



TECHNOLOGY PROVIDER TECHNOLOGY INFORMATION REQUEST

IEC Technology/Service: Tank and Pond Gas Collection and Rainwater Collection Cover Systems

Information by: Dave Anderson

Date: 4/6/17

COMPANY INFORMATION

Company: Industrial & Environmental Concepts, Inc. (IEC)

Phone: 952 829 0731

Web Site:

Address: 21390 Heywood Ave

City: Lakeville

State: MN

Zip Code: 55044

TECHNICAL CONTACT

Name: Dave Anderson

Phone: Office 952 829 0731 cell 952 240 3321

Email: anderson@ieccovers.com

Address: 21390 Heywood Ave

City: Lakeville

State: MN

Zip Code: 55044

DEMONSTRATION SITE CONTACT

Site Name: Varied

Contact: Dave Anderson

Title: Sales Mgr

Phone: 952 829 0731

Email: anderson@ieccovers.com

Address: 21390 Heywood Ave

State: MN

Zip Code: 55044

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 you provide?

Storage Tank Covers

Describe how this technology is used in a larger Nutrient Management System. Please be as detailed as possible.

The cover is installed over tanks and basins to reduce odor and keep out rain

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

SYSTEMS	NUMBER OF SITES	SIZE OF INSTALLATIONS
Dairy		
Pork		
Poultry	4	70,000-150,000 birds

Do you have a preferred region or area for the location of projects?

United States

Location of farm(s)?

Same as above

What's the smallest and largest farm using your system?

200-50,000 milking head

Input and output of your unit/system – do you have a mass balance analysis?

If a mass balance is available, please include below or attach as a separate document.

n/a

Input material description and characteristics:

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

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

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

Mature system. IEC makes innovations every year in design which benefits the producer

Any weather constraints? Yes ☒ No ☐ *If so, please describe.*

Installations cannot be conducted during wet & windy conditions or when temperatures are below 40 degrees F.

Any bedding constraints? Yes ☐ No ☒ *If so, please describe.*

Output material description and characteristics:

Please include the % of the total stream for each material, i.e. 10% fiber and 90% screened liquid by weight.

n/a

Do the Outputs of the process have a resale market identified? Yes ☒ No ☒

If so, under what brand name or who is the contract with?

Is this process scalable and to what extent (top and bottom limits)? Yes ☐ No ☒ *If so, please describe.*

Do you have a known scaling factor? Yes ☐ No ☒ *If so, please describe.*

Does this technology require any air input? Yes ☐ No ☒

What is the preferred air connection? For example: psi, fitting size, air quality.
If not distributed by the system, please list each connected device.

Does this technology require any water input? Yes ☐ No ☒ If so, please describe.

What is the preferred water connection? For example: psi, fitting size, water quality, gpm.
If not distributed by the system, please list each connected device.

Does this technology require any electrical input? Yes ☒ No ☐ If so, please describe.

What is the preferred electrical connection? For example: phase #, voltage, full load amps.
If not distributed by the system, please list each connected device.

Does this technology require any mechanical input? Yes ☐ No ☒ If so, please describe.

What is the preferred mechanical connection? For example: horsepower, connection, rpms.
If not distributed by the system, please list each connected device.

Does this system require any special plumbing? Yes ☒ No ☐ If so, please describe what is required.

Does this system require any special foundations or pads? Yes ☒ No ☒ If so, please describe.

Do you consider this technology part of a larger system that you provide? Yes ☒ No ☐ If so, please describe.

Does your system require any other components that you do not provide or are not included in your proposal? Yes ☐ No ☒
If so, please describe.

How is the system delivered to the site? For example: skid mounted, assembled on site, constructed on site.

Semi van and flatbeds

Is this system portable or configured in such a way that it could be easily transported for use in several locations?
Yes ☐ No ☒ If so, please describe.

Has your technology been accepted by the NRCS and is it included into a practice standard? Yes ☒ No ☐
If so, please describe if necessary.

IEC has installed covers and liners on NRCS sites, all of which have been approved. We comply with state regulations.

Are there any unusable or hazardous byproducts of this process? Yes ☐ No ☒

If so, please describe the product and recommended means of disposal.

What spare parts and redundant components are included with the system?

None required

How is the system controlled and what are the components and capabilities of the control system?

The cover is maintenance free, no control or operational requirements needed after installation

What is the usable life of the system?

