CLAIMS

1. A system for determining composition of an aqueous solution, comprising:

a feed line fluidly connectable to a source of the aqueous solution comprising a concentration of hydrogen peroxide and a concentration of dissolved oxygen;

an oxygen removal unit having an inlet fluidly connected to the feed line;

a first dissolved oxygen analyzer having an inlet fluidly connected to the oxygen removal unit; and

a hydrogen peroxide removal unit having an inlet fluidly connected to the oxygen removal unit and an outlet fluidly connected to the first dissolved oxygen analyzer, further comprising a control module electrically connected to the first dissolved oxygen analyzer and configured to calculate a difference between a first concentration of dissolved oxygen of the aqueous solution upstream from the hydrogen peroxide removal unit and a second concentration of dissolved oxygen of the aqueous solution downstream from the hydrogen peroxide removal unit to determine the concentration of hydrogen peroxide in the aqueous solution, wherein the control module is capable of determining the concentration of hydrogen peroxide of about 10 ppb or less, wherein the control module is capable of determining the concentration of hydrogen peroxide of about 2 ppb or less.