stock are not entitled to vote on any amendment to the Certificate of Incorporation (including any certificate of designations relating to any series of preferred stock) that relates solely to the terms of any outstanding series of preferred stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to our Certificate of Incorporation (including any certificate of designations relating to any series of preferred stock) or pursuant to the DGCL.

Dividend Rights. Holders of Class B Common Stock do not have any right to receive dividends, unless the dividend consists of shares of Class B Common Stock or of rights, options, warrants, units or other securities convertible or exercisable into or redeemable for shares of Class B Common Stock paid proportionally with respect to each outstanding share of Class B Common Stock and a dividend consisting of shares of Class A Common Stock or of rights, options, warrants, units or other securities convertible or exercisable into or redeemable for shares of Class A Common Stock on the same terms such dividend is simultaneously paid to the holders of Class A Common Stock.

Liquidation Rights. Holders of our Class B Common Stock do not have any right to receive a distribution upon a liquidation or winding up of the Company.

Anti-takeover Effects of the Certificate of Incorporation and the Bylaws

Our Certificate of Incorporation and our Bylaws contain provisions that may delay, defer or discourage another party from acquiring control of us. We expect that these provisions, which are summarized below, will discourage coercive takeover practices or inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with the Board, which we believe may result in an improvement of the terms of any such acquisition in favor of our stockholders. However, they also give the Board the power to discourage acquisitions that some stockholders may favor.

Authorized but Unissued Capital Stock

Delaware law does not require stockholder approval for any issuance of authorized shares. However, the listing requirements of the NYSE, which would apply so long as the Class A Common Stock (or units or warrants) remains listed on the NYSE, require stockholder approval of certain issuances equal to or exceeding 20% of the then outstanding voting power or then outstanding number of shares of Common Stock. Additional shares that may be issued in the future may be used for a variety of corporate purposes, including future public offerings, to raise additional capital or to facilitate acquisitions.

One of the effects of the existence of unissued and unreserved Common Stock may be to enable the Board to issue shares to persons friendly to current management, which issuance could render more difficult or discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest or otherwise and thereby protect the continuity of management and possibly deprive stockholders of opportunities to sell their shares of Class A Common Stock at prices higher than prevailing market prices.

Special Meeting, Action by Written Consent and Advance Notice Requirements for Stockholder Proposals

Unless otherwise required by law, and subject to the rights, if any, of the holders of any series of preferred stock, special meetings of the stockholders of the Company, for any purpose or purposes, may be called only (i) by the Chief Executive Officer, the Chairman of the Board or the Board or (ii) at any time when no annual meeting has been held for a period of 13 months after the Company’s last annual meeting, a special meeting in lieu thereof may be held, and such special meeting shall have, for the purposes of the Bylaws or otherwise, all the force and effect of an annual meeting. Unless otherwise required by law, written notice of a special meeting of stockholders, stating the time,

place and purpose or purposes thereof, shall be given to each stockholder entitled to vote at such meeting, not less than 10 or more than 60 days before the date fixed for the meeting. Business transacted at any special meeting of stockholders will be limited to the purposes stated in the notice.

The Bylaws also provide that unless otherwise restricted by the Certificate of Incorporation or the Bylaws, any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting, if all members of the Board or of such committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee.

In addition, the Bylaws require advance notice procedures for stockholder proposals to be brought before an annual meeting of the stockholders, including the nomination of directors. Stockholders at an annual meeting may only consider the proposals specified in the notice of meeting or brought before the meeting by or at the direction of the Board, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered a timely written notice in proper form to our secretary, of the stockholder's intention to bring such business before the meeting.

These provisions could have the effect of delaying until the next stockholder meeting any stockholder actions, even if they are favored by the holders of a majority of our outstanding shares of Common Stock.

Limitations on Liability and Indemnification of Officers and Directors

Our Certificate of Incorporation limits the liability of our directors to the fullest extent permitted by the DGCL, and the Bylaws provide that we will indemnify them to the fullest extent permitted by such law. We have entered and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our Board. Under the terms of such indemnification agreements, we are required to indemnify each of our directors and officers, to the fullest extent permitted by the laws of the state of Delaware, if the basis of the indemnitee's involvement was by reason of the fact that the indemnitee is or was our director or officer or any of its subsidiaries or was serving at our request in an official capacity for another entity. We must indemnify our officers and directors against all reasonable fees, expenses, charges and other costs of any type or nature whatsoever, including any and all expenses and obligations paid or incurred in connection with investigating, defending, being a witness in, participating in (including on appeal), or preparing to defend, be a witness or participate in any completed, actual, pending or threatened action, suit, claim or proceeding, whether civil, criminal, administrative or investigative, or establishing or enforcing a right to indemnification under the indemnification agreement. The indemnification agreements also require us, if so requested, to advance all reasonable fees, expenses, charges and other costs that such director or officer incurred, provided that such person will return any such advance if it is ultimately determined that such person is not entitled to indemnification by us. Any claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Exclusive Jurisdiction of Certain Actions

Our Certificate of Incorporation requires, to the fullest extent permitted by law, unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by applicable law, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer, employee, agent or trustee of the Company to the Company or its stockholders, (iii) any action asserting a claim against the Company or any director or officer or other employee of the Company arising pursuant to any provision of the DGCL, the Certificate of Incorporation or Bylaws, or (iv) any action asserting a claim against the Company or any of its director or officer or other employee governed by the internal affairs doctrine, in each such case subject to (a) said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein and (b) the next sentence below hereof for any action asserted to enforce any liability or duty created by the Securities Act or the Exchange Act or, in each case, rules and regulations promulgated thereunder, for which there is exclusive federal or concurrent federal and state jurisdiction. Unless the Company consents in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the federal securities laws of the United States. Although we believe this provision benefits the Company by providing increased consistency in the application of Delaware law in the types of lawsuits to which it applies, the provision may have the effect of discouraging lawsuits against our directors and officers.

