**Proposal: Microplastic-Breakdown Bacteria for Water Treatment**

**Introduction**

In response to the growing issue of microplastic pollution in water sources, Clam Corp is excited to introduce a revolutionary new solution: a specially engineered bacteria capable of breaking down microplastics in water. This proposal outlines the benefits, costs, and potential side effects of using this bacterium in UK water treatment plants.

**Overview of the Bacteria Solution**

Our team of expert scientists has developed a unique strain of bacteria that can effectively break down microplastics in water. Through a series of metabolic processes, these bacteria consume and degrade the microplastic particles, reducing their environmental impact and improving water quality.

**Cost per Gallon Treated**

The cost of utilizing this bacteria-based solution is estimated to be £10.15 per gallon of water treated. This cost includes the production and distribution of the bacteria, as well as any necessary equipment and personnel required for implementation at water treatment plants.

**UK Government Contract Proposal**

Clam Corp proposes a contract with the UK government to implement our bacteria solution at water treatment plants throughout the country. Under the terms of this contract, Clam Corp will supply the engineered bacteria and provide the necessary training and support for water treatment plant personnel. This comprehensive solution will ensure that microplastic pollution is effectively addressed in the UK's water supply.

**Side Effects**

While our bacteria-based solution offers significant benefits in the reduction of microplastic pollution, it is important to be transparent about potential side effects. During the breakdown of microplastics, the bacteria may also remove certain nutrients from the water, as well as produce by-products that can lead to increased acidity.

**Nutrient Removal**

In the process of degrading microplastics, the bacteria may consume certain nutrients present in the water. This nutrient removal could result in water that is less conducive to the growth of other aquatic life and may necessitate the addition of specific nutrients to the water supply.

**Increased Acidity**

As a by-product of the metabolic processes involved in breaking down microplastics, the bacteria may produce acidic compounds, which could lead to increased water acidity. This effect may necessitate additional treatment steps to neutralize the acidity and ensure that the water remains safe and suitable for consumption and use.

**Conclusion**

Clam Corp's innovative bacteria solution offers a promising approach to addressing the growing issue of microplastic pollution in our water supply. By partnering with the UK government, we can work together to implement this solution in water treatment plants throughout the country. Although there are potential side effects to consider, we believe that the overall benefits of using this bacteria-based solution far outweigh the challenges, and that our collaborative efforts will result in cleaner, safer water for the UK population.

## Document Version History

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| V1.0 – 2023-01-15 | Original document | Emily Davis: Bio dept Sarah Johnson: Innovation Manager |