Energy Fuels Acquires RadTran LLC as A Further Step Toward Addressing the Global Industry Need For Medical Radioisotopes in Emerging Cancer Treatments

written by Raj Shah | August 19, 2024

Acquisition intended to enhance Energy Fuels' current capabilities and support announced plans for medical isotope development.

August 19, 2024 (Source) – Energy Fuels Inc. (NYSE American: UUUU) (TSX: EFR) ("**Energy Fuels**"), an industry leader in uranium and rare earth elements ("**REE**") production for the energy transition, today announces the August 16, 2024 acquisition (the "**Acquisition**") of RadTran LLC ("**RadTran**"), a private company specializing in the separation of critical radioisotopes, to further Energy Fuels' plans for development and production of medical isotopes used in cancer treatments. RadTran's expertise includes separation of radium-226 ("**Ra-226**") and radium-228 ("**Ra-228**") from uranium and thorium process streams. This strategic acquisition is expected to significantly enhance Energy Fuels' planned capabilities to address the global shortage of these essential isotopes used in emerging targeted alpha therapies ("**TAT**") for cancer treatment.

Mark Chalmers, President and CEO of Energy Fuels said, "With this Acquisition, we will be combining our unique processing capabilities at the White Mesa Mill, the only permitted and operating uranium mill in the United States, with over 40 years of chemical and metal separations experience, with RadTran's

intellectual property and medical isotope experience in radionuclide separation and concentration, which we believe will position Energy Fuels to be a leader in this developing industry.

“Additionally, what I find exciting about this initiative is that Energy Fuels has the potential to recover valuable isotopes from its existing process streams, thereby recycling back into the market material that would otherwise be lost to disposal and repurposing it for use in producing life-saving cancer treatments.

“And our current R&D activities are being conducted using existing Mill facilities without the need for capital improvements of any significance. Capital development for future commercial production capabilities, upon successful production at the R&D level, would be expected to be supported by future offtake agreements for radium production.”

Since July 2021, Energy Fuels and RadTran have been working under a Strategic Alliance Agreement to evaluate the feasibility of recovering Ra-226 and Ra-228 from existing uranium process streams at Energy Fuels’ White Mesa Mill in Utah (the “**Mill**“). Recovered Ra-226 and Ra-228 would be made available to the pharmaceutical industry and others to enable the production of actinium-225 (“**Ac-225**“), lead-212 (“**Pb-212**“) and potentially other leading medically attractive TAT isotopes. These isotopes are critical components in the development of targeted alpha therapies, which offer promising new treatments for various cancers. The global shortage of Ra-226 and Ra-228 currently presents itself as a significant barrier to the advancement and commercialization of these therapies.

Energy Fuels received regulatory approval and licensing in 2023 for the concentration of R&D quantities of Ra-226 at the

Mill and is currently completing engineering on its research and development ("**R&D**") pilot facility for Ra-226 production. During 2024, Energy Fuels plans to set up the first stages of the pilot facility and expects to produce R&D quantities of Ra-226 for testing by end-users of the product. Upon successful production of R&D quantities of Ra-226, Energy Fuels plans to develop capabilities at the Mill for the commercial-scale production of Ra-226 and potentially Ra-228 in 2026-2028, conditional on completion of engineering design, securing sufficient offtake agreements for final radium production, and receipt of all required regulatory approvals.

Under the Acquisition, the purchase price payable by Energy Fuels to the owners of RadTran consists of (all dollar amounts in US$): (i) on closing, $1.5 million in cash, $1.5 million in Energy Fuels common shares ("**Common Shares**") and the grant of a 2% royalty on future revenues from the sale of produced radium, as well as certain other contractual commitments; and up to an additional $14 million in cash and Common Shares based on the satisfaction of a number of performance-based milestones, including achieving initial production, securing suitable offtake agreements to justify commercial production and reaching commercial production.

In addition, as part of the Acquisition, Saleem Drera PhD, President and CEO of RadTran, will join Energy Fuels as Vice President of Radioisotopes, Radiological Systems, and Intellectual Property. In this role, Dr. Drera will lead Energy Fuels' efforts to integrate RadTran's proprietary technology, which includes a number of patents, pending patents, trade secrets and know-how relating to efficient separation of Ra-226 and Ra-228 from process streams, and drive innovation in the production of medical radioisotopes.

The demand for Ra-226 and Ra-228 is underscored by the extensive

clinical research currently underway. More than 30 clinical trials are evaluating Ac-225, a product of Ra-226 and a crucial component of targeted alpha therapies, highlighting the urgent need for reliable isotope supply. Notably, several of these trials have reached final pre-approval stage (phase 3) targeting neuroendocrine tumors and leukemia, with many more earlier stage trials already initiated to address common cancers including prostate cancer.

Critically, a shortfall in Ac-225 production (for which Ra-226 is the limiting raw material), is now delaying trials and challenging the transition to full commercial and clinical availability of these drugs. Energy Fuels intends to step in to alleviate this supply bottleneck and support development of this important new class of life-saving cancer therapies.

Saleem Drera, President and CEO of RadTran, and now Vice President Radioisotopes, Radiological Systems and Intellectual Property of Energy Fuels, said, “At RadTran, we are proud to be a part of the Energy Fuels team. The White Mesa Mill’s facilities, permits and licenses, and Energy Fuels’ years of experience are Ideally suited to employ RadTran’s Technology. Furthermore, we have been impressed with their successful endeavors to separate and concentrate uranium, vanadium and rare earth elements in a manner that adheres to the strictest standards of protection of human health, safety and the environment.”

