

Urenco exits U-Battery micro-reactor project

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Urenco has announced that it is withdrawing its support for the U-Battery advanced modular reactor (AMR) project "having exhausted its attempts to secure the commitment of new commercial investors".



A cutaway of a plant based on the U-Battery reactor (Image: U-Battery)

U-Battery is a 4 MWe high-temperature gas-cooled micro-reactor which will be able to produce local power and heat for a range of energy needs. The project was initiated by Urenco in 2008 and the concept design was developed by the Universities of Manchester and Dalton Institute in the UK and Technology University of Delft in the Netherlands. The consortium says the technology, which uses high-integrity TRISO fuel, aims to replace diesel power with clean, safe, and cost-effective energy for a variety of applications, including remote communities and other off-grid locations such as mining operations.

"Urenco has announced its intention to withdraw from the project due to necessary reprioritisation under its strategy," the U-Battery consortium announced.

As well as Urenco, U-Battery's supporting organisations include BWXT Technologies Inc, Cavendish Nuclear, Costain, Kinectrics, Jacobs, the UK's National Nuclear Laboratory, Nuclear AMRC, Rolls-Royce and the University of Manchester.

"The U-Battery team has completed its current programme of work under the AMR RD&D programme, and after dialogue and consultation with the Department for Energy Security and Net Zero, and with other stakeholders, Urenco's intention is to preserve the public investment in U-Battery by transferring its intellectual property to the National Nuclear Laboratory, subject to necessary due diligence and governance approvals," Urenco said.

In January, U-Battery was granted its first legal patent for the design of its high temperature gas-cooled reactor fuel element and core from the UK Intellectual Property Office. It means the fuel element and reactor core design are protected in law for five years and up to a maximum of 20 years. At that time, U-Battery said it was pursuing similar patents in the USA and Canada.

U-Battery said: "Our work to date has set and defined the technology's core characteristics, operational parameters, and future decommissioning plans and all to achieve the highest levels of safety ... we are proud to have created a full-size model of the reactor pressure vessel, the intermediate heat exchanger vessel and the connecting duct. This demonstrated how the AMR can be built using modular techniques, making it easy to construct and to transport."

U-Battery Chief Technology Officer Chris Chater highlighted the "progress the U-Battery team have made to date; from a conceptual design developed by the Universities of Manchester (UK) and Delft (the Netherlands) to successfully winning UK government backing as part of AMR competitions from 2018 onwards. While Urenco has refocused its priorities, we continue to believe in the U-Battery design which could provide an innovative decarbonisation solution for hard-to-abate sectors".

Asked if Urenco's exit meant the end of the project, a spokesperson said: "It is too soon to answer about the future of the project. The focus for now is on transferring the intellectual property and securing new opportunities for the employees."

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