DESCRIPTION OF PREFERRED STOCK

General

Our Certificate of Incorporation provides that we may issue up to 1,000,000 shares of preferred stock, \$0.0001 par value per share. As of the date of this prospectus, we had no outstanding shares of preferred stock.

Preferred stock may be issued independently or together with any other securities and may be attached to or separate from other securities. The following description of the preferred stock sets forth general terms and provisions of the preferred stock to which any prospectus supplement may relate. The statements below describing the preferred stock are in all respects subject to and qualified in their entirety by reference to the applicable provisions of our Certificate of Incorporation and Bylaws and any applicable designation designating terms of a series of preferred stock.

Terms

Our Certificate of Incorporation authorizes our Board, subject to any limitations prescribed by law, without further stockholder approval, to establish and to issue up to 1,000,000 shares of preferred stock in one or more series from time to time. Each series of preferred stock will cover the number of shares and will have the powers, preferences, rights, qualifications, limitations and restrictions determined by our Board, which may include, among others, dividend rights, liquidation preferences, voting rights, conversion rights, preemptive rights and redemption rights. Except as provided by law or in a preferred stock designation, the holders of preferred stock will not be entitled to vote at or receive notice of any meeting of stockholders.

The applicable prospectus supplement will describe the terms of the preferred stock in respect of which this prospectus is being delivered, including the following:

- the series, the number of shares offered and the liquidation value of the preferred stock;
- the price at which the preferred stock will be issued;
- the dividend rate, the dates on which the dividends will be payable and other terms relating to the payment of dividends on the preferred stock;
- the voting rights of the preferred stock;

- whether the preferred stock is redeemable or subject to a sinking fund, and the terms of any such redemption or sinking fund;
- whether the preferred stock is convertible or exchangeable for any other securities, and the terms of any such conversion;
- any listing of the preferred stock on any securities exchange; and
- any additional rights, preferences, qualifications, limitations and restrictions of the preferred stock.

Registrar and Transfer Agent

We will name the registrar and transfer agent for the preferred stock in the applicable prospectus supplement.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our Class A Common Stock or preferred stock. Warrants may be issued independently or together with any other securities offered hereby and may be attached to, or separate from, such securities. We will issue each series of warrants under a separate warrant agreement between us and a bank or trust company as warrant agent, as specified in the applicable prospectus supplement. The form of warrant agreement and the form of the warrant certificate will be filed with the SEC and incorporated by reference as an exhibit to the registration statement of which this prospectus is a part.

The warrant agent will act solely as our agent in connection with the warrants and will not act for or on behalf of warrant holders. The following sets forth certain general terms and provisions of the warrants that may be offered under this registration statement. Further terms of the warrants and the applicable warrant agreement will be set forth in the applicable prospectus supplement.

The applicable prospectus supplement will describe the terms of the warrants in respect of which this prospectus is being delivered, including, where applicable, the following:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the type and number of securities purchasable upon exercise of such warrants;
- the designation and terms of the other securities, if any, with which such warrants are issued and the number of such warrants issued with each such offered security;
- the date, if any, on and after which such warrants and the related securities will be separately transferable;
- the price at which each security purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- the minimum or maximum amount of such warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- any anti-dilution protection; and
- any other material terms of such warrants, including terms, procedures and limitations relating to the transferability, exercise and exchange of such warrants.

Warrant certificates will be exchangeable for new warrant certificates of different denominations and warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Prior to the exercise of their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise or to any dividend payments or voting rights as to which holders of the shares of Class A Common Stock or preferred stock purchasable upon such exercise may be entitled.

Each warrant will entitle the holder to purchase for cash such number of shares of Class A Common Stock or preferred stock, at such exercise price as shall, in each case, be set forth in, or be determinable as set forth in, the applicable prospectus supplement relating to the warrants offered thereby. After the expiration date set forth in applicable prospectus supplement, unexercised warrants will be void.

Warrants may be exercised as set forth in the applicable prospectus supplement relating to the warrants. Upon receipt of payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon such exercise. If less than all of the warrants are presented for exercise with respect to a warrant certificate, a new warrant certificate will be issued for the remaining amount of warrants.

Outstanding Warrants

As of November 12, 2024, there were 19,521,535 warrants outstanding, consisting of 8,621,535 public warrants (the “Public Warrants”) issued and sold as part of the units issued in our IPO, which closed in 2021, and 10,900,000 private placement warrants (the “Private Placement Warrants” and, together with the Public Warrants, the “Warrants”) that were originally issued to Rice Acquisition Sponsor II LLC (“Sponsor”) in a private placement that closed simultaneously with the consummation of our IPO. Each Warrant is exercisable to purchase one whole share of Class A Common Stock, subject to adjustment, at an exercise price of \$11.50 per share, in accordance with the terms of the warrant agreement, dated as of June 15, 2021, by and among RONI, Sponsor and Continental Stock Transfer & Trust Company, as warrant agent. The Warrants expire on June 8, 2028. The Public Warrants are listed on the NYSE under the symbol “NPWR WS”.

The Company may redeem the Public Warrants for \$0.01 if the last reported trading price of the Class A Common Stock price equals or exceeds \$18.00 per share for any 20 trading days within a 30-trading day period. Additionally, the Public Warrants may be redeemed if the last reported trading price of the Class A Common Stock equals or exceeds \$10.00 and is below \$18.00 by paying a make-whole premium.

The Private Placement Warrants are identical to the Public Warrants, except that, if held by Sponsor or its permitted transferees, they (i) are exercisable on a cashless basis and (ii) are not subject to being called for redemption.

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DESCRIPTION OF RIGHTS

We may issue rights to purchase shares of our Class A Common Stock, shares of our preferred stock, warrants or units. Each series of rights will be issued under a separate rights agreement to be entered into between us and a bank or trust company, as rights agent, all as set forth in the prospectus supplement relating to the particular issue of rights. The rights agent will act solely as our agent in connection with the certificates relating to the rights of such series and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. The form of rights agreement and the rights certificates relating to each series of rights will be filed with the SEC and incorporated by reference as an exhibit to the registration statement of which this prospectus is a part.