15 years

What is the salvage value at the end of the usable life?

None

What is the educational and technical level of competence for the operation of the system?

Low

What level of maintenance is required for the system?

Please indicate if rebuilds or major components must be replaced and what the frequency is for these components.

Little to no maintenance is required.

Are consumables used in the process? Yes ☐ No ☒

Please provide the nature and purchase relationship for these consumables. For example: proprietary, special contract, generally available.

Which of these NRCS codes would your technology be classified under? Check all that apply. Add if necessary.

CODE	NRCS DESCRIPTION	CHECK ALL THAT APPLY
472	Access Control	<input type="checkbox"/>
560	Access Road	<input type="checkbox"/>
309	Agrichemical Handling	<input type="checkbox"/>
371	Air Filtration and Scrubbing	<input type="checkbox"/>
591	Amendments for the Treatment of Agricultural Waste	<input type="checkbox"/>
366	Anaerobic Digester	<input type="checkbox"/>
672	Building Envelope Improvement	<input type="checkbox"/>
372	Combustion System Improvement	<input type="checkbox"/>
317	Composting Facility	<input type="checkbox"/>
554	Drainage Water Management	<input checked="" type="checkbox"/>
375	Dust Control from Animal Activity on Open Lot Surfaces	<input type="checkbox"/>
373	Dust Control on Unpaved Roads and Surfaces	<input type="checkbox"/>

374	Farmstead Energy Improvement	<input type="checkbox"/>
512	Forage and Biomass Planting	<input type="checkbox"/>
561	Heavy Use Area Protection	<input type="checkbox"/>
516	Livestock Pipeline	<input type="checkbox"/>
590	Nutrient Management	<input type="checkbox"/>
521A	Pond Sealing or Lining, Flexible Membrane	<input checked="" type="checkbox"/>
533	Pumping Plant	<input type="checkbox"/>
588	Roof Runoff Structure	<input type="checkbox"/>
367	Roofs and Covers	<input checked="" type="checkbox"/>
318	Short-Term Storage of Animal Waste and By-Products	<input checked="" type="checkbox"/>
570	Stormwater Runoff Control	<input checked="" type="checkbox"/>
606	Subsurface Drain	<input type="checkbox"/>
635	Vegetated Treatment Area	<input type="checkbox"/>
601	Vegetative Barrier	<input type="checkbox"/>
360	Waste Facility Closure	<input type="checkbox"/>
632	Waste Separation Facility	<input type="checkbox"/>
313	Waste Storage Facility	<input checked="" type="checkbox"/>
634	Waste Transfer	<input type="checkbox"/>
629	Waste Treatment	<input checked="" type="checkbox"/>
359	Waste Treatment Lagoon	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

Can you provide an estimate of the capital required for the installation of this technology?

Please include all components and designate if provided by you or others.

4 laborers for 2-4 days and a crane for 1 day

Can you provide an estimate of the operational costs required for this technology?

Please include all costs and designate if provided by you or others.

Zero operational costs

Is there financing available for this system? Yes ☐ No ☒ If so, what are the conditions for this financing?

Is the system available for lease? Yes ☐ No ☒ If so, please describe.

What sort of warrantee or guarantee do you provide with this technology?

Do you provide any performance guarantees or strictly defects in parts and materials?

Standard 1 year workmanship, 10 year pro-rated material warranty. Extended terms are available.

Explain how this system is unique or transformative and how does it improve upon or go beyond other technologies that are currently available.

The cost is 25-35% of hard dome systems

Would you be willing to provide a location for a site visit by Newtrient? Yes ☒ No ☐ If so, please provide location.

TECHNOLOGY REFERENCES

Please provide customers with whom we can discuss this technology and its performance.

Include a company name, location, contact name and contact information.

Reference 1

Company Name:	Franc Environmental
Company Location:	Warminster, PA
Contact Name:	Tom Ferrara
Contact Information:	T2@FrancEnviro.com

Reference 2

Company Name:	McCain Foods
Company Location:	Canada and US
Contact Name:	Peter Cormier
Contact Information:	CORMIER, PETER F. <peter.cormier@mccain.com>

Reference 3

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 4

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

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

IEC has solely specialized in covers and liners since 1993. The EPA pond design guidelines include IEC's insulated modular covers as an approved wastewater solution. IEC has over 1400 installations in 19 countries. IEC is recipient of multiple design and quality achievement awards.