Controls

InfoWater Pro recognizes three different types of Controls. They are as follows:

- **Initial Status** - Initial status prescribes the initial setting for the InfoWater Pro Project element at the beginning of the Simulation, such as None, open, closed and setting. These controls on the element may be over written by either the Simple Controls or the Logic Control at any time during the Simulation duration. Click here for more information on Initial Status.

- **Simple Controls** - A simple control looks evaluates one condition and one action at a time. These type of rules allow you to modify the status of elements (pipe, pump, or valve) during a hydraulic simulation - depending on the state of some other element in the system as specified by the user. For example, actual field operations may consist of having a pump turn on and off depending on the high and low water levels in a storage tank. To model this type of situation, you would place a simple control on the element in question. Simple controls apply to both Steady as well as Extended Period Simulation (EPS) models. Click here for more information on Simple Controls Simple controls are evaluated as the software is converging toward a solution if an element has multiple simple controls are evaluated from top to bottom within the list, such that last last rule evaluated will have the highest priority in making a change to the software.

- **Rule Based or Logic Controls (Complex Controls)** - Rule Based Logic Controls are used by InfoWater Pro to perform a given action during a hydraulic simulation when your specified condition is met. However, unlike Simple Controls, rule based controls allow for the creation of multiple conditions to be satisfied before an action is performed and allow for multiple action statements to be created for a single rule based control. However, rule-based controls are evaluated only after a simulation reaches convergence at time *i* and are then implemented at the start of the next simulation at time *i* plus the rule timestep. Due to this delay, Rule based controls are not used in Steady State runs and only apply to Extended Period Simulation (EPS) model runs. The Rule Timestep should be set at no larger than 1/10th the current hydraulic timestep used for the analysis. Click here for more information on Complex Controls. Logic Controls need to be turned **On** prior to running your model through the **InfoWater Pro Model Explorer -> Operation tab -> Simulation Options** dialog box by checking the **Rule Control** command. InfoWater Pro will read the Complex Controls only when this option is checked.

Note: Rule Based Controls can override Simple Controls and Simple Controls can overrule the Initial Status for the different data elements. However, since Simple controls are evaluated repeatedly while the software is converging to a solution, it is possible for a simple control to effectively override the initial change made by a Rule-based control while iterating to a solution for that specific convergence run if a simple control would specify an action in conflict with what a rule based control initially stated to do.