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Silex Systems - Operational Update

25 February 2019

Key points:

- Silex announced on 6 February 2019 the signing of a Term Sheet between Silex, GE-Hitachi Nuclear Energy (GEH) and Canadian uranium miner Cameco Corporation. The Term Sheet detailed key terms for the joint purchase from GEH of its 76% interest in SILEX technology licensee GE-Hitachi Global Laser Enrichment LLC (GLE);

- Subject to finalising a mutually satisfactory binding Purchase Agreement and obtaining US Government approvals, the proposed restructure of GLE would result in Silex holding a 51% interest, and Cameco increasing its interest in GLE from 24% to 49%;

- The proposed transaction provides an ideal path to market for GLE and the SILEX technology in the US, with the Paducah tails re-enrichment project (and the underpinning agreement between GLE and the US Department of Energy (DOE)) pivotal on this path;

- A reduced but focused technology development program continues at both the Company's Lucas Heights facility and at GLE's Wilmington Test Loop facility. Silex remains highly involved in this continuing effort, with a focus on ensuring the retention of key personnel and assets;

- IQE Plc (LON: IQE) elected to purchase Silex's wholly-owned subsidiary Translucent Inc's cREO™ technology in March 2018 and as a result a payment of US$5 million was received in September 2018 (in IQE stock);

- The Company's balance sheet as at 31 December 2018 remains in a strong position with net assets of ~$40 million, including ~$29 million in cash and IQE shares of ~$11 million.

SILEX Technology Update

i) Strategy:

The Company's strategy with respect to its core asset, the SILEX technology, is to:

- Preserve value and secure a path for the future commercialisation of the SILEX technology through exclusive licensee, GLE;
- Maintain and build the profile of GLE and the SILEX technology in the US, which remains the best target market for eventual deployment of the SILEX technology;
- Retain and develop our core expertise in the SILEX technology; and
- Implement effective cost management to ensure the most efficient use of cash reserves to create shareholder value.

ii) GLE Restructure:

On 6 February 2019, the Company announced the signing of a new Term Sheet outlining terms for the joint purchase of GEH's 76% interest in GLE by Silex and existing 24% GLE shareholder, Cameco. Subject to finalising a mutually satisfactory binding Purchase Agreement and obtaining US Government approvals, the proposed restructure of GLE under the new Term Sheet would result in Silex acquiring a 51% interest in GLE and Cameco increasing its interest from 24% to 49%. In addition to the acquisition of an ownership interest in GLE, Silex retains its rights to future royalties under the exclusive license agreement between the parties.

Silex and the counterparties to the potential transaction are now proceeding to complete the negotiation of a binding Purchase Agreement and several ancillary documents which will support the restructure of GLE under the proposed transaction. The ancillary documents include a new shareholders' agreement for the governance of GLE (which will come into effect after Closing of the binding Purchase Agreement) and a Site Lease for the continued occupation and operation of the Test Loop facility at GEH's Wilmington site. The transaction documentation will also include an option for Cameco to purchase from Silex at fair market value, an additional 26% interest in GLE, increasing their interest to 75% and reducing Silex to 25% (subject to US Government approvals).

Closing of a binding Purchase Agreement will be conditional, among other things, on obtaining US Government approvals and on the 2016 GLE-DOE Sales Agreement (for GLE's purchase of DOE depleted tails inventories) remaining in full force and effect. The availability of the DOE's tails inventories is critical to the Paducah commercial plant project, which represents an ideal path to market for our disruptive SILEX laser enrichment technology (refer below).

The Company is appreciative of the commitment of Cameco, one of the world's largest uranium fuel providers, to step up to a 49% stake in GLE and potentially to 75% in the future. Cameco is well equipped to help navigate the many commercial and project execution challenges as we advance the SILEX technology towards commercial readiness.

iii) The Paducah Opportunity:

GLE and the US DOE executed an agreement in November 2016 for GLE's purchase of DOE depleted tails inventories, which has culminated in GLE's significant efforts towards the design and future construction of the proposed 'Paducah Laser Enrichment Facility' (PLEF) utilising the SILEX technology. The PLEF will facilitate the initial commercial deployment of the SILEX technology and enable the technology to be proven at a significant industrial scale.

Utilising the SILEX technology, the PLEF represents the most cost effective and efficient solution to reprocess ~300,000 metric tons of high assay tails inventories owned by the DOE, resulting in the production of natural grade uranium which can then be sold into the global uranium market. At a nominal production rate of around 2,000 metric tons of natural uranium hexafluoride (UF_6) per year (subject to applicable regulations), this project could potentially rank as a large low cost 'Tier 1' uranium mine which would operate for over 40 years.

iv) *Project Update:*

A focused effort has continued to be delivered by the technology team on the engineering scale-up and economic validation program at Silex's Lucas Heights facility and at GLE's Wilmington facility, albeit on a reduced scale. The GLE team in Wilmington are focused on scaling up separator and gas handling equipment in the Test Loop facility, whilst the Silex team in Sydney continues to make good progress with the scaling up of the laser systems to full-scale commercial prototypes.

