

Green Drinking Water

Chemical Free, Waste Free, Grid Neutral, Packaged Solution

Photo-Cat DWS, a green technology, has been selected to purify and supply drinking water to an Elementary School with a staff and student population of 250. The challenged source water will be treated for metals (lead & iron), bacteria (E. coli), viruses, TDS (sodium), organics (chemicals), color, taste and odor. Photo-Cat is a proven, photocatalytic ceramic membrane technology that is a solar powered, chemical free, NSF 61 certified water purification technology in a mobile package.

The following three qualities of drinking water will be produced to the regulated drinking water standard:

- Utility; purified of chemical and biological contaminants, with residual color, taste, odor and sodium
- Aesthetically pure; as above, but free of color taste and odor issues
- Low sodium; aesthetically pure and meets Ontario Drinking Water Standards objectives for individuals on sodium restricted diets



Mobile Photo-Cat Drinking Water Purification System

Health & Safety

Photo-Cat is a multi-barrier purification technology that ensures reliability and durability of performance. This ambient pressure and temperature process adds nothing to the water, generates no waste, and only consumes the power it generates (Grid Neutral).

AOP⁺

Unlike conventional Advanced Oxidation Processes (AOP), Photo-Cat is not dependent or limited to Hydroxyl Radical chemistry. Photo-Cat does not use chemical oxidants such as hydrogen peroxide or ozone, which eliminates the severe hazards, liability and insurance issues. There are no air emissions with Photo-Cat, eliminating the need for air permits.

Zero Carbon Operating Footprint

The Photo-Cat has an integrated 3 phase solar power component. More power will be added to the electrical grid than used in its operation, resulting in a zero carbon footprint for direct operating. A requirement of the program is to quantify the baseline cost structure, energy and carbon footprint, and compare it to the deployed Photo-Cat system. This data will demonstrate the “Win-Win” scenario of Purifics’ **“Economic and Environmental Advantage”**.



Packaged Solution

The Turn-Key Photo-Cat water purification system is self contained to expedite delivery, minimize cost, and demonstrate ease of mobility. The completely automated Photo-Cat is equipped with a fully developed graphic interface (SCADA), and remote monitoring. Additionally, the system includes controls that incorporate functions such as driving and controlling feed pumps, online analysis and compliance logging. This pre-packaged technology for drinking water production is free of logistics support requirements and operator dependence, demonstrating its capability to be deployed to remote locations where power, skill sets, extremes of climate, resource limitation and/or adversity inhibit or prevent the availability of reliable safe drinking water.

Curriculum

Real time performance data from Photo-Cat operation will be available for technical experience and scrutiny across all ages and skill levels. Curriculum uses will be available via the internet and the Photo-Cat’s SCADA for touch and learn opportunities. “Student learning prospects utilizing leading edge technology developed here in London is very encouraging to see,” stated Brian Butters, President of Purifics.



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