

UPDATE

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New Dupps turnkey evaporator plant is one of North America's largest.

Workers finish installation of the evaporator towers, prior to being enclosed, at the new West Coast Reduction rendering plant in Calgary, Alberta. It's one of the largest rendering evaporator systems ever constructed.



When West Coast Reduction, Ltd made the decision to build a brand new rendering plant for non-SRM beef products at their Alberta Processing Division location in Calgary, one operating criterion took precedence: the new facility had to be energy efficient. The solution: an evaporator system that takes advantage of recycled waste heat from other plant systems to dramatically reduce natural gas consumption.

Dupps has designed, engineered and built evaporator plants since the 1970's, with extensive experience in falling film and forced circulation flash evaporator systems for protein recycling. When planning for this new facility began in 2007, it quickly became apparent that this would be a large operation. As it turned out, it would become the one of the largest evaporator plants for rendering ever built, with a raw material capacity of up to 65,000 lbs. per hour.

Based on the Dupps Thermsavor™ design, the new West Coast Reduction plant processes raw material, finely ground and combined with recycled fat into a slurry, through a double-effect evaporator system which cooks the material under vacuum before fat and solids separation. The use of waste heat improves steam efficiency over conventional cooker systems, resulting in significant energy savings. According to Jeff Hendrix, Dupps sales engineer, "West Coast Reduction is very familiar with these systems; about three quarters of their

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Dupps evaporator plant . . . (continued).

existing plants already use evaporator technology in some form. Because of high energy costs in their region, an evaporator system was a particularly good fit for them.”

After designing the basic layout of the new facility, West Coast Reduction relied on Dupps as its single source to engineer the complete evaporator system in detail and install a turnkey plant. Dupps manufactured in-house much of the equipment for the new plant – in addition to the evaporators themselves, Dupps provided the storage equipment for incoming raw material, Precrushors™ for raw material break-up, Titus II™ hammermills for fine grinding, Pressors® for fat/solid separation and conveying equipment. Other plant equipment was sub-contracted by Dupps in strict accordance to design specifications. The new evaporator system is controlled by a combination of the latest generation of Dupps ICIS™ and Wonderware process control software. Using a common network throughout the plant, this system permits close monitoring of the process at every stage of operation.

Working in conjunction with West Coast Reduction’s building construction crew through much of 2008 and 2009 (including straight through a chilling Calgary winter), the new plant became fully operational in July 2009. A short shakedown period took just a few weeks; today the plant routinely processes 50,000 to 55,000 lbs. per hour, 24 hours a day.

For more information on Thermsavor or retrofit evaporator systems, call your Dupps representative at (937) 855-6555 or go to www.dupps.com.



Top: The raw material handling system can feed up to 65,000 lbs. per hour.

Middle: The evaporators’ heat exchangers and vapor condenser.

Bottom: The Dupps ICIS automated process control system monitors and controls temperature, product levels, pressure, weight, flow rate and motor load.

The high cost of natural gas in Canada makes evaporator systems particularly attractive to renderers like West Coast Reduction — but there has been renewed interest in evaporator technology in the United States as well.

At the moment, energy costs in the U.S. are relatively low, a condition that favors conventional continuous cooking systems. However, as we all know, these costs are volatile, and should the cost of natural gas rise, an evaporator system becomes a more attractive investment. As Jeff Hendrix explains, “Normally, an evaporator uses about 1 pound of steam per pound of water evaporated, while a conventional cooker uses between 1.4 and 1.45 pounds of steam per pound of water evaporated. This depends upon the temperature of the raw material and other operational parameters, but the comparison is a good rule of thumb.” There are other differences in energy consumption between the two systems that impact real-world savings, but the bottom line

for operators is that evaporators provide significant energy savings.

Another advantage of evaporator systems involves waste water clean-up, where an evaporator helps remove as many solids as possible from the waste water stream. “More and more renderers are using evaporators, as they efficiently recover more solids; this takes the load off their lagoons, ponds and local sewer systems,” notes Hendrix.

The advantages of evaporators is becoming so apparent, that many renderers are taking advantage of a system that retrofits an evaporator into a conventional cooker system: the evaporator uses waste heat from cooker vapors to increase steam efficiency and clean waste water streams.

You can learn more about the various configurations of evaporator systems and how they can benefit your operation by calling your Dupps representative at (937) 855-6555 or by visiting www.dupps.com.

Special thanks to Bill Schottelkotte for 38 years of dedicated service.

A few months ago, Bill Schottelkotte announced his retirement from the position of Vice President, Technology, of The Dupps Company. During his thirty-eight years of service with Dupps, most of them in an engineering leadership role, Bill Schottelkotte has been at the forefront of rendering systems development. While he has formally retired, Bill will continue as a consultant on special projects for Dupps.

