*new*cleo signs MOU with scientific leaders National Nuclear Laboratory (NNL)

LONDON, UK, 15 September 2023 – Clean nuclear technology company *new*cleo and National Nuclear Laboratory (NNL) have signed a Memorandum of Understanding (MOU) outlining a framework for forthcoming collaborative activities on advanced nuclear research and development.

NNL is widely recognised as qualified pioneers, innovators, and experts across the whole nuclear industry. They provide access to knowledge, technology, and leading facilities to partners and customers. Their four world-leading laboratories in England host pioneering experts that work at the forefront of nuclear science.

*new*cleo is working to deliver innovative reactors, which will significantly reduce existing volumes of radioactive waste and plutonium, as well as end the need for further uranium mining for the long-term benefit of communities and the environment. The first step of *new*cleo's delivery roadmap will be the design and construction of the first-of-a-kind Mini 30MWe Lead Fast Reactor (LFR) to be deployed in France by 2030, rapidly followed by a 200 MWe commercial unit in the UK.

*new*cleo and NNL will be able to work together on challenging and rewarding programmes to further innovation in Advanced Nuclear Technologies. This MOU will play a significant role in *new*cleo's mission of providing the world with a safe and stable power source, and in both parties' commitment to supporting the delivery of net zero in the UK by 2050.

This MoU creates the foundation for collaborative activity on an expansive range of topics, including Lead-cooled Fast Reactor (LFR) materials testing; Mixed Oxide (MOX) fuel development research; development of advanced reprocessing techniques and skills development for activities related to MOX fuel, and advanced reprocessing research.

Stefano Buono, *new*cleo Chairman and CEO, commented:

"I am very pleased that we have signed this MOU with National Nuclear Laboratory.

"NNL has been a driving force behind innovation in our industry in the UK, and their support in our mission and commitment to pushing forward advanced nuclear technologies makes them excellent to work alongside as we progress in our UK-based activities.

"Our commitment to collaborate on pioneering work in nuclear science, underpinned by robust research and data, will support the UK's security and independence of energy supply, and the development of safe solutions to global environmental challenges."

Gareth Headdock, Vice President of Government and New Build, National Nuclear Laboratory added:

"Advanced nuclear technology is a critical enabler for the world to meet its net zero goals. As the UK's national laboratory for nuclear fission, our scientists and engineers engage with all organisations developing reactors and fuels to further progress the development of these technologies to market. We look forward to working with *new*cleo on this innovative programme."

Notes to editors

About *new*cleo

Privately funded and headquartered in London, *new*cleo was launched in 2021 – and since raised a total of EUR 400m – to be an innovator in the field of nuclear energy. Its mission is to generate safe, clean, economic and practically inexhaustible energy for the world, through a radically innovative combination of existing, accessible technologies.

With visionary co-founders, *new*cleo capitalises on thirty years of R&D activity in metal-cooled fast reactors and liquid-lead cooling systems, and our senior management and advisory team can boast hundreds of years in cumulative hands-on experience.

Counting around 360 highly skilled employees across the UK, Italy, and France, *new*cleo has business, scientific, operations and industrial manufacturing capabilities in a vertically integrated model designed to deliver its ambitious timeline for its plan-to-market.

*new*cleo's technology, mostly comprising a novel approach to already qualified solutions, addresses equally well the three challenges affecting the nuclear industry to date: waste, safety and cost.

- **Waste:** fast reactors are capable of efficient "burning" (i.e., fission) of depleted uranium, plutonium and Minor Actinides. When operated with MOX fuel generated from reprocessed nuclear waste, *new*cleo's reactors not only ensure sustainability by closing the fuel cycle, but can also boost energy independence.

- **Safety:** lead-cooled reactors operate at atmospheric pressure. The properties of lead (thermal capacity and conductivity, very high boiling point, chemically inert, shielding properties) together with *new*cleo's passive safety systems ensure very high levels of safety.

- **Cost:** *new*cleo's reactor design has been optimised over the last 20 years leading to the concept of an ultra-compact and transportable 200 MWe module with improvements in energy density compared to other technologies. Costs are kept low by means of simplicity, compactness, modularity, atmospheric pressure operation and elevated output temperature.

*new*cleo is also working to significantly invest in MOX fuel manufacturing in developed countries, extracting energy from the current nuclear industry by-products.

*new*cleo is ready to develop a new, sustainable, and completely safe way of generating nuclear energy that will help humanity reach zero emissions, and mitigate against global warming.

About National Nuclear Laboratory

NNL is the UK's national laboratory responsible for nuclear fission R&D and occupies a unique position in the nuclear innovation environment, taking science from inactive laboratory-scale demonstration to deployment.

It is the custodian of unique world-leading nuclear skills, facilities and equipment vital to the UK and aims to support policy and provide long term sustainable value for the UK in four Focus Areas: Clean Energy, Environmental Restoration, Health & Nuclear Medicine, and Nuclear Security & Non-Proliferation.

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