Responses to Comments
Received Regarding Ohio EPA's Draft
NPDES General Permit for Water Treatment Plants (OHW000002)
Public Noticed March 17, 2006

Comment # 1: There should be some type of TDS (Total Dissolved Solids) limit if the water treatment plants have brine backwash.

Response: Brine is used in the water treatment plants that use ion-exchange and reverse osmosis processes. The discharges from ion exchange and reverse osmosis processes have been kept out of general permit coverage because they produce high concentration of TDS. The TDS cause toxicity in the receiving stream and therefore the discharges from these processes need separate terms and conditions on a case by case basis through individual permits.

Comment # 2: The drinking water MCL (Maximum Contaminant Level) standard for Arsenic has been recently reduced from 50 ug/l to 10 ug/l. This means water plants will be treating and backwashing concentrated arsenic streams. There is a potential for backwash discharge concentration exceeding Ohio's WQS (Water Quality Standards) for Arsenic.

Response: Ohio EPA's experience in this regard has been limited to two schools in Ohio where the proposed backwash may have the potential to exceed Ohio's WQS for arsenic. In order not to overlook this potential, wastewater discharges associated with water treatment plants that treat concentrated arsenic streams are not covered by this general permit. A statement to this effect has been added under "Limitations on Coverage " in the general permit. These plants will need coverage by individual permits.

Comment # 3: Where does the 5% TSS (Total Suspended Solids) load restriction in Ohio River come for water treatment plants using plain purification process?

Response: This 5% TSS load refers to the discharges of solids to the Ohio River that may result in more than 5 percent net increase (measured over a 30-day period) over the amount of solids in the water removed from the river. This restriction comes from our experience with large water treatment plants that discharge to the Ohio River.

At those plants, 5% net load increase (instead of diminimus increase) has been allowed. These discharges caused no visible impact in the Ohio River. These discharges shall meet the requirements as described under Part IV SPECIAL CONDITIONS. B.

Comment # 4: The pH mixing zone evaluations appear rather simplistic and do not provide any information on the size of the mixing zone. Is the 1 to 3 dilution rates based upon the 7Q10 flow?

While pH is maintained at 6.5 to 9.0 in all municipal permits and lots of industrial permits, why are we allowing pH up to 11.0 S.U. in the lime soda softening plants?

Response: The pH model examples are adequate theoretical calculations and the model does take into account mixing assumptions (like other models for WLA) without a field study. This pH mixing study is not an AIM study because pH value is applicable outside mixing zone and not in

the mixing zone.

Yes, the 1 to 3 dilution rates is based upon the 7Q10 flow.

The effluents from lime soda softening plants are alkaline unlike the effluents from municipal and industrial plants. In spite of process control, sometimes the effluent from lime soda plant remains alkaline. If acid is added to the alkaline effluent to bring pH down to 9.0 S.U., the resulting TDS (Total Dissolved Solids) could create a toxicity problem downstream. The process of dilution of TDS with the receiving stream is a slow process. Since the dilutional process for pH is much faster than TDS, controlling pH by dilution is a better option than handling TDS.

Comment # 5: In cases where the 7Q10 stream flow is just slightly above zero, would it make more sense to use the dilution rate available (7Q10 stream flow vs. effluent flow) to determine the appropriate TRC limit?

Response: The dilution rate (effluent discharge rate vs. 7Q10 stream flow) has been used in the effluent tables for the determination of appropriate TRC limits. In case of low dilution, TRC of 0.019 mg/l and in case of higher dilution, TRC of 0.038 mg/l has been allowed.

Comment # 6: I notice in the general permit there are parameters for various organic bromine and chlorine compounds. Are those various parameters combined equivalent to the trihalomethanes parameter?

Response: These parameters combined are equivalent to halomethanes, more than just trihalomethanes. Please note Ohio EPA's WQS (Water Quality Standard) no longer has criteria for halomethanes and trihalomethanes; it has criteria for individual halomethane compounds. These compounds are included in the general permit for monitoring.

The difference between halomethanes and trihalomethanes is explained below.

In Ohio EPA's individual permits for water plants (plain purification/lime soda softening process), monitoring for either halomethanes or trihalomethanes has been a requirement. These compounds (derivatives of methane) are formed during chlorine disinfection by combining with methane present in the surface water.

Halomethanes are all those compounds (more number of compounds than trihalomethanes) where one to four hydrogen atoms are substituted by halogen atoms like Dichloromethane (CH_2Cl_2), Chlorofom ($CHCl_3$) etc.

In case of trihalomethanes, only three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure like Dibromochloromethane ($CHBr_2Cl$), Bromoform ($CHBr_3$) etc.

Ohio EPA's experience with water plants shows occasional presence of some specific halomethane compounds. These are Bromodichloromethane, Broform, Dibromochloromethane, Chloroform, Methyl Bromide, Methyl Chloride and Methylene Chloride. Due to the low risk of presence of these compounds in the effluent, only annual monitoring for these compounds has been recommended in the permit.

Comment # 7: When we go for the general permit, how will this change current sampling/reporting requirements in our permit 2IY00002*ED?

Response: Your present sampling and reporting requirements for pH, TSS, Suspended Iron, Suspended Manganese and TRC (Total Residual Chlorine) are 1/month by grab sample. These requirements will remain unchanged in the finalized general permit.

The current flow rate measurement requirement is 1/day (estimate). The requirement in the finalized general permit is 24hr Total Estimate (When Discharging).

Comment # 8: We would like to see the general permit include a statement under item "Y. Solids Disposal" (in Part V) that would allow marketing and distribution of the lime produced by lime-soda softening plants under the applicable Ohio Department of Agriculture laws and regulations. This would greatly streamline the process and would eliminate an unnecessary duplication of regulatory effort between the two agencies.

Response: The language has been revised to " All screenings, slurries, sludges, and other solids shall be managed and disposed of in accordance with Chapter 905 of the Revised Code (Ohio Department of Agriculture) and Chapter 6111 of the Revised Code (Water Pollution Control) and rules thereunder as applicable". Please note that a sludge management plan for disposal or land application of lime/alum sludge is not required at this time.

Comment # 9: Please consider allowing sampling with its current frequencies. As with many municipalities, the Village of Ottawa is concerned with the cost of the additional samples.

Response: The monitoring frequencies for pH and TSS have been reduced to 1/month. For, Iron and Manganese removal plants, the frequencies for monitoring suspended iron and manganese also have been reduced to 1/month. The frequency for TRC monitoring remains at 1/month.