Glycol Removal

The water flows into the receiving buffer tank, where it is level controlled to between 30-80% of the tank volume.

From here it is pumped through an oxidation reactor, where catalysed hydrogen peroxide is used to convert the glycol to water and carbon dioxide.

The oxidation is based on use of hydrogen peroxide and a catalyst to create OH· based on the Fenton's Reagent reactions:

(1) $Fe^{2+} + H_2O_2 \rightarrow Fe^{3+} + OH\cdot + OH^-$

(2) $Fe^{3+} + H_2O_2 \rightarrow Fe^{2+} + OOH\cdot + H^+$

(3) $OH\cdot + HOCH_2CH_2OH \rightarrow H_2O + CO_2$

This normally occurs at pH4.5 or less, but Equinox has develop a catalyst that allows for the reaction to occur at neutral pH. The reaction is about 98% efficient.

The water is recycled back to the buffer tank either on a timed loop or with an optional REDOX meter. Once the glycol is fully oxidised. The control panel opens the proportioning valves and allows the water to pass through the absorption column.