April 11, 2024

ASP Isotopes Issues Letter to Stockholders

WASHINGTON, April 11, 2024 (GLOBE NEWSWIRE) -- ASP Isotopes Inc. NASDAQ: ASPI ("ASPI," or the "Company"), an advanced materials company dedicated to the development of technology and processes designed to produce isotopes used in multiple industries, today released the following letter to stockholders from its Chairman and CEO, Paul Mann.

Dear Fellow Stockholder,

In light of the considerable progress made since my last shareholder letter approximately six months ago, and with our Annual Report on Form 10K for 2023 having just been filed, I wanted to personally communicate with you today to highlight some of our recent key milestones and discuss our future goals.

- **Annual Report on Form 10-K was filed with 2023 annual results largely in line with expectations**
- **Current balance sheet and available cash are at their strongest since the inception of the Company**
- **The Company's first commercial isotopes plant started processing raw materials for the anticipated production of enriched isotopes around mid-year**
- **The Company signed a purchase agreement for the supply of highly enriched silicon-28, for use in next-generation semiconductors capable of enabling quantum computing and artificial intelligence**
- **The Company signed a contract with a U.S.-based SMR (Small Modular Reactor) company, pursuant to which the Company will engage in certain activities related to preliminary engineering design and planning for an enrichment facility for the production of nuclear fuels that are expected to be used in next-generation nuclear reactors**
- **Construction underway of first quantum enrichment facility, focused on producing Ytterbium-176, an important feedstock used in the production of Lutetium 177 which is the active component of Novartis' potential blockbuster for the treatment of prostate cancer Pluvicto.**
- **PET Labs FDG production grew 32% year on year in 2023 over 2022.**

Tight control on operating expenses and strengthened balance sheet on heels of recent capital raises.

During 2023 we had $(4.7) million in operating free cash flow, slightly lower expense than the $(5) million that we had been targeting. We will continue to maintain a tight control on all

expenses.

We finished the year with cash on the balance sheet of $7.9 million. In February 2024, our wholly owned subsidiary – Quantum Leap Energy LLC – raised over $20 million via a convertible note offering, with Ocean Wall Limited acting as Placement Agent. In addition, this week we received approximately $5.5 million in gross proceeds from the exercise of warrants held by an institutional investor. Thus, our current cash balance is very strong, enabling focused accelerated development of new technologies.

We have a large backlog of interest from customers for many different isotopes and we expect to fund future isotope enrichment facilities using primarily funding provided by those customers combined with additional debt. With proof of concept for the ASP process now demonstrated and revenue generation from the sale of enriched isotopes anticipated this year, we have begun discussions with multiple potential debt providers.

First isotope enrichment plant in start-up phase.

In June 2023, the Company entered into a multi-year carbon-14 take-or-pay contract with a minimum revenue commitment of $2.5 million per annum. In late 2023, we and RC-14, our North American commercial partner, commenced the processing of the feedstock to produce enriched Carbon-14 at our light isotope enrichment facility in Pretoria, South Africa. Processing the materials for the first batch of carbon-14 is expected to take about six months, with the Company still expecting to receive the first revenues from this contract around the middle of 2024. Subsequent production runs are expected to take less than three months, allowing the Company to make quarterly deliveries of carbon-14 in the future. The contract required RC14 to provide an irrevocable standby letter of credit in lieu of a deposit, which was received. However, the company currently does not expect to draw from it.

We expect to produce highly enriched electronic gases during 2024, which we expect to enable next generation semiconductors for quantum computing and artificial intelligence (AI). Last week we signed a supply agreement with a leading semiconductor company for the supply of highly enriched silicon-28 (^{28}Si) for the next-generation of semiconductors, which are expected to enable technologies such as quantum computing and artificial intelligence.

Naturally occurring silicon has three isotopes: Si-28, -29 and -30. The presence of Si-29 isotope has a negative impact for performance of silicon in semiconductor applications[(1)]. Our enrichment process allows removal of Si-29, and production of highly enriched silicon-28, which can conduct heat 150% more efficiently[(2)] than natural silicon. This will potentially allow for semiconductor chips to become smaller, faster, cooler and more energy efficient.