The applicable prospectus supplement will describe the terms of the rights to be issued, including the following, where applicable:

- the date for determining the stockholders entitled to the rights distribution;
- the aggregate number of shares of Class A Common Stock, shares of preferred stock, warrants or units purchasable upon exercise of such rights and the exercise price;
- the aggregate number of rights being issued;
- the date, if any, on and after which such rights may be transferable separately;
- the date on which the right to exercise such rights shall commence and the date on which such right shall expire; and
- any other terms of such rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of such rights.

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DESCRIPTION OF UNITS

We may issue units comprised of one or more of the following securities: Class A Common Stock, preferred stock, warrants, rights or any combination thereof. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security.

If we issue units, they will be evidenced by unit agreements or unit certificates issued under one or more unit agreements, which will be contracts between us and the holders of the units or an agent for the holders of the units. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The forms of unit agreements or unit certificates, as applicable, relating to the units will be filed with the SEC and incorporated by reference as an exhibit to the registration statement of which this prospectus is a part.

The applicable prospectus supplement will describe the terms of the units to be issued, including the following, where applicable:

- the title of the series of units;
- identification and description of the separate securities comprising the units;
- the price or prices at which the units will be sold;
- the date, if any, on and after which the units, and the securities comprising such units, will be separately transferable; and
- any other terms of such units, and the securities comprising such units, including procedures and limitations relating to distribution and exchange of such units.

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PLAN OF DISTRIBUTION

We may sell the securities to one or more underwriters for public offering and sale by them or may sell the securities to investors directly or through agents. Any underwriter or agent involved in the offer and sale of the securities will be named in the applicable prospectus supplement. Underwriters and agents in any distribution contemplated hereby may from time to time be designated on terms to be set forth in the applicable prospectus supplement.

Underwriters or agents could make sales in privately negotiated transactions and any other method permitted by law. Securities may be sold in one or more of the following transactions:

- block transactions (which may involve crosses) in which a broker-dealer may sell all or a portion of the securities as agent but may position and resell all or a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement;

- a special offering, an exchange distribution or a secondary distribution in accordance with applicable NYSE or other stock exchange rules;
- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- “at the market” offerings or sales “at the market,” within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market on an exchange or otherwise;
- sales in other ways not involving market makers or established trading markets, including direct sales to purchasers; or
- through a combination of any of these methods.

Underwriters or agents may offer and sell the securities at a fixed price or prices, which may be changed in relation to the prevailing market prices at the time of sale or at negotiated prices. We also may, from time to time, authorize underwriters acting as our agents to offer and sell the securities upon the terms and conditions as are set forth in the applicable prospectus supplement. In connection with the sale of securities, underwriters or agents may be deemed to have received compensation from us in the form of underwriting discounts or commissions and may also receive commissions from purchasers of securities for whom they may act as agent. Broker-dealers may also receive compensation from purchasers of these securities which is not expected to exceed those customary in the types of transactions involved. Underwriters or agents may sell securities to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or the agents and/or commissions from the purchasers for whom they may act as agent.

Any underwriting compensation paid by us to underwriters or agents in connection with the offering of securities, and any discounts, concessions or commissions allowed by underwriters or agents to participating dealers, will be set forth in the applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions, under the Securities Act.

We may have agreements with the underwriters, dealers, agents and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the underwriters, dealers, agents or remarketing firms may be required to make. Underwriters, dealers, agents and remarketing firms may be customers of, engage in transactions with or perform services for us in the ordinary course of their businesses.

Unless otherwise indicated in the applicable prospectus supplement and other than the Class A Common Stock, all securities offered using this prospectus will be new issues of securities with no established trading market. Any underwriters or agents to or through whom such securities are sold by us for public offering and sale may make a market in such securities, but such underwriters or agents will not be obligated to do so and may discontinue any market making at any time without notice. We cannot assure you as to the liquidity of the trading market for any such securities.

The underwriters and the agents and their respective affiliates may be customers of, engage in transactions with and perform services for us in the ordinary course of business.

The selling stockholder may, from time to time, sell, transfer, distribute or otherwise dispose of certain of its shares of Class A Common Stock on any stock exchange, market or trading facility on which shares of our Class A Common Stock are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholder may use any one or more of the following methods when disposing of its shares of Class A Common Stock:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- one or more underwritten offerings;
- block trades in which the broker-dealer will attempt to sell the shares of Class A Common Stock as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its accounts;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- distributions to its members, partners or shareholders, including in-kind distributions;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- in market transactions, including transactions on a national securities exchange or quotations service or over-the-counter market;
- directly to one or more purchasers;
- through agents; and
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares of Class A Common Stock at a stipulated price per share; or
- a combination of any such methods of sale.

A selling stockholder that is an entity may elect to make an in-kind distribution of Class A Common Stock to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus, as amended or supplemented. To the extent that such members, partners or stockholders are not affiliates of ours, such members, partners or stockholders would thereby receive freely tradable shares of Class A Common Stock pursuant to the distribution effected through this registration statement.

