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Pollution Prevention in the Industrial Sector

In recent years a big topic around the world has been the Global Climate Crisis. Human activity has caused record-high greenhouse gas emissions that show no sign of slowing down. This sharp increase is leading to drastic and life-threatening environmental changes. We are now seeing the horrible effects of our actions in things such as a decrease in food/water security and sea levels rising to a point of destroying many homes and livelihoods.¹ To help stop the dangers of climate change everyone must start making changes both big and small. Understanding the causes of climate change and how to implement change can be difficult for many. Luckily, the United States Environmental Protection Agency (EPA) has created a detailed plan to help all people, companies, and industries learn how to implement change that will protect the environment. This plan is called pollution protection, or P2, which is “any practice that reduces, eliminates, or prevents pollution at its source before it is created.”² Pollution prevention is instrumental in the protection of the environment while also reducing both financial and environmental costs.

The EPA’s pollution prevention approaches can be applied to all pollution-generating or potential pollution-generating activities. To better know what prevention actions are right for every situation the EPA has listed possible effective P2 actions for different sectors. For example, in the industrial sector, some possible P2 actions include “implementing water and energy conservation practices” and “modifying a production process to produce less waste.” In the agricultural sector, possible P2 activities listed are “protecting sensitive areas” and “reducing the use of water and chemical inputs.”³ If a company implements any P2 activities they can report their source reduction activities to the EPA’s TRI program.

One company that implemented a P2 strategy with extensive results is Empire Kosher Poultry INC. Empire Kosher was started in 1938 in New York by Austrian immigrant Joseph N. Katz. The company was created with the goal to provide easy access to kosher food to the Jewish communities in the area. Now headquartered in Pennsylvania, Empire Kosher is the biggest kosher poultry producer in the United States.⁴ Since they are such, a big company implementing P2 can be especially beneficial and impactful. According to Empire Kosher website, they are dedicated to providing kosher meals “for anyone who wishes to eat healthily and safely, buy responsibly, promote ethical working practices and animal welfare, and support family-owned Pennsylvania farms and their communities.”⁵ One way to assure the company reaches that goal is by establishing pollution prevention practices.

One P2 practice the company reported to the EPA’s TRI program was the implementation of a UV light system for wastewater treatment. This system removes the need for chemical disinfectant. Wastewater disinfection is crucial to preventing waterborne diseases to the environment. By disinfecting water, pathogenic organisms are inactivated and destroyed. Without water treatment, a multitude of diseases could spread including typhoid fever, infectious hepatitis, and leptospirosis.⁴ The UV light system that the Empire Kosher company implemented transfers electromagnetic energy from a mercury arc lamp to an organism’s genetic material. The UV radiation penetrates the cell wall of an organism to destroy the cell’s ability to reproduce.⁴

In 2016, Empire Kosher implemented the UV light system to eliminate the use of chlorine in their wastewater treatment. Chlorine is a highly reactive gas that is easily dissolved in water and is commonly used in many different industrial sectors. Chlorine is very poisonous to fish even in low concentrations. Wastewater and industrial discharge can cause chlorine to enter our waterways thus harming aquatic life. Chlorine is especially dangerous when used to treat municipal and industrial water supplies as it is utilized in such large quantities. The excess often enters waterways and combines with decaying material. As chlorine is so reactive it will form with other chemicals that can become incredibly harmful and cancer-causing to both humans and animals.⁵ The chemical is also listed by the EPA as a hazardous air pollutant which is any toxic air pollutant known to cause cancer or other serious health effects.⁶

When Empire Kosher installed the UV light system it completely eliminated the use of chlorine. Before implementing the system, the company released 3,000-5,000 pounds of chlorine a year. After the UV light system was equipped, the company reported releasing 0 pounds of chlorine in the following year. The UV light system allowed Empire Kosher to completely eliminate the use of chlorine in their wastewater treatment. Through the implementation of the UV light system Empire Kosher is now able to prevent thousands of pounds of chlorine that would have been released into the environment if they had not made this change. The company is a great example of how a system change such as replacing a chemical with a light system can drastically reduce the number of air pollutants being produced and released. With this change, Empire Kosher is helping aid the global fight to save the environment, protect human health, and stop climate change.

Works Cited

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