MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
CAMPGROUNDS & POOLS UNIT
WATER BUREAU

ELECTROLYTIC CHLORINE GENERATORS FOR PUBLIC SWIMMING POOLS
SALT CHLORINATION - FREQUENTLY ASKED QUESTIONS

This document is intended to answer some frequently asked questions that have been directed to the Michigan Department of Environmental Quality (DEQ) about salt chlorination at public swimming pools. Rule 57 of the Public Swimming Pool rules require an approved chemical feeder for all public pools. Salt chlorinators generally meet these requirements.

- We have heard about salt chlorinators for pools and that you don't need to buy chlorine any more. Does salt disinfect or sanitize pool water?

  NO. Salt is not a disinfectant or sanitizer. Salt does not kill bacteria, inactivate viruses, or breakdown undesirable organic material in pool water. Free chlorine is what disinfects or sanitizes pool water.

- What is an electrolytic chlorine generator or ECG?

  This is an electrical device that generates free chlorine from salt added into in the pool water or from salt added to a brine tank. This is also known as a salt chlorinator.

- How does an ECG work?

  Water containing dissolved salt is pumped through an ECG reaction cell. Very simplified, an electrical charge in the cell takes a chloride ion from the salt and combines it with part of a water molecule to form free chlorine.

- Are ECGs approved for use at public swimming pools in Michigan?

  YES. Any ECG that is certified to the NSF/ANSI 50 sections on inline or batch type electrolytic chlorinators can be used. Listed ECGs that are certified to NSF/ANSI 50 also comply with Rule 57 of the Public Swimming Pool rules. Please contact us for a list of approved ECGs.

- Can ECGs be used as a standalone disinfection or sanitation device on a public pool in Michigan?

- **YES**. **But just as with standard liquid feeders and tablet erosion feeders that comply with Rule 57, this depends on proper sizing.**

- How do you size an ECG for an existing pool?

  The best way to size an ECG for an existing pool is to know how much chlorine the pool actually uses each day. Use the highest daily chlorine usage as a basis to determine the number of ECG reaction cells to install.

- What if the actual chlorine usage is not known for an existing pool or a new pool?

  For existing pools and new pools where the actual daily chlorine consumption is not known, estimates must be made. The estimate will consider whether the pool is indoor or outdoor, the pool volume, pool flow rate, highest bather load, and the number of hours per day the pool is open for use. The ECG manufacturer should have a formula based on these factors to determine the number of reaction cells needed.

- What about the salt? What kind of salt can be used?

  The salt used in the pool or in the brine tank must meet the manufacturer's specifications. Generally this is a food grade salt such as used in water softeners without iodine or anti-caking additives. Rock salt or road salt cannot be used since it contains a significant amount of contaminants such as chemicals and rocks.

- Is an automatic controller for chlorine and pH required for the installation of an ECG?

  YES and NO. The pool rules do not yet require automatic controller for pools. However, controllers are normally provided by the manufacturer with ECG installations. The DEQ strongly encourages the installation of automatic controllers. If an ECG is proposed for an outdoor pool or at a pool that does not have a certified pool operator, the DEQ will likely require an automatic controller.

- What is the procedure to install an ECG on a public swimming pool?

  The DEQ considers the addition of an ECG to an existing pool as a modification. A construction permit is required for each pool. A submittal will include the manufacturer's make, model number, chlorine production rate, and number of reaction cells. The make and model number of the pool controller and an installation diagram of the entire installation is also required.

- Can an ECG be used to supplement an existing chemical feeder?

  YES. The ECG could be installed to decrease the amount of chlorine chemical that needs to be purchased. However, a controller is required to make this arrangement work properly. However, the DEQ preference is to size the ECG so it can stand alone.

More detailed information and discussion about salt chlorinators will be available on the forthcoming DEQ suggested practice on ECGs.

NOTE: The information in this document is intended to supplement the public swimming pool portions of the Public Health Code, 1978 PA 368, as amended, and the Public Swimming Pool Rules. These comments do not replace or supersede any portion of the Act and Rules. To download a copy of the Public Swimming Pool Act and Rules, please go to www.michigan.gov/deqwb.