The selling stockholder may, from time to time, pledge or grant a security interest in some shares of our Class A Common Stock owned by it and, if the selling stockholder defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell such shares of Class A Common Stock from time to time, under this prospectus, or under an amendment or supplement to this prospectus amending the list of the selling stockholder to include the pledgee, transferee or other successors-in-interest as the selling stockholder under this prospectus. The selling stockholder also may transfer shares of our Class A Common Stock in other circumstances, in

In connection with the sale of shares of our Class A Common Stock, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of our Class A Common Stock in the course of hedging the positions they assume. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or acquire one or more derivative securities that require the delivery to such broker-dealer or other financial institution of shares of our Class A Common Stock offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholder and any underwriters, broker-dealers or agents that participate in the sale of shares of our Class A Common Stock may be deemed “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of shares of our Class A Common Stock may be deemed underwriting discounts and commissions under the Securities Act. If the selling stockholder is an “underwriter” within the meaning of Section 2(11) of the Securities Act, then the selling stockholder will be subject to the prospectus delivery requirements of the Securities Act. We have advised the selling stockholder that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of securities in the market and to the activities of the selling stockholder and its affiliates. In addition, we will make copies of this prospectus available to the selling stockholder for the purpose of satisfying the prospectus delivery requirements of the Securities Act. Underwriters and their controlling persons, dealers and agents may be entitled, under agreements entered into with us and the selling stockholder, to indemnification against and contribution toward specific civil liabilities, including liabilities under the Securities Act.

To facilitate the offering of shares of our Class A Common Stock offered by the selling stockholder, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of our Class A Common Stock. This may include over-allotments or short sales, which involve the sale by persons participating in the offering of more shares of Class A Common Stock than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of our Class A Common Stock by bidding for or purchasing shares of Class A Common Stock in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if shares of Class A Common Stock sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of our Class A Common Stock at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

To the extent required, our Class A Common Stock to be sold, the respective purchase prices and public offering prices, the names of any agent, dealer or underwriter, and any applicable discounts, commissions, concessions or other compensation with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

The selling stockholder also may in the future resell a portion of our Class A Common Stock in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule, or pursuant to other available exemptions from the registration requirements of the Securities Act.

The aggregate proceeds to the selling stockholder from the sale of shares of our Class A Common Stock offered by it will be the purchase price of such shares of our Class A Common Stock less discounts or commissions, if any. The selling stockholder reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of share of our Class A Common Stock to be made directly or through agents.

We will not receive any of the proceeds from any offering by the selling stockholder. We will pay all fees and expenses incident to the registration of shares of our Class A Common Stock to be offered and sold pursuant to this prospectus. The selling stockholder will pay any underwriting fees, discounts or commissions.

LEGAL MATTERS

Kirkland & Ellis LLP, Houston, Texas, will pass upon the validity of the securities we are offering under this prospectus. If the validity of any securities is also passed upon by counsel for the underwriters of an offering of those securities, that counsel will be named in the prospectus supplement relating to that offering.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2023, have been so incorporated in reliance on the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public through the Internet at the SEC’s website at <http://www.sec.gov>.

We also make available free of charge on our website at www.ir.netpower.com all of the documents that we file with the SEC as soon as reasonably practicable after we electronically file those documents with the SEC. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider such information as part of this prospectus.

This prospectus is part of a registration statement that we filed with the SEC and does not contain all of the information in the registration statement. The full registration statement, including exhibits to the registration statement, provides additional information about us and the Class A Common Stock offered under this prospectus and may be obtained from the SEC or us, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information about us by referring you to

another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus. We have previously filed the following documents with the SEC and are incorporating them by reference into this prospectus (other than portions of these documents that are either (i) described in paragraph (e) of Item 201 of Regulation S-K or paragraphs (d)(1)-(3) and (e)(5) of Item 407 of Regulation S-K or (ii) deemed to have been furnished and not filed in accordance with SEC rules, including pursuant to Item 2.02 or Item 7.01 of any Current Report on Form 8-K (including any financial statements or exhibits relating thereto furnished pursuant to Item 9.01), unless otherwise indicated therein):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2023, filed with the SEC on March 11, 2024;
- our Quarterly Reports on Form 10-Q for the quarters ended [March 31, 2024](#), [June 30, 2024](#) and [September 30, 2024](#), filed with the SEC on May 13, 2024, August 12, 2024 and November 12, 2024, respectively;
- our Current Reports on Form 8-K filed with the SEC on [June 10, 2024](#) and [October 4, 2024](#);
- our Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 26, 2024; and
- the description of our Class A Common Stock, contained in Amendment No. 5 to the Registration Statement on [Form S-4](#) (File No. 333-268975), filed with the SEC on May 8, 2023, including any subsequent amendment or any report filed for the purpose of updating such description.

We also incorporate by reference any future filings made by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than portions of these documents that are either (i) described in paragraph (e) of Item 201 of Regulation S-K or paragraphs (d)(1)-(3) and (e)(5) of Item 407 of Regulation S-K or (ii) deemed to have been furnished and not filed in accordance with SEC rules, including pursuant to Item 2.02 or Item 7.01 of any Current Report on Form 8-K (including any financial statements or exhibits relating thereto furnished pursuant to Item 9.01), unless otherwise indicated therein) after the date on which the registration statement of which this prospectus forms a part was initially filed with the SEC and prior to the effectiveness of the registration statement, and all such documents filed after the date of this prospectus and before the termination of the offering under this prospectus. The most recent information that we file with the SEC automatically updates and supersedes more dated information.

You can obtain a copy of any documents that are incorporated by reference in this prospectus or any prospectus supplement at no cost, by writing or telephoning us at:

NET POWER INC.
320 Roney Street, Suite 200
Durham, North Carolina 27701
(919) 287-4750

PART II - INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses expected to be incurred in connection with the sale and distribution of the securities being registered hereby, other than underwriting discounts and commissions, all of which will be borne by the Company.

SEC registration fee	\$ 118,799.14
Accounting fees and expenses	*
Legal fees and expenses	*
Printing expenses	*
Transfer agent's fees and expenses	*
Miscellaneous expenses	*
Total expenses	\$ *

* Estimated expenses not presently known.

Item 15. Indemnification of Directors and Officers.

Subsection (a) of Section 145 of the DGCL empowers a corporation to indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful on the merits or otherwise in the defense of any action, suit or proceeding referred to in subsections (a) and (b) of Section 145, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith; that indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and the indemnification provided for by Section 145 shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of such person's heirs, executors and administrators. Section 145 also empowers the corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify such person against such liabilities under Section 145.