Bill Schottelkotte began his career with Dupps while still in high school, working in the paint shop during summers. After graduating from the University of Notre Dame with a Bachelors of Science degree in chemical engineering and serving as an officer in the Air Force, Bill joined Dupps full-time in 1971 as a Field Installation Engineer. In fact, Bill worked directly under his father, Frank Schottelkotte, who headed the Dupps engineering

and sales functions at the time. Installing all types of process systems and equipment in rendering plants throughout North America, and subsequent responsibilities with Dupps’ product development efforts, gave Bill the experience needed to become Director of Engineering in 1978. From that time, and later as Vice President of Engineering, Bill has become one of the industry’s leading figures in rendering systems development and technology.

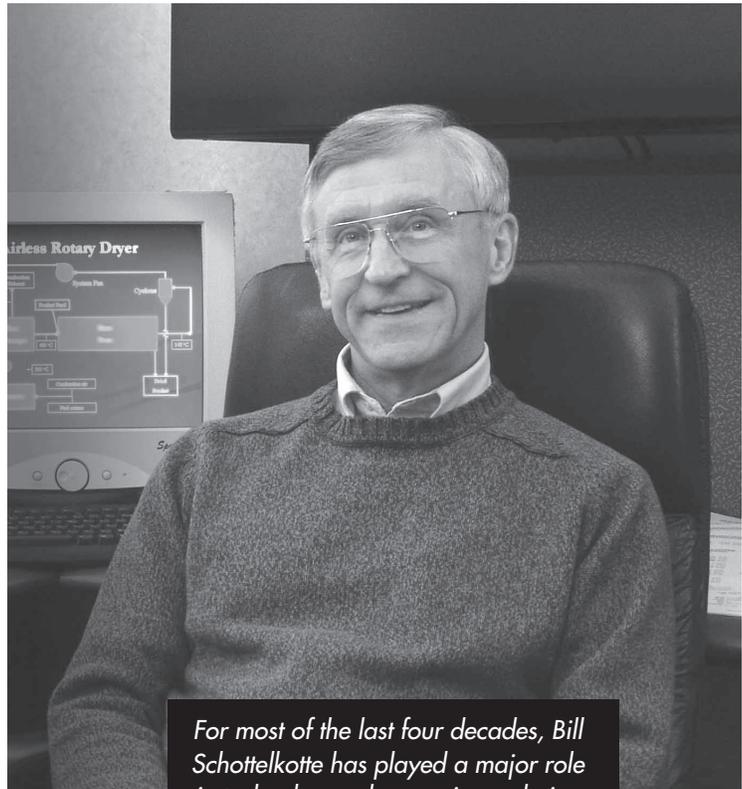
During his career at Dupps, Bill has been instrumental in making sure that vital process systems and equipment kept pace with the many changes in the protein co-products industry. “One on-going characteristic of the industry is that rendering plants continue to get bigger,” notes Bill. “A plant processing 20,000 to 25,000 pounds per hour was once considered large; today, it’s not

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Bill Schottelkotte . . . (continued).

uncommon to find installations with over five times that capacity. Our job has been to make sure we could scale our equipment to handle these demands, while at the same time continuing steady improvements in performance and reliability." Another area of broad advancement over the years has been in systems control. "Computerized control of rendering systems has become increasingly more sophisticated," according to Bill. "We've worked hard to keep ourselves at the leading edge of process control development, resulting in better process monitoring, higher throughput, and greater energy efficiency." As an authority on rendering systems control, Bill delivered a keynote presentation during the 1997 National Renderer's Association Convention on the topic of Programmable Logic Controllers (PLCs) as they apply to rendering plant operations.

Looking back on his career at Dupps, Bill notes one overriding objective that has always guided his efforts: "Build equipment as good as it can be built; that way you can always fulfill the promise to your customers of top quality and performance." Recently, as Vice President, Technology, Bill has also overseen all product development at Dupps, with responsibilities not only for rendering systems, but for the expansion of Dupps manufacturing capabilities to other process industries as well. With his retirement, Bill undoubtedly leaves some big shoes to fill. Fortunately, Dupps has experienced professionals ready to step in, with Don Shaw, Director of Engineering, Rob Horton, Process Engineer, and Ray Jobe, Project Manager taking over Bill's many responsibilities.



For most of the last four decades, Bill Schottelkotte has played a major role in technology advances in rendering systems and operations.

What's next for Bill? He and his wife Patrice are looking forward to some long anticipated travel, beginning with a trip to Europe. Afterward, Bill plans to devote more time to volunteer and charitable activities with Optimist International, an organization he has served for twenty-seven years. He's also considering volunteer work at the National Museum of the United States Air Force in Dayton, Ohio, where he can apply his engineering and mechanical skills in the restoration of historic aircraft.

All of us here at Dupps, and many throughout the rendering industry, wish Bill all the best — those who would like to contact Bill may do so through The Dupps Company, 548 North Cherry Street, Germantown, Ohio, 45327; phone (937) 855-6555; email wschottelkotte@dupps.com



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