Our proprietary technology has proven capabilities to enrich a wide range of isotopes, including light isotopes and lighter molecules, such as silane (SiH_4). We believe this gives us competitive advantage vs. other commercial methods of silicon enrichment. Our process should result in a finished product of higher quality, to be used by our semiconductor customers without additional chemical steps.

Contract with U.S. based Small Modular Reactor Company executed and considerable progress being made by Quantum Leap Energy

This week we entered into a contract with a U.S. based SMR (Small Modular Reactor) company pursuant to which we will engage in certain activities related to preliminary engineering design and planning for an enrichment facility for the production of nuclear fuels that are expected to be used in next generation nuclear reactors. Under the contract, we received an upfront payment and we are eligible to receive additional payments based on the achievement of certain regulatory and key deliverable milestones up to an aggregate of $2.0 million. We believe that this collaboration between a U.S. enrichment company and a U.S. nuclear reactor company for the development of enrichment technology and processes for nuclear fuel is the first of a kind.

The Company has recently entered into two MOUs (Memorandum of Understanding) with two U.S.-based SMR companies for the production of HALEU (High Assay Low Enriched Uranium), a critical fuel for next-generation nuclear reactors. ASP Isotopes Inc. and its subsidiary, Quantum Leap Energy LLC (QLE), are in active discussions with various regulatory bodies and governments to determine the location for their first HALEU production facility. We set an ambitious goal to supply commercial quantities of HALEU for SMRs by 2027.

SMRs are widely regarded as the future of nuclear power, offering numerous significant advantages over the previously built nuclear power stations. SMRs will be smaller reactors, allowing for greater flexibility in deployment. They will be designed for production-line manufacturing requiring limited on-site preparation, resulting in significantly shorter construction times and substantially lower construction costs. The simplicity of the SMR design, combined with enhanced safety features, should mean that the world can have continuous access to environmentally friendly, zero-carbon energy at a cost comparable or potentially lower than that provided by heavily polluting continuous energy sources such as coal and oil.

Most of the new SMRs require a new type of enriched uranium fueled, called HALEU (High Assay Low Enriched Uranium) containing up to 19.75% U-235 isotope. Historically, nuclear reactors used LEU (Low Enriched Uranium), which is typically enriched up to 5% U-235. Currently there is no Western producer of HALEU and the US NEI (Nuclear Energy Institute) predicts a global shortage of 3,000 metric tons by 2035[(3)]. We are currently in discussions with several SMR companies requiring HALEU and we already have indicated demand of approximately $30 billion, at current fuel prices[(4)]. We believe that the two year old NEI estimate, significantly underestimates the actual market demand.

We expect to enrich uranium and lithium using our Quantum Enrichment Process, a proprietary technique under development by our scientists to enrich isotopes using lasers. We believe it is likely to be the most cost-effective method of enriching heavy isotopes, particularly those that can’t be readily converted into stable gases. We believe that over time, we can produce HALEU with a cost of production substantially below other competitors. This is important as historically “Green Energy” has traded at a substantial premium to hydrocarbons-based energy. The only way to accelerate the adoption of clean nuclear power is to ensure that nuclear power is offered at a “green discount”, rather than a “green premium”. We believe that with our planned production of lower-cost HALEU this “green energy” acceleration will be possible.

In February 2024, we raised $20.5 million for Quantum Leap Energy LLC through an

oversubscribed convertible note offering. ASPI intends to list QLE on a national exchange and distribute a portion of QLE's common equity to ASPI's stockholders as of a future record date. The transaction is anticipated to be completed by year-end, in each case subject to obtaining applicable approvals and consents and complying with applicable rules and regulations and public market trading and listing requirements.

Construction underway of first quantum enrichment facility, focused on producing Ytterbium-176, an important feedstock used in the production of Lutetium 177 which is the active component of Novartis' potential blockbuster for the treatment of prostate cancer Pluvicto.