Section 102(b)(7) of the DGCL provides that a corporation's certificate of incorporation may contain a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

Additionally, our Certificate of Incorporation limits the liability of our directors to the fullest extent permitted by the DGCL, and our Bylaws provide that we will indemnify them to the fullest extent permitted by such law. We have entered into and expect to continue to enter into agreements to indemnify our directors, executive officers and other employees as determined by our Board. Under the terms of such indemnification agreements, we are required to indemnify each of our directors and officers, to the fullest extent permitted by the laws of the state of Delaware, if the basis of the indemnitee's involvement was by reason of the fact that the indemnitee is or was our director or officer or was serving at our request in an official capacity for another entity. We must indemnify our officers and directors under the circumstances and to the extent provided for therein, from and against all losses, claims, damages, liabilities, joint or several, expenses (including legal fees and expenses), judgments, fines, penalties, interest, settlements or other amounts arising from any and all threatened, pending or completed claim, demand, action, suit or proceeding, whether civil, criminal, administrative or investigative, and whether formal or informal, and including appeals, in which he or she may be involved, or is threatened to be involved, as a party or otherwise, to the fullest extent permitted under the DGCL and the Bylaws. The indemnification agreements also require us, if so requested, to advance all reasonable fees, expenses, charges and other costs that such director or officer incurred, provided that such person will return any such advance if it is ultimately determined that such person is not entitled to indemnification by us. Any claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Item 16. Exhibits.

Exhibit No.

1.1*	Form of Underwriting Agreement by and among NET Power Inc. and the underwriters named therein.
4.1	Certificate of Incorporation of NET Power Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on June 14, 2023).
4.2	Bylaws of NET Power Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on June 14, 2023).
4.3*	Form of Warrant Certificate.
4.4*	Form of Warrant Agreement.
4.5*	Form of Rights Agreement.
4.6*	Form of Rights Certificate.
4.7*	Form of Unit Agreement (including form of Unit Certificate).
5.1+	Opinion of Kirkland & Ellis LLP.
23.1+	Consent of Grant Thornton LLP.
23.2+	Consent of Kirkland & Ellis LLP (included in Exhibit 5.1).
24.1+	Power of Attorney (included on signature page of this registration statement).
107+	Filing Fee Table.

* To be filed, if necessary, by amendment or as an exhibit to a document filed under the Exchange Act and incorporated by reference herein.

+ Filed herewith.

Item 17. Undertakings.

(a) The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

- (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

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- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.
- (d) The undersigned registrant hereby undertakes that:
- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
 - (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on November 15, 2024.

NET Power Inc.

By: /s/ Daniel J. Rice, IV
Name: Daniel J. Rice, IV
Title: Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below appoints Daniel J. Rice, IV, Akash Patel and Andrew Davisson, and each of them, any of whom may act without the joinder of the other, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and any registration statement (including any amendment thereto) for this offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933 and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or would do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated on the date indicated.

Signature	Title	Date
<u>/s/ Daniel J. Rice, IV</u> Daniel J. Rice, IV	Chief Executive Officer and Director (Principal Executive Officer)	November 15, 2024
<u>/s/ Akash Patel</u> Akash Patel	Chief Financial Officer (Principal Financial Officer)	November 15, 2024
<u>/s/ Kelly Rosser</u> Kelly Rosser	Chief Accounting Officer (Principal Accounting Officer)	November 15, 2024
<u>/s/ Ralph Alexander</u> Ralph Alexander	Director	November 15, 2024
<u>/s/ Peter J. (Jeff) Bennett</u> Peter J. (Jeff) Bennett	Director	November 15, 2024
<u>/s/ J. Kyle Derham</u> J. Kyle Derham	Director	November 15, 2024
<u>/s/ Joseph T. Kelliher</u> Joseph T. Kelliher	Director	November 15, 2024
<u>/s/ Carol Peterson</u> Carol Peterson	Director	November 15, 2024
<u>/s/ Brad Pollack</u> Brad Pollack	Director	November 15, 2024
<u>/s/ Eunkyung Sung</u> Eunkyung Sung	Director	November 15, 2024
<u>/s/ Alejandra Veltmann</u> Alejandra Veltmann	Director	November 15, 2024

KIRKLAND & ELLIS LLP
AND AFFILIATED PARTNERSHIPS

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Facsimile:
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November 15, 2024

NET Power Inc.
320 Roney Street, Suite 200
Durham, North Carolina 27701

Ladies and Gentlemen:

We are issuing this opinion in our capacity as special counsel to NET Power Inc. (the “Company”), in connection with the registration under the Securities Act of 1933, as amended (the “Act”), on a Registration Statement on Form S-3 to be filed with the Securities and Exchange Commission (the “Commission”) on or about the date hereof (the “Registration Statement”) of (a) the proposed issuance and sale, from time to time, by the Company, together or separately, of up to \$750.0 million in the aggregate of (i) shares (the “Primary Common Shares”) of the Company’s Class A common stock, par value \$0.0001 per share (“Class A Common Stock”), (ii) shares of the Company’s preferred stock, par value \$0.0001 per share (“Preferred Stock”), (iii) warrants to purchase shares of Class A Common Stock or Preferred Stock (“Warrants”), (iv) rights to purchase shares of Class A Common Stock, Preferred Stock, Warrants or Units (as defined below) (“Rights”), and (v) units consisting of one or more of the foregoing securities listed in this clause (a) or any combination thereof (“Units”) and, together with the Primary Common Shares, Preferred Stock, Warrants and Rights, the “Primary Securities”), and (b) the proposed resale, from time to time, by the selling stockholder (the “Selling Stockholder”) named in the Prospectus (as defined below) of up to 2,806,243 shares of Class A Common Stock (the “Selling Stockholder Securities”).

The Primary Securities and the Selling Stockholder Securities are collectively referred to herein as the “Securities.” The Securities are to be sold from time to time pursuant to the Registration Statement and will be offered on terms set forth in the Registration Statement and in the prospectus contained therein (the “Prospectus”) and any supplements to such prospectus (each, a “Prospectus Supplement”).

