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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October 2026

Commission file number: 001-43479

newcleo plc
(Exact name of Registrant as specified in its charter)

55 South Audley Street
London, W1K 2QH
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(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

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Exhibit	
99.1	Press Release dated October 14, 2026 – newcleo Inaugurates Advanced Nuclear Fuel Engineering and Testing Center in France, Furthering the Industrial Deployment of its MOX Fuel Program

SIGNATURE

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

newcleo plc

By: /s/ Stefano Buono

Name: Stefano Buono

Title: Chief Executive Officer and Director

Date: October 14, 2026

News

*new*cleo Inaugurates Advanced Nuclear Fuel Engineering and Testing Center in France, Furthering the Industrial Deployment of its MOX Fuel Program.

The €10 million FASTER center provides a dedicated non-nuclear environment to develop, test and qualify technologies, equipment and processes for future MOX fuel manufacturing operations.

Seven test facilities are operating at the site, covering key stages of the fuel manufacturing process, from powder dosing and pellet pressing to fuel pin assembly and quality inspection.

By enabling the validation and optimization of manufacturing processes ahead of industrial deployment, FASTER represents a key milestone in de-risking newcleo's advanced MOX fuel program and supports the development of the Company's planned fuel manufacturing facilities.

Paris, France, 14 October 2026 – newcleo plc ("*new*cleo" or the "Company") (NASDAQ: NWCL), a pioneer in advanced modular reactor ("AMR") technology and nuclear fuel manufacturing, today inaugurated FASTER (Fuel process Assembly Storage Training and Enhanced Reality), its advanced nuclear fuel engineering, testing and training center located in Chusclan, in the Occitanie region of southern France.

Representing an investment of around €10 million, FASTER provides advanced engineering, prototype testing and immersive training capabilities to *new*cleo's fuel team, which comprises around 100 engineers and highly qualified specialists.

Similar to the Lead-cooled Fast Reactor Development and Qualification program developed by *new*cleo at the ENEA Brasimone Research Center, the facilities installed at FASTER will support the de-risking and continuous improvement of *new*cleo's MOX fuel manufacturing technology.

Stefano Buono, Founder and CEO of *new*cleo, said: "*FASTER is an important milestone in the industrial execution of our fuel strategy. By providing a dedicated environment to develop, test and qualify technologies before their deployment in licensed facilities, FASTER significantly de-risks our future MOX manufacturing program and accelerates our path towards industrialization in France and the United States. The center is a testament to our development model: highly skilled teams, real equipment and industrial partners transforming research and engineering into the facilities we intend to build. By developing our fuel program from within the established French nuclear industry, we are building capabilities to enable a closed nuclear fuel cycle and deploy the next generation of nuclear energy globally*."

Located near the Marcoule nuclear site, FASTER offers a dedicated, non-nuclear environment in which to develop, test and qualify technologies and manufacturing processes ahead of their future deployment in MOX fuel facilities.

The center is designed around a practical "test and learn" approach, bringing engineering and physical testing closer together. Concepts developed by *new*cleo's teams are translated into prototypes and test mock-ups at FASTER, tested under representative conditions and progressively refined, helping accelerate their path towards industrial deployment.

Seven test facilities are already operational at FASTER, with further installations under development. These facilities address different stages and challenges of MOX fuel manufacturing, including powder dosing optimization, glovebox ergonomics, pellet handling, fuel pin assembly and decontamination, pellet inspection and helium filling.

Located in the heart of one of France's key nuclear supply-chain regions, FASTER draws on expertise from across the country's industrial and nuclear sectors. It also benefits from the specialist capabilities of *new*cleo's subsidiary S.R.S. Servizi di Ricerche e Sviluppo and French nuclear-grade scales and precision weighting equipment manufacturer Bonifait Pesage, whose acquisition by *new*cleo is expected to close in Q4 2026.

*new*cleo aims to fabricate MOX nuclear fuel, a proven nuclear fuel manufactured from a mixture of uranium and plutonium oxides that has been used in commercial reactors for decades, to power its Lead-cooled Fast Reactors (LFRs) and other potential third party off-takers. When used in fast reactors, like *new*cleo's LFRs, MOX enables the multi-recycling of nuclear fuel in what is known as a "closed fuel cycle". This circular approach to nuclear fuel can extract more energy from the same amount of natural uranium compared to traditional once-through fuel cycles in thermal reactors, while at the same time significantly reducing the volume and radioactivity of nuclear waste.

*new*cleo has proposed the deployment of an advanced MOX fuel fabrication facility in France in the Aube department, near Nogent-sur-Seine, to manufacture fuel for its future European reactors. The project reached an important regulatory milestone in July 2026, when the French Nuclear Safety and Radiation Protection Authority (Autorité de sûreté nucléaire et de radioprotection – "ASNR") issued an overall satisfactory evaluation for the proposed safety options, offering practical feedback to continue developing the facility's safety features ahead of a planned construction license application in France.

As *new*cleo furthers its pre-licensing engagement with the U.S. Nuclear Regulatory Commission, the Company plans to adopt the ASNR feedback and recommendations to also strengthen and streamline its licensing strategy for the U.S. market.

About *new*cleo

*new*cleo is an innovative nuclear technology company developing advanced modular reactors and nuclear fuel designed to deliver clean, safe and sustainable energy at competitive costs. *new*cleo's technology combines lead-cooled fast reactors with fuel manufactured from recycled nuclear materials, with the aim of providing abundant and reliable electricity and heat to industrial users while enabling the closure of the nuclear fuel cycle. *new*cleo brings together more than 900 highly skilled employees across Europe and the United States, spanning reactor and fuel design, engineering, and manufacturing. Through a vertically integrated supply chain and a growing network of strategic partnerships, *new*cleo is working to turn proven scientific and engineering solutions into deployable nuclear energy assets. For more information visit. For more information visit www.newcleo.com

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Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of the U.S. federal securities laws. All statements contained in this press release other than statements of historical fact, including, without limitation, statements regarding the completed business combination between NewHold Investment Corp III and newcleo; the anticipated benefits of the transaction; expected trading of the combined company's securities on Nasdaq; the completion of investments from certain institutional investors; the expected amount of gross proceeds from any investments or other financing arrangements; the anticipated use of proceeds from such investments or financing arrangements; newcleo's development and commercialization of its lead-cooled fast reactor technology, mixed-oxide fuel capabilities and related products and services; the expected timing, cost, performance and benefits of newcleo's demonstration projects, fuel facilities, reactor deployments and licensing activities; newcleo's ability to execute its business strategy, develop its technology, obtain required regulatory approvals, permits and licenses, enter into commercial arrangements, achieve its market opportunity and positioning and support the growth of advanced nuclear energy; newcleo's expectations regarding strategic partnerships, customer demand, project pipeline, revenue streams, capital expenditures and financing needs; and other statements regarding management's intentions, beliefs, or expectations with respect to newcleo's future performance, are forward-looking statements. Forward-looking statements are often identified by the use of words such as "anticipate," "believe," "continue," "could," "develop," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "project," "seek," "should," "target," "will," "would," and similar expressions, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements are based on newcleo's current expectations and assumptions and are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such forward-looking statements. You should carefully consider the foregoing factors and the other risks and uncertainties described in other documents filed from time to time by newcleo with the U.S. Securities and Exchange Commission. Additional risks and uncertainties not currently known or that are currently deemed immaterial may also cause actual results to differ materially from those expressed or implied by such forward-looking statements. Readers are cautioned not to put undue reliance on forward-looking statements, and newcleo does not assume any obligation or intend to update or revise these forward-looking statements, each of which is made only as of the date of this press release.