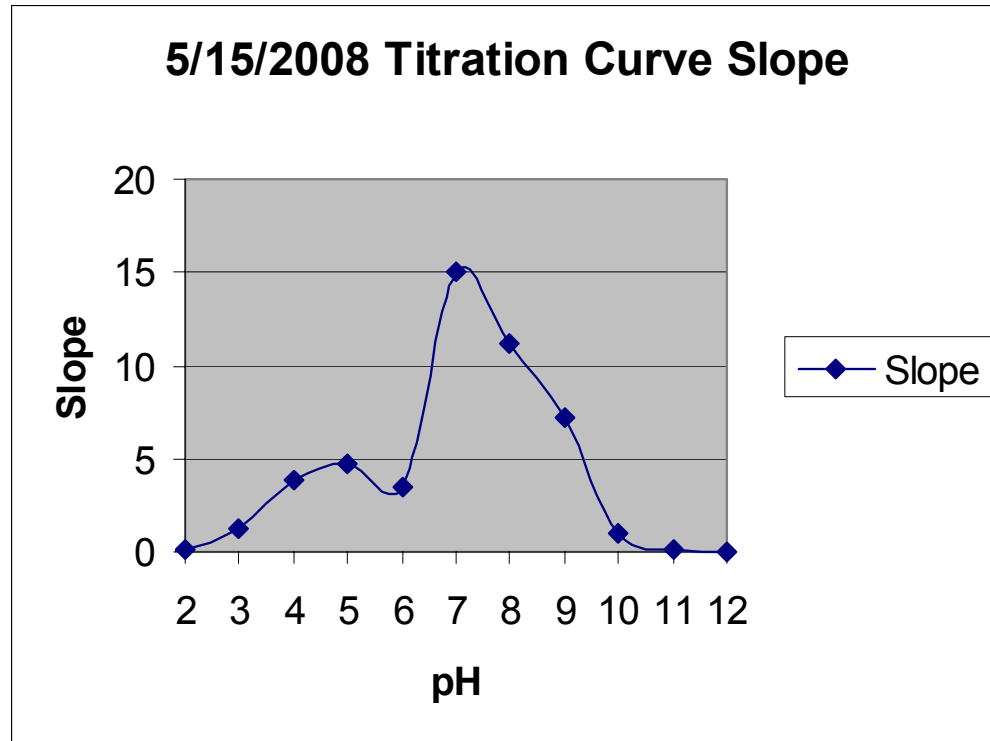
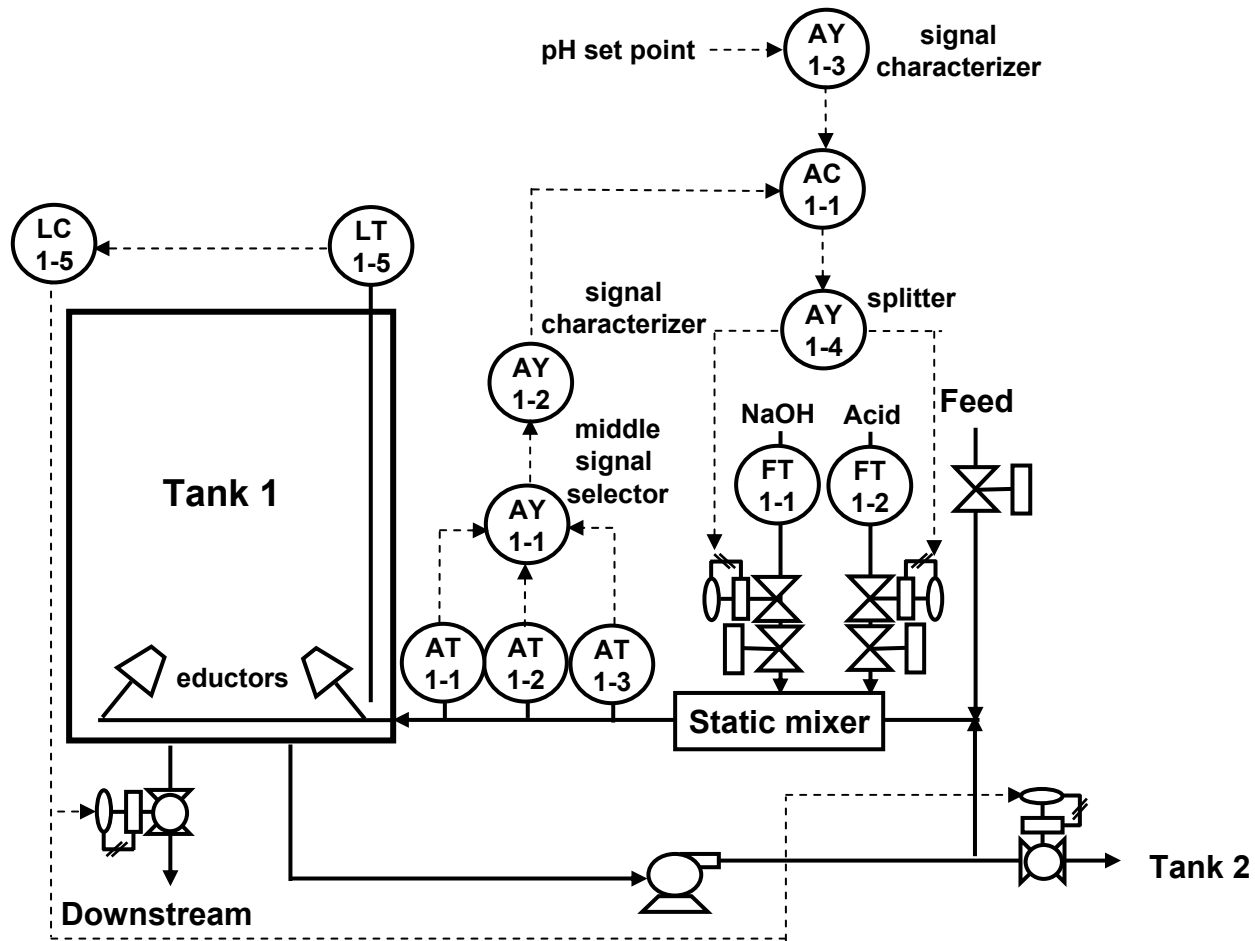


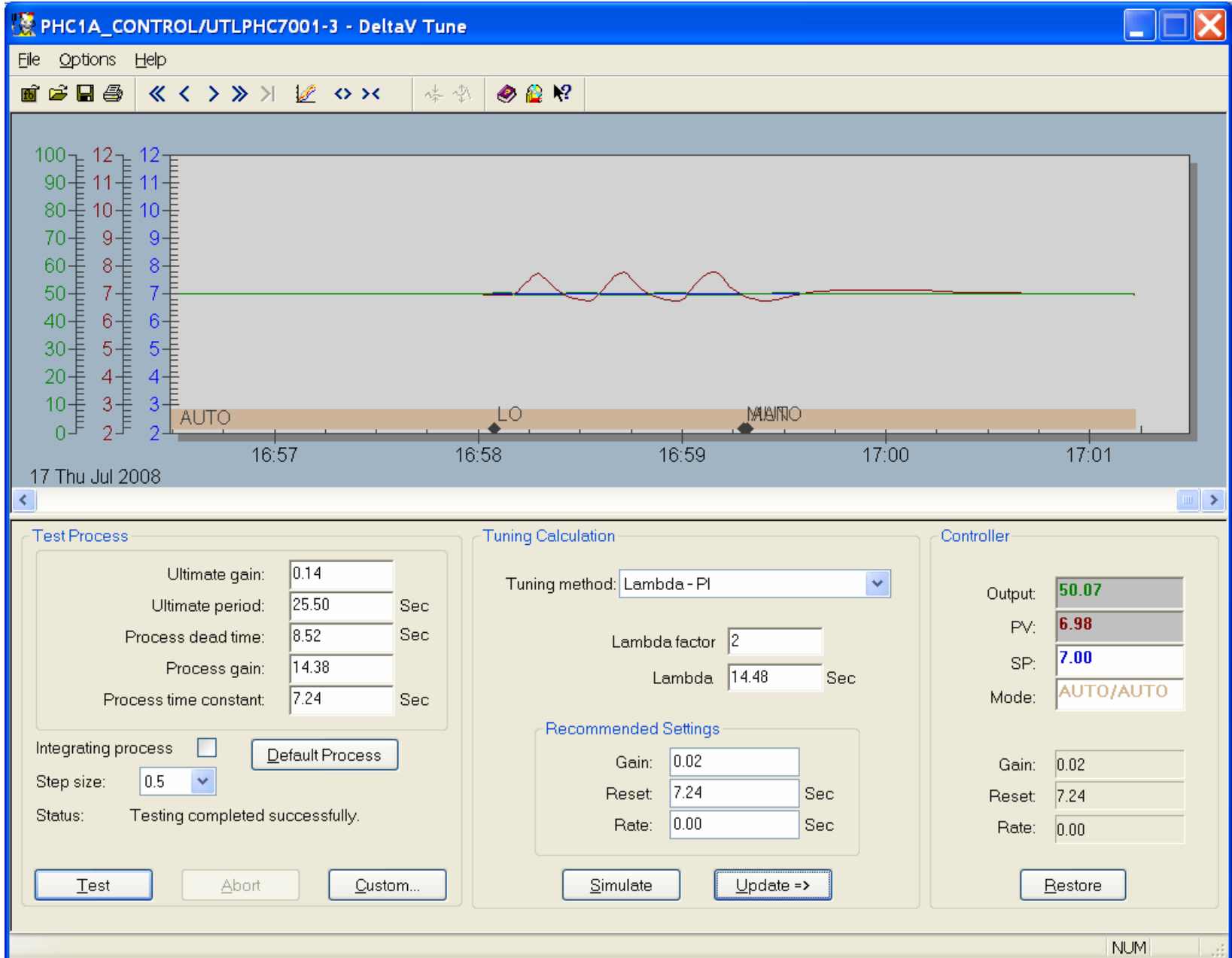
**DeltaV Model Titration Curve by Addition of H2SO4 to 12 