Each series of Warrants will be issued under a warrant agreement (each, a “Warrant Agreement”), to be filed in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company and to be executed by the Company and a bank or trust company, as warrant agent, in each case prior to the issuance of such Warrants. Each series of Rights will be issued under a separate rights agreement (each, a “Rights Agreement”), to be filed in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company and to be entered into between the Company and a bank or trust company, as rights agent, in each case prior to the issuance of such Rights.

Austin Bay Area Beijing Boston Brussels Chicago Dallas Hong Kong Houston London Los Angeles Munich Paris Salt Lake City Shanghai Washington, D.C.

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The applicable Prospectus Supplement with respect to the Securities offered will set forth the terms of the offering of such Securities, including the name or names of any underwriters, dealers or agents, the purchase price of such Securities and the proceeds to the Company or the Selling Stockholder from such sale, any underwriting discounts and other items constituting underwriters’ compensation, any public offering price and any discounts, commissions or concessions allowed or reallocated or paid to dealers, and any bidding or auction process. If underwriters are used in an offering of Securities registered by the Registration Statement, the Registration Statement anticipates that the Company or the Selling Stockholder will sell such Securities pursuant to the terms of an underwriting agreement to be executed between the Company, the Selling Stockholder (if applicable) and underwriters that will be identified in the applicable Prospectus Supplement. We have assumed for purposes of this letter that the terms of the Underwriting Agreement will fall within the scope of the authorization adopted by the Company’s board of directors (the “Board”) and will receive the approvals required by that Board authorization. The term “Underwriting Agreement” is used in this letter to mean an underwriting agreement in the form in which it will be actually executed by the Company, the Selling Stockholder (if applicable) and the underwriters with respect to a particular underwritten offering of Securities registered by the Registration Statement. We have also assumed for purposes of this letter that the terms of any other agreement providing for the sale of Securities registered by the Registration Statement (other than by means of an underwritten offering), including a distribution agreement to be filed prior to a particular offering of Securities registered by the Registration Statement in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company, to be executed by the Company, the Selling Stockholder (if applicable) and an appropriate party or parties that will be identified in the applicable Prospectus Supplement, will fall within the scope of the authorization adopted by the Board and will receive the approvals required by that Board authorization. The term “Other Agreement” is used in this letter to mean an agreement providing for the sale of Securities registered by the Registration Statement (other than by means of an underwritten offering) in the form in which it will be actually executed by the Company, the Selling Stockholder (if applicable) and the appropriate party or parties with respect to a particular offering or offerings of Securities registered by the Registration Statement. The term “Agreement” is used in this letter to mean either an Underwriting Agreement or an Other Agreement. The terms “Registered Primary Common Shares,” “Registered Preferred Stock,” “Registered Warrants,” “Registered Rights” and “Registered Units” are used in this letter to mean, respectively, the Primary Common Shares, Preferred Stock, Warrants, Rights and Units that are registered under the Registration Statement as initially filed and are sold by the Company under an Agreement.

For purposes of this letter, we have examined originals, or copies certified or otherwise identified to our satisfaction, of such documents, corporate records and other instruments as we have deemed necessary for the purpose of this opinion, including (i) the corporate and organizational documents of the Company, (ii) minutes and records of the corporate proceedings of the Company with respect to the Registration Statement and the Securities and (iii) the Registration Statement and the exhibits thereto.

For purposes of this letter, we have assumed the authenticity of all documents submitted to us as originals, the conformity to the originals of all documents submitted to us as copies and the authenticity of the originals submitted to us as copies. We have also assumed the genuineness of the signatures of persons signing all documents in connection with which this opinion is rendered, the authority of such persons signing on behalf of the parties thereto other than the Company, and the due authorization, execution and delivery of all documents by the parties thereto other than the Company. As to any facts material to the opinions expressed herein which we have not independently established or verified, we have relied upon statements and representations of officers and other representatives of the Company and others.

Subject to the assumptions, qualifications and limitations identified in this letter, we advise you that in our opinion:

(1) Registered Primary Common Shares, when issued, will be validly issued, fully paid and non-assessable when, as and if (i) the Registration Statement shall have

become effective pursuant to the provisions of the Act, (ii) appropriate corporate action shall have been taken by the Company to authorize the issuance and sale of such Registered Primary Common Shares, (iii) a Prospectus Supplement or Prospectus Supplements with respect to the Registered Primary Common Shares shall have been filed (or transmitted for filing) with the Commission pursuant to Rule 424(b) of the Act and any exhibits necessary under the rules and regulations of the Commission shall have been filed with the Commission in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company filed with the Commission, (iv) any legally required consents, approvals, authorizations and other orders of the Commission and any other regulatory authorities shall have been obtained and (v) appropriate certificates representing the Registered Primary Common Shares are duly executed, countersigned by the Company's transfer agent/registrar, registered and delivered against payment of the agreed consideration therefor (which shall be in an amount at least equal to the par value of the shares being issued and sold) in accordance with the applicable Agreement.

NET Power Inc.
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(2) Shares of Registered Preferred Stock, when issued, will be validly issued, fully paid and non-assessable when, as and if (i) the Registration Statement shall have become effective pursuant to the provisions of the Act, (ii) appropriate corporate action shall have been taken by the Company to establish the terms of such Registered Preferred Stock and to authorize the issuance and sale of such shares of Registered Preferred Stock, (iii) a Prospectus Supplement or Prospectus Supplements with respect to the shares of Registered Preferred Stock shall have been filed (or transmitted for filing) with the Commission pursuant to Rule 424(b) of the Act and any exhibits necessary under the rules and regulations of the Commission shall have been filed with the Commission in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company filed with the Commission, (iv) any legally required consents, approvals, authorizations and other orders of the Commission and any other regulatory authorities shall have been obtained and (v) appropriate certificates representing the shares of Registered Preferred Stock are duly executed, countersigned by the Company's transfer agent/registrar, registered and delivered against payment of the agreed consideration therefor (which shall be in an amount at least equal to the par value of the shares being issued and sold) in accordance with the applicable Agreement.

