



Operational Narrative Aerated Oxidation Ditch with NR'G MİŞER Controls

The purpose of the NR'G MİŞER system is to save energy, provide treatment and extend the life cycle of the equipment while reducing maintenance costs....

- Each day is broken into four six hour periods
- Each period is divided into three stages: **1) Anoxic 2) Scour 3) Optimization**
 - 1) **Anoxic Stage**....this stage typically lasts for (2) two hours. All rotors are turned off; the DO falls to zero or near zero. As the DO falls, anoxic treatment replaces aerobic treatment....some de-nitrification does occur, but the basin does not go septic. **
 - 2) **Scour Stage**...this stage is set for 15minutes (0.25 hrs) with all rotors running. This velocity associated with this stage spreads out the heavier solids on the bottom to prevent an uneven build up of solids.
 - 3) **Optimization Stage**.... This stage is designed to operate the rotors within a DO range that is suited to the parameters of the WWTP. The typical default setting range is between 1.0 mg/l and 2.5 mg/l, and with a goal to tighten the range and lower it for more efficiency after the system and operator are comfortable.
- There are two DO probes, one in each side of the ditch to vary the DO readings based on the distance from the influent. The PLC based control alternates the controlling DO Probe at the end of each period.
- At the end of each 24 hour period, the PLC control rotates the 1st responding or lead rotor. This is done as much as possible to cross corner pairs or sets depending on the number of units.
- This alternating and rotating process will keep sludge accumulation on the reactor/ditch bottom to a minimum and distribute the sludge throughout the basin.
- With the various changes as described and the variance of flow strength & volume, the system will not create patterns that might lead to sludge build-up and motor run times will be relatively even.
- ALL SYSTEMS WILL BE FITTED WITH A MODEM FOR OFF SITE MAINTENANCE & CUSTOMER TRAINING & SUPPORT. UNLESS THE CUSTOMER CHOOSES TO PURCHASE THE MODEM, IT WILL BE REMOVED IN 6 MONTHS OR AS THE SITUATION MIGHT REQUIRE.

***** Note: There is a NR'G MİŞER Ditch System also available with floating mixers along with the floating brush rotors to provide anoxic directional mixing for de-nitrification.***