pH Sample**



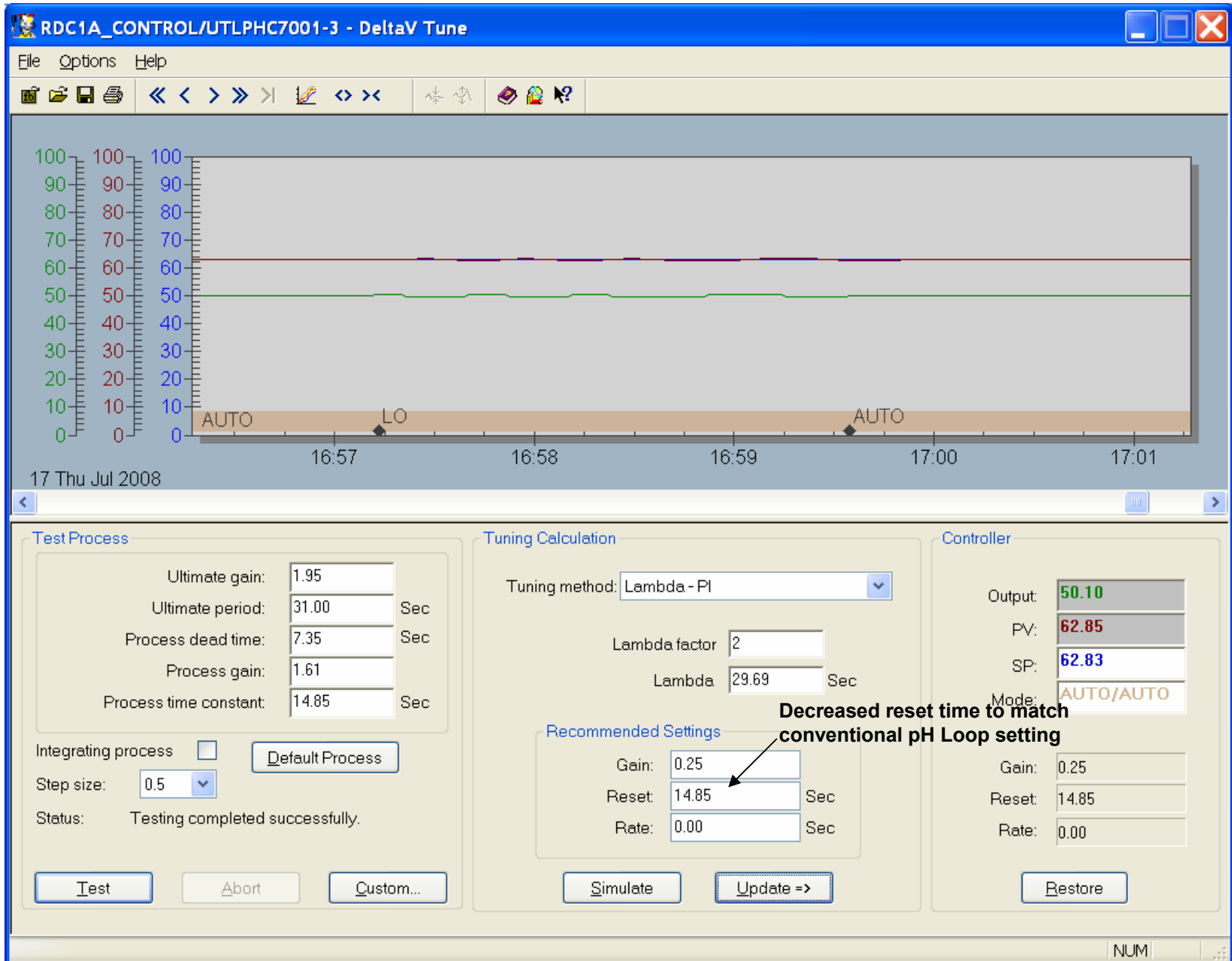
Lab Titration Curve by Addition of H<sub>2</sub>SO<sub>4</sub> to 12 pH Sample



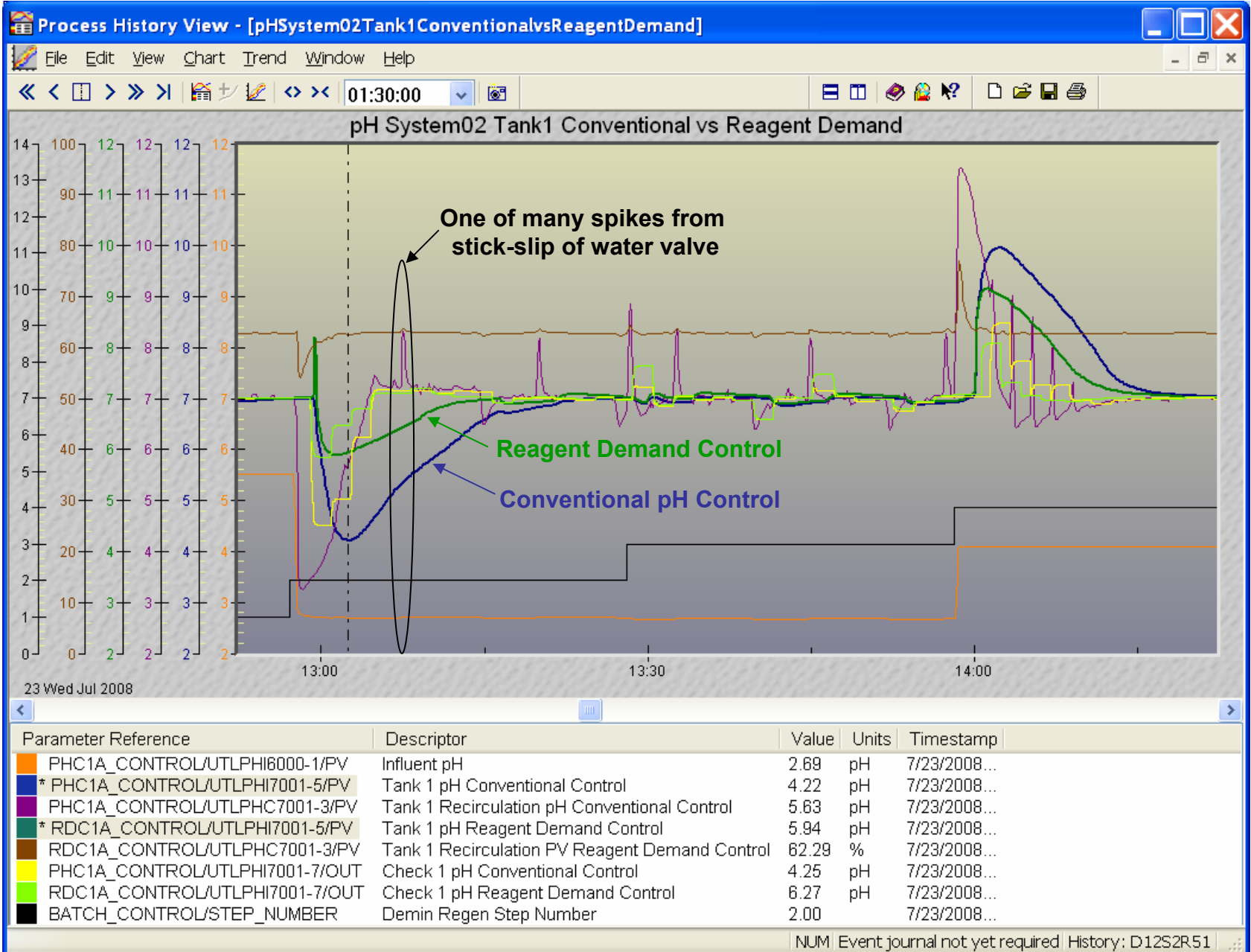