(3) Registered Warrants of each series, when issued, will be binding obligations of the Company, enforceable against the Company in accordance with their terms when, as and if (i) the Registration Statement shall have become effective pursuant to the provisions of the Act, (ii) appropriate corporate action shall have been taken by the Company to establish the terms of such Registered Warrants (which shall provide that the exercise price of such Warrants will consist of legal consideration in excess of the par value of the underlying shares of Class A Common Stock and/or Preferred Stock) and, if applicable, the terms of the Preferred Stock such Registered Warrants include and to authorize the form, terms, execution and delivery of a Warrant Agreement for such series of Registered Warrants, including a form of certificate evidencing such series of Registered Warrants (and such Warrant Agreement shall have been duly executed and delivered by the Company and the warrant agent or agents thereunder), (iii) a Prospectus Supplement or Prospectus Supplements with respect to such series of Registered Warrants shall have been filed (or transmitted for filing) with the Commission pursuant to Rule 424(b) of the Act and any exhibits necessary under the rules and regulations of the Commission, including such Warrant Agreement, shall have been filed with the Commission in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company filed with the Commission, (iv) any legally required consents, approvals, authorizations and other orders of the Commission and any other regulatory authorities shall have been obtained, and (v) Registered Warrants of such series are duly executed, attested and issued by duly authorized officers of the Company, countersigned by the applicable warrant agent and delivered to the purchasers thereof against payment of the agreed consideration therefor in the manner provided for in the Registration Statement, any applicable Prospectus Supplements, such Warrant Agreement, the applicable Agreement and such corporate action.

(4) Registered Rights of each series, when issued, will be binding obligations of the Company, enforceable against the Company in accordance with their terms when, as and if (i) the Registration Statement shall have become effective pursuant to the provisions of the Act, (ii) appropriate corporate action shall have been taken by the Company to establish the terms of such Registered Rights (which, in the case of Rights to purchase shares of Class A Common Stock and/or Preferred Stock, shall provide that the exercise price of such Rights will consist of legal consideration in excess of the par value of such shares) and the terms of the Securities such Registered Rights include and to authorize the form, terms, execution and delivery of a Rights Agreement for such series of Registered Rights, including a form of certificate evidencing such series of Registered Rights (and such Rights Agreement shall have been duly executed and delivered by the Company and the rights agent or agents thereunder), (iii) a Prospectus Supplement or Prospectus Supplements with respect to such series of Registered Rights shall have been filed (or transmitted for filing) with the Commission pursuant to Rule 424(b) of the Act and any exhibits necessary under the rules and regulations of the Commission, including such Rights Agreement, shall have been filed with the Commission in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company filed with the Commission, (iv) any legally required consents, approvals, authorizations and other orders of the Commission and any other regulatory authorities shall have been obtained, and (v) Registered Rights of such series are duly executed, attested and issued by duly authorized officers of the Company, countersigned by the applicable rights agent and delivered to the purchasers thereof against payment of the agreed consideration therefor in the manner provided for in the Registration Statement, any applicable Prospectus Supplements, such Rights Agreement, the applicable Agreement and such corporate action.

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(5) Registered Units of each series, when issued, will be binding obligations of the Company enforceable against the Company in accordance with their terms, any shares of Class A Common Stock or Preferred Stock forming a part of such Registered Units will be validly issued, fully paid and non-assessable when such Registered Units are issued, and any Warrants or Rights forming a part of such Registered Units will be binding obligations of the Company enforceable against the Company in accordance with their terms when such Registered Units are issued, in each case when, as and if (i) the Registration Statement shall have become effective pursuant to the provisions of the Act, (ii) appropriate corporate action shall have been taken by the Company to establish the terms of such Registered Units and the terms of the Securities such Registered Units include, to authorize the issuance and sale of such Registered Units and, if applicable, to authorize the form, terms, execution and delivery of a units agreement (and such units agreement shall have been duly executed and delivered by the Company and the counterparty thereto), (iii) a Prospectus Supplement or Prospectus Supplements with respect to such series of Registered Units shall have been filed (or transmitted for filing) with the Commission pursuant to Rule 424(b) of the Act and any exhibits necessary under the rules and regulations of the Commission, including a unit agreement or other instrument establishing such Registered Units or defining the rights of holders of such Registered Units, shall have been filed with the Commission in an amendment to the Registration Statement or incorporated by reference into the Registration Statement pursuant to a Current Report on Form 8-K of the Company filed with the Commission, (iv) any legally required consents, approvals, authorizations and other orders of the Commission and any other regulatory authorities shall have been obtained, and (v) Registered Units of such series are duly executed, attested and issued by duly authorized officers of the Company, countersigned by the applicable transfer agent and delivered to the purchasers thereof against payment of the agreed consideration therefor (which, in the case of Registered Units consisting of one or more shares of Class A Common Stock or Preferred Stock, shall be in an amount at least equal to the par value of such shares) in the manner provided for in the Registration Statement, any applicable Prospectus Supplements, such Unit Agreement, the applicable Agreement and such corporate action.

(6) The Selling Stockholder Securities have been validly issued and are fully paid and non-assessable.

Our advice on every legal issue addressed in this letter is based exclusively on the internal law of New York and the General Corporation Law of the State of Delaware (under which the Company is incorporated).

