

Companies Announcement Office
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Q2-2019 COMPANY UPDATE

CFOAM LLC SECURES AWARD OF U.S. DEPARTMENT OF ENERGY TECHNOLOGY COMMERCIALIZATION FUND PROJECT VALUED AT \$US700,000

The U.S. Department of Energy (**DOE**) has announced funding for 77 projects supported by the Office of Technology Transitions (**OTT**) Technology Commercialization Fund (**TCF**). With matching funds from the private sector. These projects exist to advance the commercialization of promising energy technologies, as well as strengthen partnerships between DOE's National Laboratories and private sector companies to deploy these technologies in the marketplace. CFOAM's project - Integrated Power Block Heat Exchanger/Thermal Energy Storage System for Concentrated Solar Power (**CSP**) Plants - was a CFOAM LLC initiated proposal.

CFOAM will be working directly with Argonne National Laboratories to design and build a next-generation combination heat exchanger and energy storage system to be used with CSP.

As compared to photovoltaics, CSP is currently more expensive but it has a huge advantage in that energy storage is usually designed as part the system so the energy can be used at a convenient time rather than as it is generated.

In 2017, CSP represented less than 2% of worldwide installed capacity of solar electricity plants. However, in recent years the falling prices of CSP plants are making this technology competitive with other base-load power plants using fossil and nuclear fuel. Because of the possibility of energy storage, concentrated solar power is a particularly good fit for regions with a lot of already-installed photovoltaics. The CSP plants can provide power when the photovoltaics are not producing enough.

ASX ANNOUNCEMENT

8 July 2019



In this program, CFOAM's high thermal conductivity CFOAM® is used to transfer heat to a phase change material which will be stored in the cells of the foam. The foam ligaments efficiently transfer the heat while the phase change material stores the energy. The foam will also conduct the heat out of the thermal energy storage device when the energy is being removed from the system.

This is actually the second phase of development for this concept. CFOAM® supplied its high thermal conductivity foam in 2018 for a smaller prototype built by Argonne National Laboratories.

CFOAM has made its interest clear with the DOE that they are interested in being involved in the commercialization of this technology upon completion of this program.

There are over 100 CSP plants in operation around the world with many more projects underway, including 24 in the US and 6 in Australia.

The technology commercialization fund was created by the Energy Policy Act of 2005 to promote promising energy technologies. The current TCF selections will expand DOE's efforts to catalyze the commercial impact of the Department's portfolio of research, development, demonstration, and deployment activities.

The OTT was established in 2015 to advance the economic, energy, and national security interests of the United States by expanding the commercial impact of the Department of Energy's research and development portfolio.

DOE received over 160 applications for 2019 TCF funding, with project teams engaging more than 90 different partners across multiple diverse disciplines. Teams must receive a 50 percent match of non-federal funds from private partners to receive a TCF award meaning CFOAM's commitment is \$US350,000.

It is expected that the contract will take effect during Q3-2019.

BUSINESS DEVELOPMENT UPDATE

- The Company is in the final stage of fulfilling the total Q1-2019 Touchstone Advanced Composites (TAC) purchase order (PO) for 1,800 cubic feet of CFOAM® billets. Circa-550 cubic feet of CFOAM® billets are presently in final calcining, and are expected to be shipped to TAC in the next fortnight. This order was fully paid for, in advance, by TAC in the March quarter.
- The Company is pleased to report, as previously detailed, that it has now received a further PO from TAC equating to an additional 1,800 cubic feet of CFOAM® billets, with a value of approximately \$US525,000. The production and delivery of these CFOAM® billets is expected to be fully completed during the current quarter, and will be paid for incrementally by TAC as each delivery occurs.
- Through Q2-2019 there have been various other business development activities which continue to provide additional support and visibility to the Company's rapidly developing global sales' profile. There have been a number of highly positive meetings and program progression with multiple industry-leading global OEMs and tooling companies during the quarter. Historically, CFOAM® was developed as an innovative tooling material designed to meet the needs of the aerospace industry. Given the work done by Touchstone, CFOAM® is now a fully accepted aerospace tooling, and structural core material. However, the distribution of CFOAM® historically has been centred through TAC, as capacity to supply the broader industry was constrained due to legacy production limitations. As production of CFOAM® increases via the additional investment in plant and equipment and improved production efficiencies, the Company is now in a position to supply the broader market. CFO recently formulated, and is now executing, a sales and distribution strategy which focuses on two main tracks.

The first track is to establish independent relationships with the largest aerospace OEM and tooling companies. Boeing, Airbus, Northrup Grumman, Lockheed Martin, General Atomics - to name a few - are driving the industry into a lighter, faster and stronger carbon composite revolution. The tooling companies centred around this revolution, and supplying the industry, are primary targets for CFOAM®. Building direct relationships with

selected tooling companies to expand the capacity for CFOAM® tools is an important part of the initiative to increase CFOAM® sales globally. The Company has been pulled into commercial discussions on multiple large programmes which are exploring the use of CFOAM® either as a tooling material and/or core material.

The second track is to leverage sales and marketing via third party distribution platforms. The Company is in discussions with three benchmark companies that reach the entire North American aerospace industry. The largest is a multi-billion dollar platform with 125 sales people and multiple distribution centers throughout the US, selling tooling material and other products into the aerospace industry. Rather than build an internal and costly marketing effort, this allows the Company to reach max-out production capacity, locate inventory throughout the US via distribution centers and reach new customers by expanding the number of sales staff focused on the product. The goal is to have one, or more, of these platform relationships established in Q3-2019.

