

COUNCIL ACTION FORM

SUBJECT: REVISIONS TO NON-DOMESTIC WASTE PRETREATMENT PROGRAM

BACKGROUND:

The City's Water Pollution Control (WPC) Facility is designated as a Publicly-Owned Treatment Works (POTW) under the Federal Water Pollution Control Act and the Clean Water Act. Federal law requires the City to maintain a Non-Domestic Waste Pretreatment Program. **The program goals are to prevent the discharge of pollutants to the POTW that would do any of the following: Pass through the treatment works and pollute the receiving stream, interfere with or inhibit the POTW treatment processes, create an unsafe work environment for those working in the sewer or at the treatment plant, or prevent the re-use of the wastewater and biosolids.**

The City implemented its pretreatment program in 1983, and has made periodic revisions in 1992, 2005, and 2011. The enabling section of the *Ames Municipal Code* that allows staff to enforce the pretreatment program is found in Chapter 28, which reads in part as follows:

Sec. 28.307. INDUSTRIAL PRETREATMENT REQUIREMENTS.

All discharges of wastewater, gases, or solids which are not similar to domestic sewage shall meet the following pretreatment requirements.

- (1) City of Ames Non-Domestic Waste Pretreatment Program as adopted and amended from time to time by city council resolution.
- (3) Any industrial, commercial, or other utility customer which discharges any wastewater, industrial waste or other waste to the municipal sanitary sewer system shall comply with all regulations or requirements of the Iowa Department of Natural Resources and/or the U.S. Environmental Protection Agency. Where regulations have not been set by those agencies, the Director of Water and Pollution Control shall establish requirements to obtain the following objectives.
 - (a) To prevent the introduction of pollutants which will interfere with the treatment plant operation or contaminate the resulting biosolids.

To properly and adequately control the introduction of pollutants into the sanitary sewer system, the City Council has historically approved a list of “Local Limits.” This is a list of specific pollutants with maximum allowable concentrations that can be introduced into the sewers. Each actual limit is established based on local conditions, which include the receiving stream’s characteristics, Ames’ treatment process, the number of industries with the potential to discharge each particular pollutant, and the percentage attributed to industrial versus domestic sources.

The listing of local limits includes a number of heavy metals (such as lead, mercury, and silver), some organic compounds (such as acetone and gasoline), and some conventional measures of wastewater strength (such as the Chemical Oxygen Demand and the ammonia concentration).

PROPOSED pH LIMITATION

The local limits adopted from time to time by the City Council have never included a limitation on pH (a measure of the acidity or alkalinity of the waste). Instead, these limitations have been established by the Director of Water and Pollution Control and conveyed to each pretreatment customer in the form of a pretreatment permit. Generally, an acceptable pH range of between 6.0 and 10.0 standard units (s.u.) has been included as a permit limit, with compliance measured by collecting and testing a single grab sample monthly or quarterly.

Over the past few years, there have been a number of instances where the discharge of wastewater with a pH outside this range has resulted in a detrimental impact. In some instances, the low pH discharge has resulted in corrosion of the sanitary sewer. In other cases, an industrial discharge outside this range has forced the operations staff at the WPC Facility to divert the incoming raw sewage to a holding basin in order to protect the biological processes at the treatment facility.

City staff has been working with these industrial customers to correct their pH violations. Among other provisions, the customers are installing continuous pH monitors so they can continuously monitor their discharge in real time and take immediate corrective action to avoid problems in the sewers or at the treatment plant.

These continuous monitors are capable of taking multiple readings per hour, which is very helpful for controlling the discharge quality. The existing pH limits used in the pretreatment permits, however, does not account for this level of monitoring. The large amount of data has, at times, revealed a very short duration pH “excursion” outside the allowable range. These excursions may occur multiple times per month, or even multiple times per day. To City staff, it seems unfair to penalize these industries who are performing such intensive monitoring by issuing them multiple Notices of Violation for short-duration violations that appear to have little reasonable potential to negatively impact the treatment works.

Staff is recommending that the City Council adopt an addition to the Non-Domestic Waste Pretreatment Program to better define what constitutes a pH

violation. The standard will be formatted similar to a federal effluent guideline contained in 40 CFR Part 401.17, but with the allowable duration of a pH excursion shorter than contained in the CFR due to the actual impacts that have been seen at the City's WPC Facility from short duration pH violations.

The limitations proposed by City staff allow pH to be up to 1.0 s.u. outside the acceptable range for no more than twenty minutes per day, and up to 2.0 s.u. outside the acceptable range for no more than five minutes per day. No excursion that causes an "operational upset" at the WPC Facility is permitted. If approved by the City Council, the following language would be added to the discharge permit for those industries that perform continuous pH monitoring.

pH limitations under continuous monitoring.

- (a) Where a permittee continuously measures the pH of its wastewater discharged to the sanitary sewer pursuant to a requirement in a permit issued by the City, the permittee shall maintain the pH of such wastewater within a range of 6.0 to 10.0 standard units (s.u.); except excursions from the range are permitted subject to the following limitations:
- (1) The total time during which the pH values are outside a range of 6.0 to 10.0 s.u. but not outside a range of 5.0 to 11.0 s.u. shall not exceed twenty (20) minutes in any single calendar day.
 - (2) The total time during which the pH values are outside a range of 5.0 to 11.0 s.u. but not outside a range of 4.0 to 12.0 s.u. shall not exceed (5) minutes in any single day.
 - (3) No such excursion, whether alone or in combination with any other discharge, shall result in or contribute to any operational upset at the Water Pollution Control Facility. Operational upset is defined as an influent characteristic that requires the Facility to alter its normal operational procedures; or that results in a violation of the Facility's National Pollutant Discharge Elimination System permit.
- (b) For the purposes of pH limitations, *continuously measure* means that a reading is taken and recorded no less frequently than once every five minutes.
- (c) For purposes of pH limitations, an *excursion* is an unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth above.

Adopting this additional provision will not impose any additional burden on industries. In fact, it will relieve them from receiving a Notice of Violation for minor excursions that are only revealed as a result of the additional monitoring being performed at those facilities that continuously monitor for pH. Approval of

this revision to the City of Ames Non-Domestic Waste Pretreatment Program will not require any modification to the *Ames Municipal Code*, since the pretreatment program is adopted by reference and is not written into the *Code*.

ALTERNATIVES:

1. Approve the revisions to the Non-Domestic Waste Pretreatment Program as described above.
2. Do not approve the revisions to the Non-Domestic Waste Pretreatment Program at this time. Staff will continue to issue a Notice of Violation for every instance of pH excursions regardless of the magnitude and duration.

MANAGER'S RECOMMENDED ACTION:

Adoption of this addition to the Non-Domestic Waste Pretreatment Program for pH will help ensure that those customers covered by the Pretreatment Program are only receiving a Notice of Violation for pH excursions that have a potential to negatively impact the operation and maintenance of the treatment works, while simultaneously preserving responsible protections for the sanitary sewer utility.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby approving the revisions to the Non-Domestic Waste Pretreatment Program described above.