In January 2024, the Company began construction of its third isotope enrichment facility in Pretoria, South Africa. This third enrichment facility is expected to produce kilograms of highly enriched Ytterbium-176 (^{176}Yb), a key stable isotope used in the production of Lutetium-177 (^{177}Lu). Lutetium-177 is an emerging beta emitting radiopharmaceutical used in oncology drugs such as Novartis' Pluvicto. There are currently two FDA approved drugs and more than 66 ongoing clinical trials for drugs that require Lutetium-177.

Consensus forecasts for Novartis' Pluvicto exceed $4 billion and the beta emitting radiopharmaceutical market is expected to exceed $15 billion per annum in the next decade. The supply chain for this radioisotope has been particularly challenged with recent industry reports highlighting over two months treatment delay due to lack of drug availability[(5)]. The Company is in discussions with multiple potential customers and aims to start commercial production of Ytterbium-176 during 2025 but is working to accelerate this timeline.

PET Labs demonstrates solid YoY growth. Poised for continued growth.

During the second half of 2023 we entered into a strategic relationship with PET Labs for the production and distribution of medical isotopes. In October 2023 we acquired 51% of PET Labs. PET Labs demonstrated 32% YoY growth in FDG production during 2023 and we expect strong growth again during 2024. The technical advancements of PET imaging in various diagnostics applications and the rising demand for the production of new PET radiopharmaceuticals are expected to drive continued market growth. The increasing shift towards image-guided medical care is further propelling the growth of the PET scanning market globally.

To promote future growth in radiopharmaceuticals in South Africa and neighboring countries, we plan to add two new cyclotrons in Pretoria and Cape Town. The two cyclotrons (to be supplied by GE Healthcare) are expected to fulfill the needs in the growing medical radioisotope needs in South Africa and a few neighboring countries. The cyclotrons are expected to be financed by third-party debt financing arrangements. The first cyclotron arrived in January 2024 and is currently being installed and commissioned. We anticipate first production of radioisotopes from the new cyclotron during 2H 2024.

ASP Isotopes and PET Labs share a symbiotic relationship. Pet Labs will use a cyclotron, linear accelerator or nuclear reactor to convert stable isotopes into radioisotopes and deliver them to medical practitioners. ASP Isotopes' goal is to become the lowest cost and most reliable supplier of stable isotopes globally. If we achieve this goal, this will provide PET Labs with a significant competitive advantage over others and will provide superior service to

its medical customers.

The global isotopes market is at an inflection point, both in terms of demand and a supply. We intend to position ASPI and QLE as trusted suppliers of both existing and future isotope products.

Isotopes have one of the most severely compromised supply chains of any material in the world. Currently, supply is almost entirely controlled by Rosatom State Nuclear Energy Corporation, the Russian state-owned entity and a few state-owned or controlled enrichers(6). The US Department of Energy (DOE) and every other major government in the Western World considers isotopes to be critical materials. Isotopes enable everyday activities such as nuclear imaging, they are essential in the production of advanced electronics and semiconductors. Importantly, they serve as fuels and coolants in nuclear power stations which provide approximately 13% of the US electricity(7). Global industrial production, electricity generation and Western defense capabilities remain vulnerable to supply chain disruption by geopolitically hostile counterparties. This explains active interest from so many companies and governments regarding our longer-term supply capabilities, and we hope to sign additional supply agreements for essential isotopes in the coming months.

If you would like to learn more about our Company, please visit our corporate website and make sure to follow us on our social media channels.

Thank you for your interest and continued support.

