

# RBC SERVICES UPDATE

RBC Services  
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## LOSS OF NITRIFICATION FOLLOWING A FLOOD

### Special Issue

Now, and in the past few years, unusual weather patterns have caused heavy rains in various parts of the country. Most recently, the states in New England and down the East Coast have been hit very hard. With those occasions, reports were called in regarding flood conditions at a number of facilities and the subsequent loss of nitrification.

During discussions with operators affected by the flooding, they explained a series of process tests was performed in an attempt to determine the cause of the problem, but nothing could be identified.

Soluble BOD levels would remain low following the RBC treatment, but nitrification was nearly non-existent. Even efforts to "seed" the RBCs with purchased nitrifying bacteria did not have an affect.

When severe flooding occurs, contaminants infiltrate the wastewater facility through both the collection system and local surface waters. They include toxins from various industries such as petroleum products, solvents from metal processing, metals themselves and the like.

These toxins flow through the facility's various process systems resulting in contamination of the solids in the digester. During decant of the supernatant back into the system for treatment, the toxins are reintroduced. This situation repeats itself time and again.

Two RBC facilities which were affected by flooding this last September, didn't re-establish nitrification until the following February. The toxins recirculated for six months until they finally worked through the system.

The nitrifying bacteria are rather delicate and susceptible to the type of toxins prevalent to municipal and industrial area flooding occurrences.

In most cases, full recovery with the RBC process will occur within a few days for SBOD. A more lingering affect will be seen with the clarifiers and possibly the disinfection process. If your permit requires nitrification, process test analyses will indicate any shortcomings with the overall treatment. Should ammonia levels begin to increase unexplainably, chances are - toxins are present in your system.

Under certain circumstances, it is recommended sample analyses be performed by an independent lab which generally has greater capabilities regarding toxin detection. In this case ...substances that kill nitrifiers.

Whatever those substances are, they come to your facility through collections or locally in surface water. The list of businesses in your town will provide some of the information you need to help identify the culprits.

When the calls came in with questions about problems, RBC Services worked to help get the answers. Whether it's a question about the process, maintenance, service needs or replacement equipment, we make every effort to assist in every way possible when it comes to RBC operations.

When you need answers, give me a call.