Finally, the aerospace industry is pursuing new materials and processes for the “rapid prototyping” of tools. The carbon revolution now underway for aircraft, drones, space re-entry vehicles, satellites, automotive, boating and power generation (wind/solar) has sparked the need to develop cheaper and faster methods of producing tools and parts. Given the inherent advantages of CFOAM® over metal and graphite tools, the Company is exploring innovative ways to develop new tooling technologies using CFOAM®.

CFO is partnering with a number of manufacturers to explore novel composite tooling surfaces. This will save time and money for the OEMs and, if successful, will drive very significant demand for CFOAM® carbon foam.

OPERATIONAL, PLATFORM AND STRATEGIC UPDATE

- There were several production outages during the April/May period in Q2-2019, resulting in several weeks of autoclave production downtime. This was primarily due to some serviceable parts failures associated with the Company's core capital equipment. For clarity, one outage was caused by an autoclave shut-off valve failure, while another production interruption was caused when the smaller Harrop kiln experienced an overheated thermal oxidizer. CFO facility staff used this downtime to carry out an assessment of production practices, complete the installation of a more advanced cooling system and investigate the use of larger size billet pans.
- As a result of the previously unforeseen production delays, expected orders from other key CFO customers have been limited by a lack of new production supply – with all surplus production being used to fulfill TAC's pending POs. Consequently, actual total cash receipts (excluding POs, potential orders, and formal quotations) for the quarter were approximately US\$17,000, with US\$27,500 in accounts receivable.
- Overall, the June quarter production declined to 2,277 autoclave production panels vs. the March quarter total of 3,984 autoclave production panels. Positively, however, throughout June there was a significant uplift in total sequential autoclave runs, resulting in 12 successful runs producing 1,553 CFOAM® billets at an overall yield of 98% and 91% for the entire quarter. These are excellent results, and if June volume and yields continue to be sustained, the Company is extremely well placed to fulfil current and expected POs through Q3-2019.
- At this juncture, it is very important that *both* the operational platform and sales function have the "tools" to quantitatively perform in the coming months. As will be discussed (below), the absolute importance of aggressively pursuing the various expansion and potential corporate restructuring options available to CFO is paramount at the present

stage of the Company's strategic development. In this regard, the Company is pursuing several key actions in the immediate near-term:

- The establishment of a Steering Committee to critically review and assess *all* areas of the Company's production sequencing and facility integrity, along with the technical and commercial interaction with TAC.
- A near-term formative re-engagement with key US Governmental bodies – including West Virginia Jobs Investment Trust (**WVJIT**), West Virginia Economic Development Authority (**WVEDA**) and US Department of Agriculture (**USDA**) - to discuss the full quantum of funding that will be required by the Company in order to immediately commence the formal implementation of the Next-Stage onsite expansion, which will quadruple the Company's current nameplate CFOAM® production – *and critically*, introduce full redundancy in the Company's total production profile in the event of equipment outages due to the direct result of the multiple production lines that will be developed as a key tenet of the expansion.
- Final design, installation timing and costing for the primary autoclave and kiln equipment which will form the core component of the Company's Next-Stage expansion onsite. This information will be obtained from key manufacturers and will form the crucial basis for the eventual decision to select the key manufacturer/s that CFO will partner with through the expansion process. It is expected that such information will be fully obtained by the Company by the end of July.
- Ongoing evaluation and optimization of the Company's present corporate and capital structure, and domicile, in order to optimise the pool of both US Governmental and major US strategic partner funds, to be sourced by CFO in order to fund near-term expansion activities.

ADDITIONAL INFORMATION, OTHER BUSINESS

- Flemming B. Bjoernslev was appointed to the Board of CFOAM® as an Executive Director. Mr Bjoernslev is a highly experienced executive, having spent 30 years in the chemical industry in Europe, Latin America and the United States, working primarily with Bayer A.G., and Lanxess after it was spun-off from Bayer.
- Next-Stage Expansion – as detailed above, a broad, detailed assessment of the multiple options continues, presently centred on a material operational and platform expansion on-site – but also several partnership opportunities with major US enterprises which would potentially enable parallel expansion capability in other US states.
- Also as detailed above, the strategic review previously announced in January-2019 regarding the analysis and investigation of the options of restructuring and changing the domicile of the total CFOAM® business to the United States (US), including the merits of the Company's current ASX-listing, is continuing. Pivotaly, the Company is currently reviewing an internal restructure that would interpose a US "C-Corp" as a Delaware-domiciled holding company, overseeing CFOAM LLC. This would result in no change to beneficial ownership - but would critically facilitate markedly increased direct access to the type of US Governmental funding sources detailed above. Any strategic decisions, other than an internal restructure, will be put to shareholders for consideration and approval.
- Discussions have been, and continue to be, held with multiple potential US-based strategic funding partners.
- A further \$US500,000 Promissory Note commitment was repaid to Touchstone Research Laboratory, Ltd (TRL) on 15 April 2019. Total debt reduction YTD now stands at \$US1,850,000, noting that the Company also fully repaid the loan of \$US400,000 owing the WVJIT (well prior to maturity) in Q2-2019.

ASX ANNOUNCEMENT

8 July 2019



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About CFOAM Limited

CFOAM® products are an inorganic carbon material that is manufactured from coal, pitch or lignin feedstock. CFOAM® products manufactured in this process have a rigid foam structure, similar in appearance to pumice stone, but with entirely different properties. CFOAM® products are currently used across a wide variety of markets including composite tooling for the aerospace sector, energy absorbing applications and defence applications. Additional markets such as the automotive applications for energy absorption and fire resistance are also expected become significant to the Company over time.

CFOAM® products were developed to meet the growing demand for ultra-high-end performance engineering materials in the, industrial, aerospace, military and commercial product markets.

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ASX ANNOUNCEMENT

8 July 2019



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