CLAIMS

1. A system for feeding an oxidizing biocide to process water being treated with said biocide and monitoring said process water for potential degradation of said biocide thereby forming, as a result of such degradation, an active halogen compound, the system comprising:

a biocide production system for forming said biocide;

a biocide feeding conduit for feeding said biocide to said process water being treated with said biocide at a biocide inlet; and

a degradation detection module including a dissolved oxygen sensor downstream of said biocide inlet;

wherein said dissolved oxygen sensor is situated such that the time for said process water to flow from said biocide inlet to said dissolved oxygen sensor is not more than 30 minutes;

wherein said biocide is not formed in said process water.

2. The system according to claim 1, wherein said biocide production system produces said oxidizing biocide synchronously with said feeding by mixing a hypochlorite oxidant and an ammonium salt.

3. The system according to claim 1, wherein said dissolved oxygen sensor is a luminescence based dissolved oxygen sensor.

4. The system according to claim 1, further comprising a controller that records measurements of said dissolved oxygen sensor.

5. The system according to claim 4, wherein said controller includes a display to display a warning based on the measurements of said dissolved oxygen sensor and/or.

wherein said controller includes a functionality for sending a warning to a remote location.

6. The system according to claim 4, wherein said controller, when operating in a background mode, generates a baseline value for the dissolved oxygen level.

7. The system according to claim 6, wherein said controller raises a warning if the dissolved oxygen level deviates from the baseline value more than a preset threshold.

8. The system according to claim 4, wherein said controller, when operating in a feeding mode, raises a warning if there is a decrease in the dissolved oxygen level during feeding of the biocide or during an extended measurement period immediately following the feeding of said biocide.

9. The system according to claim 4, wherein said controller is in communication with a biocide production system for producing said oxidizing biocide synchronously with said feeding, wherein said controller has functionality to control said biocide production system.

10. The system according to claim 1, wherein said dissolved oxygen sensor is located in the flow of said process water.

11. A method for monitoring potential degradation of an oxidizing biocide in a process of forming said oxidizing biocide and feeding said oxidizing biocide to process water being treated by said biocide, thereby forming, as a result of such degradation, an active halogen compound, the method comprising:

providing a dissolved oxygen sensor in said process water being treated by said biocide downstream from a biocide inlet; and

employing said dissolved oxygen sensor for periodically measuring the level of dissolved oxygen in said process water;

wherein the time for said process water to flow from said biocide inlet to said dissolved oxygen sensor is not more than 30 minutes;

wherein said biocide is not formed in said process water.

12. The method according to claim 11, wherein said forming an oxidizing biocide comprises producing said oxidizing biocide synchronously with feeding said oxidizing biocide to said process water, wherein said producing comprises producing said oxidizing biocide by mixing a hypochlorite oxidant and an ammonium salt.

13. The method according to claim 11, wherein said dissolved oxygen sensor is a luminescence based dissolved oxygen sensor.

14. The method according to claim 11, further comprising communicating the level of dissolved oxygen to a controller.

15. The method according to claim 14, wherein said controller includes a display to display a warning based on the measurements of the dissolved oxygen sensor and/or wherein said controller includes a functionality for sending a warning to a remote location.

16. The method according to claim 14, wherein said controller, when operating in a background mode, generates a baseline value for the dissolved oxygen level.

17. The method according to claim 16, wherein said controller raises a warning if the dissolved oxygen level deviates from the baseline value more than a preset threshold.

18. The method according to claim 14, wherein said controller, when operating in a feeding mode, raises a warning if there is a decrease in the dissolved oxygen level during said feeding or during an extended measurement period following said feeding.

19. The method according to claim 14, wherein said controller is in communication with a biocide production system for producing said oxidizing biocide synchronously with said feeding, wherein said controller has functionality to control said biocide production system.

20. The method according to claim 11, wherein said dissolved oxygen sensor is located in the flow of said process water.