



Date: 2/10/2016

**COMPANY INFORMATION**

**Company Name:** Livestock Water Recycling, Inc.

**Phone:** 403-203-4972

**Web Site:** www.livestockwaterrecycling.com

**Address:** 3637 44th Avenue SE

**City:** Calgary

**State:** Alberta, Canada

**Zip Code:** T2B 3R5

**BUSINESS CONTACT**

**Name:** Ross Thurston

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**BUSINESS HISTORY**

**How long have you been in business?** 20+ years

**Are you part of a larger company?**  Yes  No

**Did you exist as another company before this company was formed?**  Yes  No

*If so, what was that company's name?*

IWR Technologies

**Number of employees?** 15-20

**What is your business structure?** Private

**What types of insurance and or surety do you provide?**

We operate under full business insurance coverage. We offer our customers warranty.

**References. Please provide customers or colleagues with whom we can discuss your business and performance.**  
*Please include a separate list with company name, location, contact name and contact information.*

Available upon request

**Describe your business service(s).** *For example: consulting, development, engineering, equipment sales, finance, other.*

EQUIPMENT SALES: Livestock Water Recycling provides dairy, hog, and anaerobic digester operations with innovative, award winning manure treatment technology. Livestock producers install our system when they are looking for smart, flexible, on-site nutrient recovery that allows them to sustainably expand their herds, or simply make their manure management efforts more effective. Producers are making valuable nutrient products that are easy to export while recycling millions of gallons of clean water annually. By doing this, they also reduce their greenhouse gas emissions by 38%.

PRODUCT DEVELOPMENT: LWR's Innovations Center is committed to ongoing research and in house product development.

ENGINEERING: LWR's team of engineers offers custom design, and regulatory support.

SERVICE: LWR's ManuRewards™ program offers ongoing service to ensure that farms who install the LWR System have the support they need at every stage of installation and operation. With a comprehensive operating manual, Internet interface with our Innovation Center, thorough training and certified field technicians who can be on site quickly, we are committed to serving our customers for the lifetime of their LWR System.

**Area or region of operation.**

Canada and USA

**Does your company hold any patents or the rights to any patents?**  Yes  No *Please describe..*

LWR holds multiple manure treatment process technology patents.

**Do you manufacture equipment?**  Yes  No *Please describe.*

**Do you integrate equipment manufactured by others?**  Yes  No  
*If you integrate, please list the names of the companies you represent.*

Fan Separator

**How do you answer potential customer's question about financial strength of your company?**

LWR's parent company, IWR Technologies, has been in the water treatment business for over 20 years.

**Do you offer technical/service support?**  Yes  No *If so, what methods?*

We offer a full service package called ManuRewardsTM that offers engineering support, field technicians for installation, commissioning, and training as well as monthly service packages.

**Do you offer design services?**  Yes  No *Please describe.*

**Do you offer financing?**  Yes  No *If so, what terms?*

**Are you a full stop shop?** *Design to construction to operate?*  Yes  No *Please describe.*

**Do you have preferred partners?**  Yes  No

*If so, please list and provide contact information/identify partners by name.*

Fan Separators  
Bauer North America  
Jim DeWitt  
M (630)750-3482  
j.dewitt@bauer-at.com

**Do you have any third-party verification/research that has been done on this technology?**  Yes  No  
*If so, please describe.*

**Do you provide a performance guarantee?**  Yes  No

*If so, what are you guaranteeing? For example: up time, methane production, biogas production, parasitic load, throughput, O&M cost, percent recovery, other.*

Performance guarantees based on contract that include uptime, recovery rates, operation costs, and the reclamation of clean water.

**Are there any other aspects of your business that you feel should be included in this document?**

The LWR System holds the industry record for the most installations, and has helped livestock operations ease both regulatory and public pressure. It is the only fully commercialized system on the market that can recycle 75% of liquid manure into clean, potable water. It is also the only nutrient recovery system that can come equipped with state of the art solar panels that are accompanied by the low-impact, high-efficiency mounting system technology that is revolutionizing the solar industry.

**INITIAL TECHNOLOGY OVERVIEW**

**This information is to guide in the development of a more specific and detailed Technology Information Request. Please answer the following questions for each Technology or Service Provided.**

**What is the name of the technology or service?**

LWR Manure Treatment System, ManuRewards™ service packages.

**What unit process is the technology used in?**

*For example: initial collection/transfer manure storage, energy recovery, primary/coarse solids recovery, advanced suspended/fine solids recovery, drying, struvite production, nitrification denitrification, ammonia stripping, algae, vermi composting, membrane filtration, evaporation, other.*

Solids removal, advanced suspended/fine solids recovery, nutrient segregation and concentration.

**How many systems have you installed on dairy farms or other livestock operations?**

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**Size of farm(s)?**

System is suitable for a livestock operation that produces 8 million gallons or more of liquid manure annually. This is generally a dairy with over 500 cows, or a farm with over 2000 hogs.

**Location of farm(s)?**

Wisconsin, Indiana, New York, Michigan, Nebraska

**What's the smallest/largest farm for your system?**

The system sizes are based on manure production. The smallest LWR System will treat up to 10 million gallons of liquid manure annually, and the largest system will treat 95 million gallons annually.

**Input material description/characteristics:**

*For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.*

Raw manure post fiber separation as well as digestate.

**Does the technology treat the full manure stream for a farm or a fraction of the stream?**

The full manure stream post fiber separation.

**Do you consider this a mature system or ongoing farm development?**

Mature system.

**Any weather constraints?**  Yes  No *Please describe.*

However, the system must be housed indoors.

**Any bedding constraints?**  Yes  No *Please describe.*

**Is this process scalable and to what extent (top and bottom limits)?**  Yes  No *Please describe.*

10,000,000 gallons to 95,000,000 million gallons annually.

**Do you have a known scaling factor?**  Yes  No *Please describe.*

LWR 20: Up to 10 Million Gallons Annually  
LWR 40: Up to 30 Million Gallons Annually  
LWR 85: Up to 55 Million Gallons Annually  
LWR 185: Up to 95 Million Gallons Annually

**Input and output of your unit/system – do you have a mass balance analysis?**  Yes  No *Please describe.*

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**Do you consider this technology part of a larger system that you provide?**  Yes  No *Please describe.*

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**Has your technology been accepted by the NRCS?**  Yes  No *Please describe.*

LWR has worked with the DNR in both Michigan and Wisconsin. In Michigan, the DNR internally reviewed the LWR application and gave their approval. In Wisconsin, the DNR has given approval on a case by case basis.

**Would you be willing to provide information for a technical review?**  Yes  No

**Would you be willing to respond to a Request for Quotation (RFQ) on a generic project for comparison of your technology against other technologies in the same unit process?**  Yes  No

**Are there any other facts about this technology that you feel should be included in this document?**

The LWR Innovation Center is committed to ongoing research and product development that has made the LWR System the market leader for nutrient recovery and water reclamation on livestock operations. The LWR Manure Treatment Process is patented in 3 countries and patent pending in 5 others. The system has been recognized with over a dozen awards and has been featured in highly credible industry publications including cover stories in Manure Manager, Dairy Herd Management, and Canadian Geographic.