Silex remains firmly committed to the technology program in the US and Australia and continues to provide significant expertise and resources to the commercialisation activities. Subject to the successful completion of the GLE restructure, the commercialisation program will progress at a prudent pace, with the anticipation that it could be ramped up again as market conditions improve.

v) Nuclear Power Outlook:

The markets for nuclear fuel have shown early signs of improvement in recent months, however the nuclear industry continues to be challenged by lengthy delays to the restart of the Japanese nuclear fleet and ongoing energy policy debates in numerous countries.

Despite this, the long-term value proposition for nuclear energy remains positive. With outright growth and increasing industrialisation of the world's population continuing, demand for electricity remains strong. With increasing concerns regarding climate change, nuclear continues to be the largest source of carbon-free power in the US, EU and many other advanced economies. Nuclear produces robust and reliable base-load electricity and can make a significant contribution to the decarbonisation of the power sector. There are currently 57 nuclear reactors under construction and in 2018, 9 reactors were connected to the grid resulting in a total of 448 operable reactors today. Countries such as the UAE, China and Saudi Arabia remain committed to their plans to have nuclear as a meaningful part of their energy mix with significant construction plans continuing.

We remain encouraged by these positive developments in the global nuclear industry and the ever-increasing awareness of the adverse effects of climate change. We believe the SILEX technology - the only third generation laser enrichment technology being commercialised in the world today, can help make nuclear power a more efficient and cost-effective solution for carbon-free base load electricity generation.

Stable Isotope Project

We continue to assess alternative uses of the SILEX technology, in particular potentially attractive applications for stable isotope separation. Several stable isotopes (that is, non-radioactive isotopes) are already utilised or being developed for use in medical diagnostics, industrial and semiconductor applications, however they are typically costly and, in some cases, too difficult to produce at significant scale. A preliminary assessment of a number of prospective isotopes is currently being completed, after which the Company will consider the merits of conducting a modest focused program which could enhance the value of the SILEX technology.

Translucent – cREO™ Technology

Translucent's innovative 'Rare Earth Oxide' (cREO™) technology was purchased by UK-based IQE (LON: IQE) in March 2018 in accordance with the 2015 License and Assignment Agreement between Translucent and IQE. As a result, a payment of US$5 million was received in September 2018 (in IQE stock).

IQE is a global leader in the design and manufacture of advanced semiconductor wafer products, and has been progressing the development of the cREO™ technology at its Greensboro, North Carolina manufacturing facility. cREO™ has potential application in the manufacture of next generation devices in the semiconductor, digital communications and power electronics industries. IQE continue to report good progress with the development and demonstration of the cREO™ technology for the integration of advanced high-performance compound semiconductor materials on silicon wafers. Product trials and preliminary qualification activities within the IQE group and with select commercial partners continues.

A perpetual royalty of between 3% and 6% will be payable to Translucent on the sale of any IQE products that utilise the cREO™ technology, minimum annual royalties due to commence being paid in FY2020.

Board Restructure

A restructure of the Silex Board was concluded on the 1 January 2019 with the appointment of a new Chair, Craig Roy and new Non-executive Director, Melissa Holzberger. Both appointees bring a wealth of industry, commercialisation and governance experience to the Board (refer to the ASX announcement dated 31 December 2018 for further details).

Further information on the Company's activities can be found on the Silex website: www.silex.com.au or by calling +61 2 9704 8888.

Forward Looking Statements and Business Risks:

Silex Systems Limited (Silex) is a research and development company whose primary asset is the SILEX laser uranium enrichment technology, originally developed at the Company's technology facility in Sydney, Australia. The SILEX technology was licensed exclusively in 2006 to GE-Hitachi Global Laser Enrichment LLC (GLE) in the USA. GLE has been undergoing a restructure for a number of years after GE-Hitachi disclosed it was seeking to exit the venture. In view of the continuing uncertainty surrounding the GLE restructure and the continuing depressed nuclear fuel market conditions, plans for commercial deployment of the SILEX technology have been significantly delayed, and remain at risk. The future of the SILEX technology is therefore highly uncertain and any plans for commercial deployment are speculative.

Silex also has an interest in a unique semiconductor technology known as 'cREO™' through its ownership of subsidiary Translucent Inc. The cREO™ technology developed by Translucent has been acquired by IQE Plc based in the UK. IQE is progressing the cREO™ technology towards commercial deployment in various advanced semiconductor products. The outcome of IQE's commercialisation program is also highly uncertain and remains subject to various technology and market risks.

The commercial potential of these two technologies is currently unknown. Accordingly, the statements in this announcement regarding the future of the SILEX technology, the cREO™ technology and any associated commercial prospects are forward looking and actual results could be materially different from those expressed or implied by such forward looking statements as a result of various risk factors.

Risk factors that could affect future results and commercial prospects include, but are not limited to: the outcome of the GLE restructure; the results of the SILEX uranium enrichment engineering development program; the market demand for natural uranium and enriched uranium; the potential development of competing technologies; the potential for third party claims against the Company's ownership of Intellectual Property; the potential impact of prevailing laws or government regulations or policies in the USA, Australia or elsewhere; results from IQE's commercialisation program and the market demand for cREO™ products; and the outcomes of various strategies undertaken by the Company.