Midnight Readings

* All of the fields for the midnight readings are updated at 00:00 and display all of the information derived from the previous 24 hours. After the clock hits midnight, these fields will display the information the third shift operator needs to complete his paperwork.
* Navigate to the Midnight Meter Readings and Chemical Calculations page by clicking on the tab in the top right corner named “Midnight”.
* Chlorine pounds used has been added, but has a different means of calculating the amount. Might be a good idea to check the amount of chlorine fed manually and cross-reference the numbers on the screen for accuracy for a few days to makes sure it’s close.
* The meter numbers (Total Raw Meter, West Raw Meter, East Raw Meter, West Finish Meter and East Finish Meter) update at midnight and retain their value until the next time the clock hit 00:00.
* The peak numbers (West Raw Peak, West High Service Peak, East Raw Peak and East High Service Peak) function the same as the meter numbers, updating at every 00:00. These are for the Peak Raw / Plant Flow rate and Peak High Service Flow Rate fields on the back of the Surface Water Operation & Chemical Reports.
* The West and East Chorine fields are calculated by averaging 1440 free chlorine analyzer readings. These two values go in the column on the back of the Surface Water Operation & Chemical Report labeled “Lowest Cl2 measure”. The reason I haven’t selected the actual lowest reading here is because if the analyzer drops to 0 even for a second, then this will be logged as the actual lowest reading.
* The West Clearwell Low updates at 00:00 and logs the lowest clearwell reading for clearwell #2 seeing as it always runs lower.
* The East Clearwell Low updates at 00:00.
* NH3 West and NH3 East under the Chemicals column are calculated based on the total finish flow for each plant (derived from the difference in finish meter readings 24 hours apart), multiplied by the free chlorine residual (calculated by averaging 1440 free chlorine analyzer readings), multiplied again by 8.34, and then divided by 3, to get the measure of ammonia fed in pounds. This number will differ slightly than if using the traditional method, seeing as how the free chlorine average is calculated based off of 8 manual free chlorine readings.
* The West Fluoride level and Pounds used are self-explanatory. However, I still haven’t factored in day where we add fluoride to the hopper. If the number displayed in the LBS used field are negative, then this is why.
* West Total Raw Treated and East Total Raw Treated are just the difference in meter readings at the start and finish of a 24-hour period. These values go in the Total Raw Water Treated (x 1,000,000 gal) field on the front of the of the Surface Water Operation & Chemical Treatment Report.
* West Hours Run and East Hours run have been added. These will calculate the number of hours down to the hundredth decimal place, where as in the past we always rounded to the closest 15-minute interval for easier calculation at midnight, which won’t have to be worried about anymore if the chlorine fed runs accurately.
* West Lime Used and East Lime Used are calculated using the values in the writable fields on the bottom of the page labeled West Lime Concentration and East Lime Concentration. These should be adjusted after every load of lime or after adding water to tanks.
* In the Chemical Dosages and Concentrations section, writable east and west cl2 dosage fields have been added. The values here are used to calculate the amount of chlorine fed during the previous 24-hour day. These should be changed AFTER you record all of the other values. This value works retroactively, so changing it isn’t time sensitive, just as long as it does get changed sometime after midnight. (These values seem to “float” up and down a little even after being set. This is a bug I am looking into.
* The free chlorine fields for the east and west have both been adjusted to more accurately represent the low reading for the day.
* Total Raw Usage (mgd) has been added.