

CALIFORNIA WATER COMMISSION MEETING

SEPTEMBER 14, 2021
DR. JOHN REPLOGLE

RSA/REPLOGLE AUTOMATED METERING
PIPE/FARM GATE SYSTEM
US PATENT: 9,983,033

YOU ARE INVITED TO HEAR OUR PUBLIC COMMENT

RSA
Environmental, Inc.

building tools for the environment



WITH
DR. JOHN REPLOGLE

An invention with means to equitably share water in California between farms and society.

Through a newly patented and tested on-farm technology that fully automates farming irrigation. Invented by Dr. John Replogle, Ph.D. world renowned agricultural hydraulic engineer.

WIN - WIN - WIN - WIN

- 1) Politicians - across the aisle
- 2) Society - more water for the environment, urban use, factories. Reduces ground water pollution.
- 3) Water Districts - More precise metering (+/- 2% accuracy) of each water delivery. Reduces contention over perceived water misdeliveries.
- 4) Farmers - better use of water with greater crop yields. Greatly reduced labor costs based on automated systems.

ACCURACY

Very seldom do competing systems meet the legal standards. Our systems exceed the 5% that is currently required by law and are field checked and verified to +/- 2%.

CONVENIENCE

Often times similar systems can be expensive and difficult to maintain/repair. Our system is easy to maintain and easy to repair - does not require high level specialized maintenance talent.

ECONOMICAL

While many existing or attempted solutions are available in expensive set ups, our system provides a measurable water profile and is made of affordable materials.

The RSA/Replogle Automated Farm Turn Out Irrigation System

Each Farm turn-out system works remotely, automatically and independently measuring and controlling the precise water delivery ordered and delivered by the Water District. Collectively each Farm is a completely automated water delivery system.

All systems use wireless and satellite telemetry to both monitor and control each Farm turn-out. The water deliveries are precise and produce low to no polluted tail water. Currently Districts and Farmers both order and deliver more water than required for the crops. Now with our automated highly accurate water delivery system that "excess" water can be used for other than Farm use. The win - win - win - win experience.

RSA and Dr. Replogle have discussed with representatives from the UC System who have expressed interest in monitoring and analyzing the Big Data our systems will generate. Their participation will produce the AI required to accurately oversee the systems in California, then throughout the Western States and then worldwide.

This will bring California into the forefront of this new discipline of automated farming.

Elements - Four Parts

1. Flow Conditioned Pipe with Propeller Meter.
2. Automated Farm Gate with Trash Diverter and automated Lateral Head Gate and Check Gates.
3. Solar panel powered Control Panel with PLC, Data Logger and Telemetry monitoring and controlling Automated Farm Gate sending real time flow data to headquarters control center.
4. AI program telling On-Farm System the delivery progress with real time feedback and automated volume control. When delivery is completed the Gate is closed.



PIPE

Environmentally friendly plastic pipe containing internal flow conditioning elements with trash resistant propeller meter.



ACTUATED GATE

Entrance gate to the field is controlled by the propeller meter to provide constant delivery to the field.



CONTROL BOX

Two way communication solar powered control box with preprogrammed RTU that reads the propeller meter/gate and adjusts the gate to maintain the desired flow.