**Proposed Reagent Demand Control System**



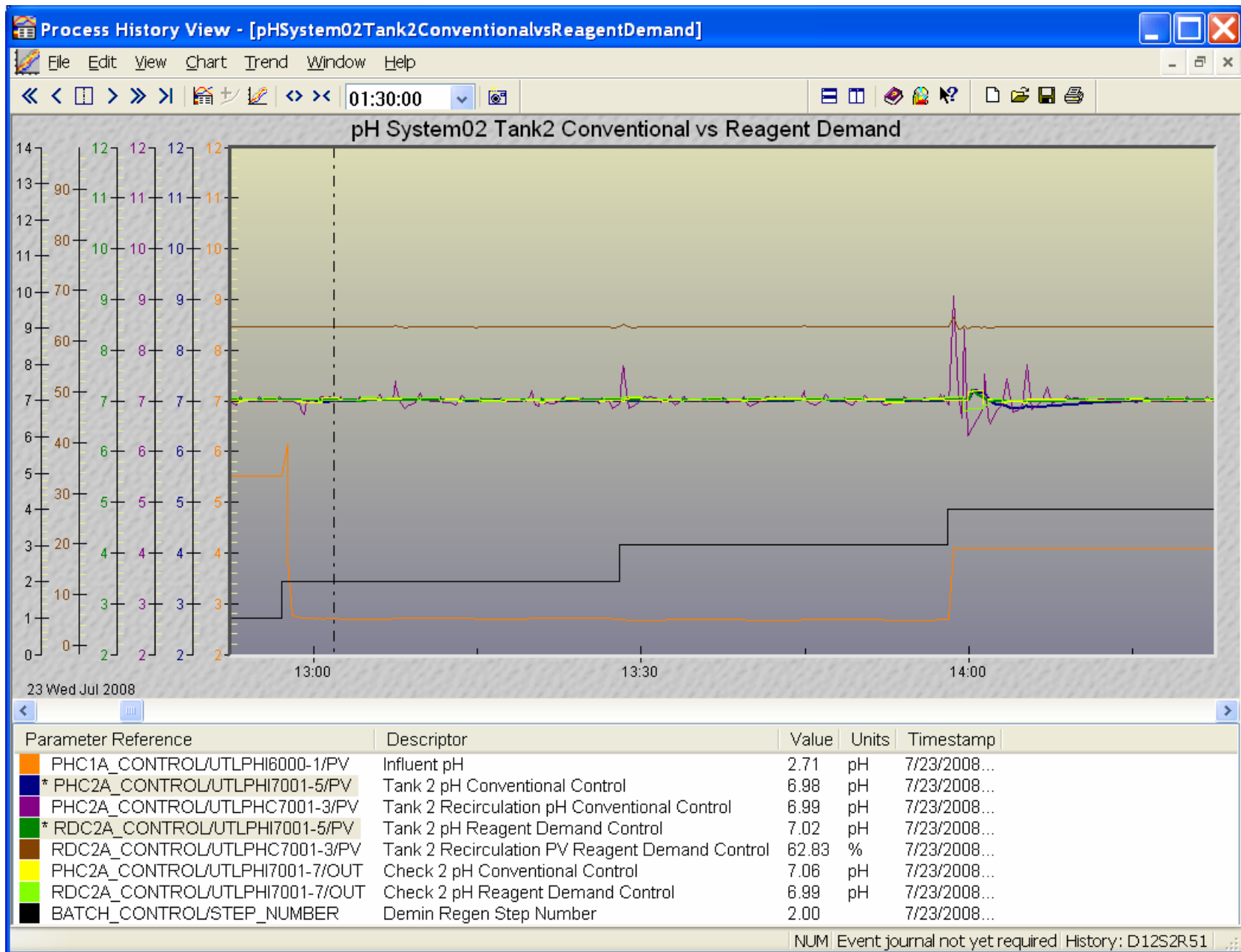
**DeltaV Auto Tuner Results for Conventional pH Controller at 7 pH**



**DeltaV Auto Tuner Results for Reagent Demand Controller at 7 pH**



**Tank 1 Comparison of Conventional pH versus Reagent Demand Control  
(0.4% water and 0.1% acid and caustic valve resolution without feedforward head start)**



**Tank 2 Comparison of Conventional pH versus Reagent Demand Control  
(0.4% water and 0.1% acid and caustic valve resolution without feedforward head start)**