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Community BioRefineries,

Standing Requirements for Community BioRefineries from US Navy and the US Department of Agriculture

US Navy

USN standing by to acquire true SAF (bio-jet) fuel from CBR

The genesis of the US Navy's interest and subsequent expression of focused interest in the Community BioRefinery's SAF bio-jet fuel evolved as follows:

Presented in CBR's original DoD Proposal draft is a list of authorization references which allow DoD to legally enter into the proposed arrangement. Specifically, **50 U.S.C., Section 2061 et. seq., Defense Production Act of 1950, Title III (as reauthorized 3 January 2012)**. This law, on the books since 1950, enables the Department of Defense to enter into its own commercial arrangements if such arrangements are for the direct benefit of the service/DoD, enhances availability and deliverability of whatever the end item(s) desired may be over a more traditional acquisition process, and can be demonstrated to be for the good of the service

CBR drafted this unsolicited proposal to provide SAF bio-jet fuel. The original focus was to establish an R&D site which would then prove the CBR's capability; then, provide sufficient "test" fuels for the USN to evaluate for suitability of its use for Naval Aviation requirements. Focus on the Navy was due to its leading efforts among the DoD department in the use of 'green' fuels, containing no petroleum.

A then-Vice Admiral was made aware of the draft proposal. This VADM was in charge of the Navy's "Green Initiative". He traveled to St. Louis to meet with CBR personnel and discuss the proposal, even though it had not yet been formally submitted. The admiral was soon to retire; his new civilian job was to continue doing what he had been doing for the Navy.

An alternate approach was that instead of going about our proposal in a direct manner, we can offer the same benefits directly to the Navy, but have them be our partner in the project. In doing so, it:

- provides them a measure of control as an equity partner;
- provides them with greater visibility (which they like);
- creates a dedicated source of biofuels at a rate that is not an outrageous rip off; and,
- provides them an exit strategy for buy back, buy-out, etc. once they are satisfied that the funds were well spent.

It also would make them heroes in the eyes of tax payers in that however many millions are involved, those funds get recouped by the service for a net cost of zero for getting the mechanism in place to continuously provide these fuels to them. As a result, it is not unreasonable to expect the other services

might want to join in as well at some point. It also enables the food/nutraceutical elements to be folded in, as there is a direct military benefit to that as well.

The benefit to CBR is that funding will come from a reliable source, without the greed component, and we can do this right the first time. It will also make it exponentially easier for follow on agreements with the USN and other DoD components going forward, making us a true government contractor. For non-DoD applications, it will be much easier getting other commercial funding without all the games we are constantly being run around by; however, if we are able to establish multiple DoD-dedicated facilities, we will be able to apply our own funding for other CBRs and thumb our noses at everyone who has jerked us around.

The Vice Admiral loved every bit of it; however, he pointed out that the USN (and every other federal government agency) is prohibited from receiving any sort of Purchase Order from any commercial entity that is not fully commercialized. To do so would be considered to be “speculating” by that agency, thereby being in violation of 50 U.S.C., Section 2061.

US Department of Agriculture

Specific, personal request by USDA Undersecretary to apply CBR’s pure plant protein isolates to replace inferior proteins being imported into the United States.

NOTE: Energenetics is the predecessor of Community BioRefineries

In February 2010, the USDA Undersecretary for Rural Development (RD), Cheryl Cook, along with the USDA Secretary’s Chief of Staff, Carole Jett, visited Ft. Madison, IA for a tour of the Energenetics Demonstration plant and to receive an in-depth, detailed briefing on the process and its potential for rural communities and the country. S. Pierce conducted the tour; S. Hewitt (current CBR CEO) gave the briefing. At its conclusion, Ms. Cook expressed her overwhelming positive impression and issued several expectations:

- a. That she would like to see the Energenetics production facilities focus its “food side”, primarily the pure plant protein isolates it creates, on improving and enhancing the nation’s school lunch programs;
- b. Ms. Cook “vigorously encouraged” Energenetics to focus its commercial relationships with a goal toward replacing all the imported sodium caseinate (milk protein) currently being imported from several countries because:
 - 1) The quality of these imports is very poor (i.e., the proteins have been damaged by the methods used for their preparation);
 - 2) By replacing the “junk proteins” with high quality isolates from Energenetics would improve children’s overall nutrition in the country “almost overnight”, and;
 - 3) Replacing the foreign-sourced proteins with domestically produced, higher quality protein isolates would make a definitive dent in the country’s trade deficits. NOTE: The U.S. imports over 300 million lbs. of foreign sodium caseinate every year, costing over \$1.5 billion; plus, more costs are incurred by food companies using these proteins by having to reconstitute them by adding masking agents to cover their putrid taste and smell.
- b. Ms. Cook felt (and Carole Jett concurred) that the Energenetics process should commercialize at the earliest opportunity. To that end, she “energetically urged” Sammy Pierce to immediately put together an application for a USDA Business and Industry Loan Guarantee for whatever amount would enable the earliest commencement of production. When the application was

ready to submit, we were to inform her directly that it was inbound, and she would then be on the lookout for it to approve as soon as it hit her desk. NOTE 1: The application was prepared, with staff input from the Iowa USDA director. The final piece, coordinating with a financial institution to handle the loan, ensure its repayment, and receive the guarantee had to be identified and acknowledged on the application. Energenetics could locate no financial institution willing to assume this role in that none trusted the USDA's B&I program with its history of not always honoring the guarantee when default occurred. As such, the B&I application could not be put forward. NOTE 2: Energenetics eventually found a solid financial institution to support a B&I application (CoBank); however, they required Energenetics to first produce 30-50% of the required amount in equity before they would move ahead with them. NOTE 3: Within weeks of the Undersecretary's visit, a 3rd party engineering study was completed. Its findings determined the a) the process worked; b) the process produced everything Energenetics claimed it would; c) and was scalable.

