Nutrient Recycling Challenge Abstract Submission

Submitted by: **Paulee Cleantec Ltd.**

Paulee Cleantec (PCT) was founded in 2008 with the vision of creating an effective, sustainable solution for the management of human and animal waste. Company's vision is to help eradicate sickness and disease caused by lack of sanitation throughout the world and to be the global leader in the treatment and disposal of home, pet, and livestock waste.

Paulee Cleantec Solution: PCT patent protected technology provides a safe chemical process that converts human and animal waste into effective fertilizer in minutes. During the conversion process, a chemical reaction is triggered using an inexpensive chemical (oxidizer), which converts organic material into enriched organic fertilizer. The non-toxic fertile ash, can be applied into the soil as a highly nutritious fertilizer. PCT proposed process is eco-friendly, quick and safe, and with low cost. Therefore, it is a highly promising alternative to other methods in practice today that handle animal manure.

The Proposed Invention Delivers the Following Advantages:

1. Treating animal manure takes place instantaneously therefore nutrient loss is zero!
2. The high energy released during the oxidation process supplemented with the oxidizer itself eradicates biohazards associated with fresh stool. This also include deactivation of various antibiotics, hormones and other drugs given to the animal.
3. The potassium based oxidizer enriches the product with potassium.
4. The oxidizing reaction neutralizes any bad odor in seconds.
5. Reaction products constitute organic fertilizer rich in potassium, nitrogen and phosphorous.
6. The process can take place at any environmental condition.
7. The entire process is very fast and very easy to operate.
8. The system can be either static or mobile on a truck. Scalability is straightforward.
9. It is compatible with any existing manure management system.
10. It can handle also lagoon sludge and digestate from biogas facilities.
11. The technology is protected in several patent application. One was already granted while others are pending.
12. System footprint coverage is relatively small and a single operator can easily handle a system with very large capacities