With best wishes,

Paul E. Mann
Chairman and Chief Executive Officer

(1) Isotopically Enriched Layers for Quantum Computers Formed by 28Si Implantation and Layer Exchange, Schneider, E and England, J; ACS Appl. Mater. Interfaces 2023, 15, 17, 21609–21617

(2) Penghong Ci, Muhua Sun, Meenakshi Upadhyaya, Houfu Song, Lei Jin, Bo Sun, Matthew R. Jones, Joel W. Ager, Zlatan Aksamija, and Junqiao Wu Phys. Rev. Lett. 128, 085901 – Published 23 February 2022

(3) Korsnick, M. (2021, December 20). Updated Need for High-Assay Low Enriched Uranium. Nuclear Energy Institute

(4) https://www.uxc.com/p/tools/FuelCalculator.aspx2021

(5) Ravi et al, Clinical Implementation of 177Lu-PSMA-617 in the United States: Lessons Learned and Ongoing Challenges; J Nuc Med March 2023, 64 (3) 349-350

(6) RFERL “Russia’s Stranglehold on the World’s Nuclear Power cycle,” https://www.rferl.org/a/russia-nuclear-power-industry

(7) https://www.eia.gov/energyexplained/nuclear/us-nuclear-industry.php

About ASP Isotopes Inc.

ASP is an advanced materials company dedicated to developing technology and processes to produce isotopes in multiple industries. The Company employs proprietary technology, the Aerodynamic Separation Process ("ASP technology"), for the production, distribution, marketing, and sale of all isotopes. The Company's initial focus is on producing and commercializing highly enriched isotopes for the healthcare and technology industries. With time, it also plans to enrich isotopes for the green energy sector. The Company has two isotope enrichment facilities in Pretoria, South Africa. The first is a facility dedicated to the enrichment of isotopes of elements with a low atomic mass (light isotopes) and will initially produce Carbon-14. The ASP plans to use the second, larger facility for the production of multiple different isotopes.

There is a growing demand for isotopes such as Silicon-28, which will enable quantum computing, and Molybdenum-100, Molybdenum-98, Zinc-68, Ytterbium-176, and Nickel-64 for new, emerging healthcare applications, as well as Chlorine-37, Lithium-6, and Uranium-235 for green energy applications. The ASP Technology (Aerodynamic Separation Process) is ideal for enriching low and heavy atomic mass molecules. For more information, please visit www.aspisotopes.com.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Forward-looking statements can be identified by words such as "believes," "plans," "anticipates," "expects," "estimates," "projects," "will," "may," "might" and words of a similar nature. Examples of forward-looking statements include, among others but are not limited to, statements we make regarding expected operating results, such as future revenues and prospects from the potential commercialization of isotopes, future performance under contracts, and our strategies for product development, engaging with potential customers, market position, and financial results. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict, many of which are outside our control. Our actual results, financial condition and events may differ materially from those indicated in the forward-looking statements based upon a number of factors. Forward-looking statements are not a guarantee of future performance or developments. You are strongly cautioned that reliance on any forward-looking statements involves known and unknown risks and uncertainties. Therefore, you should not rely on any of these forward-looking statements. There are many important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements, including: our reliance on the efforts of third parties; our ability to complete the proposed the construction and commissioning of our enrichment plant(s) or to commercialize isotopes using the ASP technology or the Quantum Enrichment Process; our ability to obtain regulatory approvals for the production and distribution of isotopes; the financial terms of any current and future commercial arrangements; our ability to complete certain transactions and realize anticipated benefits from acquisitions; contracts,

dependence on our Intellectual Property (IP) rights, certain IP rights of third parties; and the competitive nature of our industry. Any forward-looking statement made by us in this press release is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise. This press release includes market and industry data and forecasts that we obtained from internal research, publicly available information and industry publications and surveys. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Unless otherwise noted, statements as to our potential market position relative to other companies are approximated and based on third-party data and internal analysis and estimates as of the date of this press release. We have not independently verified this information, and it could prove inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data-gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions regarding general economic conditions or growth that were used in preparing the information and forecasts from sources cited herein. No information in this press release should be interpreted as an indication of future success, revenues, results of operation, or stock price. All forward-looking statements herein are qualified by reference to the cautionary statements set forth herein and should not be relied upon.

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A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/245bbc5d-b6ba-438a-b270-07fbc092e8fb

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