Our opinions expressed above are subject to the qualifications that we express no opinion as to the applicability of, compliance with, or effect of (i) any bankruptcy, insolvency, reorganization, fraudulent transfer, fraudulent conveyance, moratorium or other similar law or judicially developed doctrine in this area (such as substantive consolidation or equitable subordination) affecting the enforcement of creditors' rights generally, (ii) general principles of equity (regardless of whether enforcement is considered in a proceeding in equity or at law), (iii) an implied covenant of good faith and fair dealing, (iv) public policy considerations which may limit the rights of parties to obtain certain remedies, (v) any requirement that a claim with respect to any security denominated in other than U.S. dollars (or a judgment denominated in other than U.S. dollars in respect of such claim) be converted into U.S. dollars at a rate of exchange prevailing on a date determined in accordance with applicable law, (vi) governmental authority to limit, delay or prohibit the making of payments outside of the United States or in a foreign currency or currency unit and (vii) any laws except the laws of the State of New York and the General Corporation Law of the State of Delaware. We advise you that issues addressed by this letter may be governed in whole or in part by other laws, but we express no opinion as to whether any relevant difference exists between the laws upon which our opinions are based and any other laws which may actually govern.

For purposes of rendering our opinions expressed above, we have assumed that (i) the Registration Statement remains effective during the offer and sale of the particular Securities, (ii) the terms of any Warrant Agreement, Rights Agreement and any unit agreement or other instrument establishing Registered Units or defining the rights of holders of such Registered Units, each as applicable to the particular Securities, will be governed by New York law and will be consistent with the description of the terms of such agreement set forth in the Registration Statement and in the Prospectus (including any Prospectus Supplement), and (iii) at the time of the issuance, sale and delivery of each such Security (x) the authorization of such Security by the Company will not have been modified or rescinded, and there will not have occurred any change in law affecting the validity, legally binding character or enforceability of such Security and (y) the issuance, sale and delivery of such Security, the terms of such Security and compliance by the Company with the terms of such Security will not violate any applicable law, any agreement or instrument then binding upon the Company or any restriction imposed by any court or governmental body having jurisdiction over the Company.

We do not find it necessary for the purposes of this opinion, and accordingly we do not purport to cover herein, the application of the securities or "Blue Sky" laws of the various states to the issuance or sale of the Securities.

NET Power Inc.
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This opinion is limited to the specific issues addressed herein, and no opinion may be inferred or implied beyond that expressly stated herein. We assume no obligation to revise or supplement this opinion should the present laws of the State of New York or the General Corporation Law of the State of Delaware be changed by legislative action, judicial decision or otherwise.

This opinion is furnished to you in connection with the filing of the Registration Statement and is not to be used, circulated, quoted or otherwise relied upon for any other purposes.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. We also consent to the reference to our firm under the heading "Legal Matters" in the Prospectus. In giving this consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act of the rules and regulations of the Commission.

Sincerely,

/s/ Kirkland & Ellis LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 11, 2024, with respect to the consolidated financial statements of NET Power Inc. included in the Annual Report on Form 10-K for the year ended December 31, 2023, which is incorporated by reference in this Registration Statement and Prospectus. We consent to the incorporation by reference of the aforementioned report in the Registration Statement and Prospectus, and to the use of our name as it appears under the caption "Experts."

/s/ GRANT THORNTON LLP

Raleigh, North Carolina
November 15, 2024

Calculation of Filing Fee Tables

Form S-3
(Form Type)

NET Power Inc.

(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial effective date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
Newly Registered Securities											
Fees to Be Paid	Equity ⁽¹⁾	Class A common stock, par value \$0.0001 per share	—	(4)(5)	(6)	(6)	—	—	—	—	—
	Equity ⁽¹⁾	Preferred stock, par value \$0.0001 per share	—	(4)(5)	(6)	(6)	—	—	—	—	—
	Other ⁽¹⁾	Warrants	—	(5)	(6)	(6)	—	—	—	—	—
	Other ⁽¹⁾	Rights	—	(5)	(6)	(6)	—	—	—	—	—
	Other ⁽¹⁾	Units	—	(5)	(6)	(6)	—	—	—	—	—
	Unallocated (Universal) Shelf ⁽¹⁾	—	457(o)	—	—	\$750,000,000.00	0.00015310	\$ 114,825.00	—	—	—
	Equity ⁽²⁾	Class A common stock, par value \$0.0001 per share	Other ⁽³⁾	2,806,243	\$ 9.25(3)	\$ 25,957,747.75	0.00015310	\$ 3,974.14	—	—	—
Fees Previously Paid	—	—	—	—	—	—	—	—	—	—	—
Carry Forward Securities											
Carry Forward Securities	—	—	—	—	—	—	—	—	—	—	—
	Total Offering Amounts							\$ 118,799.14			
	Total Fees Previously Paid							\$ 0.00			
	Total Fee Offsets							\$ 0.00			
	Net Fee Due							\$ 118,799.14			

- (1) Represents securities that may be offered and sold from time to time in one or more offerings by NET Power Inc. (the “Registrant”).
- (2) Represents shares of Class A common stock, par value \$0.0001 per share, of the Registrant (“Class A Common Stock”) that may be offered and sold from time to time in one or more offerings by the selling stockholder identified in the registration statement.
- (3) Estimated solely for the purpose of calculating the amount of the registration fee, based upon the average of the high and low prices reported for the Class A Common Stock on the New York Stock Exchange on November 11, 2024, in accordance with Rule 457(c) under the Securities Act, as amended (the “Securities Act”).
- (4) Pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of Class A Common Stock and shares of preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (5) There are being registered hereunder an indeterminate number or amount, as the case may be, of the securities of each identified class as may from time to time be offered and sold at indeterminate prices, which together shall have a maximum aggregate offering price not to exceed \$750,000,000.00. Any securities registered hereunder may be sold separately or in combination with the other securities registered hereunder. The securities registered also include an indeterminate number or amount, as the case may be, of securities as may be issued in exchange for, or upon conversion or exercise of, as the case may be, the securities registered hereunder or pursuant to the anti-dilution provisions of any such securities.
- (6) The proposed maximum aggregate offering price per class of security will be determined from time to time by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security pursuant to Instruction 2.A.iii.b of the Instructions to the Calculation of Filing Fee Tables and Related Disclosure of Form S-3.