Press Release

Low Cost Compliance with the Clean Water Act for Concrete Producers

When the Clean Water Act was enacted, one of the intentions of this legislation was to

reduce the untreated industrial waste water burden on publically owned waste water treatment

plants (POTW) so that industrial wastewater would only load the treatment plant to the same

extent as ordinary household sanitary waste.

Industrial facilities that generated process wastewater had to begin pre-treatment of the water

before it could be returned to the local POTW. They had to test for heavy metals, chemical oxygen

demand, biological oxygen demand, pH, solvents and other chemicals that were contained in the

waste water stream and then treat to ensure removal of the contaminants.

The Act also established limits on water discharged to the environment from an industrial facility

or discharged upon the grounds of the facility.

Among the chemicals and oxygen demand levels prohibited to be discharged without treatment,

the Act also defined the pH limits and Total Suspended Solid levels of discharges to the environment

as follows: **any waste stream with a pH below 6.5 or higher than 9.0 is by definition hazardous**

**waste.** The act set limits of 30 mg/l of suspended solids for process water and 100 mg/l for

stormwater. Enforcement is conducted by local and state agencies that administer the Clean Water

Act on behalf of the EPA.

The above limits on pH and total suspended solids has had an impact on ready mix and precast

concrete producers. Many of the concrete production plants generate large amounts of high pH

process water from rinsing and cleaning of equipment. High pH water comes from rinsing the drums

on the mixer trucks after returning from a delivery and from rinsing the exterior of the trucks after

loading at the batch plant. Another factor is that the jobsites receiving the loads of concrete no

longer allow the rinsing of the mixer trucks at the job site, so the amount of waste concrete brought

back to the production plant has been increased.

High pH process water contains dissolved solids and suspended solids that do not settle out

in the basins. Total suspended solids may be removed filtration. The high **c**ost and time

required to maintain the filters is prohibitive for most producers.

The suspended solids can be easily removed with pH adjustment by using carbons dioxide

which reacts with the calcium hydroxide in the water and forms calcium carbonate which is

insoluble and drops out of solution thereby lowering the suspended solids to permissible levels.

Ready mix concrete and to some extent precast producers generate **excess** process water.

Storm water can add to the problem if the water drains into the basins designed to contain the

process water. The storm water becomes process water at that point. High pH process water may be

recycled into fresh concrete for many projects. However, many states require the use of potable

water as the make-up water for concrete when manufacturing for structural projects such as bridges

and roads. This limits the amount of process water that can be recycled.

The producer must have an economical way to deal with this problem short of storing it or paying

for it to be transported for disposal as industrial waste water.

Discharge of the high pH water off the property can incur a liability for fines and future fees for

remediation of the property upon which the water was discharged.

Fortrans Inc. offers a worry free and low cost solution for pH and total solids control. Fortrans Inc.

designs and manufactures self-contained Co₂ based pH control systems that solve this problem for

the producers. The systems use low cost C02 gas to automatically lower the pH of the process water

to target levels **and** lower the total dissolved andsuspended solids so the producer can easily meet

the Clean Water Act limits for discharge to the environment or return to a municipal wastewater

system.

Fortrans pH control systems can provide automatic control and monitoring of process

water. The treated water may be recycled for batching fresh concrete, pumped to wash racks,

used for irrigation and dust control. More information is available on Fortrans’ Operation Overview

document available on our website.

Fortrans Inc. [www.fortransinc.com](http://www.fortransinc.com)