- c. Ms. Cook and Jett returned to the USDA with their reports. Energenetics provided a personal briefing to Secretary Vilsack several months later, which was well-received.

This requirement continues. Congress enacted tariffs on the "junk" proteins being imported until they can be replaced.

Other USDA Interface with CBR

USDA and CBR have been 'joined at the hip' ever since a 1990 scientific conference attended by Dr. Peggy Tomsula (Chief, USDA Dairy Science, USDA-ARS) and Mr. Sammy Pierce, Founder and CEO of Energenetics, Inc. – the precursor of Community BioRefineries, LLC (CBR);

The USDA held the patent for a dairy-solids recovery device invented by Dr. Tomasula. One of the USDA-Energenetics CRADAs, which created a reciprocal agreement between USDA and Energenetics, to utilize Dr. Tomsula's invention in their process. Likewise, Sammy Pierce agreed in a separate CRADA to allow the USDA-ARS to use the patented micron milling application technology;

CBR and USDA have entered into a total of six Cooperative Research and Development Agreements (CRADAs);

When USDA-ARS created the USDA's official definition of a true biorefinery, CBR was closely involved with its staff collaboration. The final definition was based largely upon the CBR model:

A true biorefinery is a facility designed to accept many different plant sources (feed stocks and biomass), wherein such plant materials are broken down into their component elements and recovered to enable the production of many different useful products.

CBR's biorefinery is a perfect example of this definition. Currently, the American public has been conditioned to think of a 'biorefinery' as a place where ethanol is produced. Ethanol plants do not meet the USDA's definition;

Tremendous back-and-forth consultation between Dr. Tomasula and Sammy Pierce during the finalization of the Energenetics (CBR) Pilot/Demonstration Plant in Ft. Madison, IA. USDA-ARS later created a replica of the Energenetics Pilot plant at their Philadelphia facility;

USDA's Heart Healthy, non-GMO corn hybrid was developed in close cooperation with CBR's own technical collaborator, Dr. Norman Borlaug, following Dr. Borlaug's USDA mission to southern Mexico and Central America to discover and retrieve as many of the original strains of maize (corn) as he could find. One of those strains was chosen to develop into the non-GMO hybrid at the USDA extension facility in Ames, Iowa.

USDA's horticulturist at the Ames (IA) USDA Extension, Dr. Susan Duvick developed the non-GMO hybrid. Dr. Duvick was assigned to be USDA-ARS's technical interface with CBR;

Exclusive rights to process the non-GMO Heart Healthy corn were awarded to CBR by the USDA as the only facility that could properly unlock its benefits without destroying or damaging its components. USDA's nomination of CBR (Energenetics) sat on the floor of Congress for objections for 30 days. There were no objections;

During the development of the USDA 9003 Program (now called the "Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program", the USDA sought Energenetics' permission to use portions of its Business Plan to describe the new program – which was given. Since so much of the corn crop was being taken up to make ethanol at that time, one of the restrictions was that no corn could be processed by any applicant. Energenetics applied for the program's loan guarantee, but was denied by a staffer because the Energenetics (CBR) process could process corn and was, therefore, denied. Appeals to point out that the process could process many different feed stocks and biomass and funding would not be applied to any corn processing, were ignored. Since then, the program has been amended to accept only up and running (commercialized) entities, as it now also requires 120 days of the process running to "collect data" for inclusion with the application; USDA retained the right to deny, to Energenetics, any potential commercialization funding source if it felt the funding agreement was onerous or the technology could potentially be taken overseas;

USDA wisely sought to protect itself and Energenetics (CBR) within CRADA language to suspend or cancel any agreement should either the USDA or Energenetics encounter any legal action which could threaten the technologies involved with their CRADA. With the Energenetics/CBR process being so unique and valuable, this verbiage has been helpful during past legal actions against Energenetics when others sought to steal, control, or bury its process and its technologies.

The USDA, in cooperation with Energenetics, prepared the official "Financials" Excel spreadsheet using the USDA's proprietary Aspen Feasibility Study software.

In 2021, CBR interfaced with Mr. William Richmond, USDA-AMS (Ag Marketing Service) - Chief, Domestic Hemp Production Program. Mr. Richmond was asked about the definition of "processing" in the newly-issued industrial hemp rules issued to all state Secretaries of Agriculture. Mr. Richmond was astonished at what the CBR process could do with industrial hemp and urged CBR's Hemp-BioRefinery division to move forward as quickly as possible.

For more in-depth information please see our website. [Community BioRefineries](#)