ABOUT ENERGY FUELS

Energy Fuels is a leading US-based critical minerals company. The Company, as the leading producer of uranium in the United States, mines uranium and produces natural uranium concentrates that are sold to major nuclear utilities for the production of carbon-free nuclear energy. Energy Fuels recently began

*production of advanced rare earth element ("**REE**") materials, including mixed REE carbonate in 2021, and commenced production of commercial quantities of separated REEs in 2024. Energy Fuels also produces vanadium from certain of its projects, as market conditions warrant, and is evaluating the recovery of radionuclides needed for emerging cancer treatments. Its corporate offices are in Lakewood, Colorado, near Denver, and substantially all its assets and employees are in the United States. Energy Fuels holds two of America's key uranium production centers: the White Mesa Mill in Utah and the Nichols Ranch in-situ recovery ("**ISR**") Project in Wyoming. The White Mesa Mill is the only conventional uranium mill operating in the US today, has a licensed capacity of over 8 million pounds of U_3O_8 per year, and has the ability to produce vanadium when market conditions warrant, as well as REE products, from various uranium-bearing ores. The Nichols Ranch ISR Project is on standby and has a licensed capacity of 2 million pounds of U_3O_8 per year. The Company recently acquired the Bahia Project in Brazil, which is believed to have significant quantities of titanium (ilmenite and rutile), zirconium (zircon) and REE (monazite) minerals. In addition to the above production facilities, Energy Fuels also has one of the largest NI 43-101 compliant uranium resource portfolios in the US and several uranium and uranium/vanadium mining projects on standby and in various stages of permitting and development. The primary trading market for Energy Fuels' common shares is the NYSE American under the trading symbol "UUUU," and the Company's common shares are also listed on the Toronto Stock Exchange under the trading symbol "EFR." Energy Fuels' website is www.energyfuels.com.*

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applicable United States and Canadian securities legislation, which may include, but are not limited to, statements with respect to: any expectation that the Company will maintain its position as a leading U.S.-based critical minerals company or as the leading producer of uranium in the U.S.; any expectation that the Company will complete engineering on its R&D pilot facility for the production of Ra-226 at the Mill, will set up the first stage of the pilot facility, and produce R&D quantities of Ra-226 at the Mill for testing by end-users of the product or at all; any expectation that the Company's evaluation of radioisotope recovery at the Mill will be successful; any expectation that the potential recovery of medical isotopes from any radioisotopes recovered at the Mill will be feasible; any expectation that any radioisotopes that can be recovered at the Mill will be sold on a commercial basis; any expectation that the Acquisition will significantly enhance Energy Fuels' capabilities to address the global shortage of the essential isotopes used in emerging TAT cancer treatments; any expectation that RadTran's technology will enable the efficient separation of Ra-226 and Ra-228 from process streams, or will transform them into valuable sources for medical use; any expectation that the development of TAT therapies will be successful or will offer promising new treatments for various cancers; any expectation that Energy Fuels will be or become at the forefront of the medical radioisotope supply chain; any expectation that any additional licensing for the R&D or commercial production of Ra-226, Ra-228 or any other radioisotopes at the Mill will be obtained on a timely basis or at all; any expectation as to the supply of or demand for Ra-226 and/or Ra-228 or any other isotopes; any expectation as to the successful approval or the timing of approval of any medical isotopes or TAT therapeutics; any expectation that Energy Fuels will step in to alleviate any supply bottlenecks or support development of TAT therapies; any expectation that Energy Fuels will be a leader in the supply of

radioisotopes for TAT therapeutics; any expectation as to capital requirements for Energy Fuels' R&D and potential commercial radium production facilities; any expectation that future capital requirements will be supported by offtake agreements for radium production; and any expectation that Energy Fuels' operations will be or continue to be performed in a manner that adheres to the strictest standards for protection of human health, safety and the environment. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "plans," "expects," "does not expect," "is expected," "is likely," "budgets," "scheduled," "estimates," "forecasts," "intends," "anticipates," "does not anticipate," or "believes," or variations of such words and phrases, or state that certain actions, events or results "may," "could," "would," "might" or "will be taken," "occur," "be achieved" or "have the potential to." All statements, other than statements of historical fact, herein are considered to be forward-looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements express or implied by the forward-looking statements. Factors that could cause actual results to differ materially from those anticipated in these forward-looking statements include risks associated with: commodity prices and price fluctuations; engineering, construction, processing and mining difficulties, upsets and delays; permitting and licensing requirements and delays; changes to regulatory requirements; legal challenges; the availability of feed sources for the Mill; competition from other producers; public opinion; government and political actions; market factors, including future demand for radium; the ability of the Mill to recover radium or other radioisotopes at reasonable costs or at all; market prices and demand for medical isotopes;

and the other factors described under the caption "Risk Factors" in the Company's most recently filed Annual Report on Form 10-K, which is available for review on EDGAR at www.sec.gov/edgar, on SEDAR+ at www.sedarplus.ca, and on the Company's website at www.energyfuels.com. Forward-looking statements contained herein are made as of the date of this news release, and the Company disclaims, other than as required by law, any obligation to update any forward-looking statements whether as a result of new information, results, future events, circumstances, or if management's estimates or opinions should change, or otherwise. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, the reader is cautioned not to place undue reliance on forward-looking statements. The Company assumes no obligation to update the information in this communication, except as otherwise required by law.

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