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Proposal

1. Introduction

Ventilation And Air Quality In The Workplace

It is generally agreed that poor indoor air can adversely affect employee health and productivity.¹ These costs to industry have been estimated to be in the "tens of billions of dollars per year".² Improvements in the indoor air environment may substantially increase employee moral and productivity.³

The problem of air quality in a police facility is compounded by the number of individuals who might unwillingly spend time in the building and might bring with them dangerous diseases like multidrug-resistant tuberculosis and other unwanted microbes. Addressing the indoor air quality controls in the operation, maintenance and in the energy conservation plan of the police facility building will protect the health of those who work in the building, thereby increasing their ability to be productive. As an aside, it would make the facility more pleasant for visitors.

Harmful pollutants from a variety of sources can contribute to building-related illnesses. Other illnesses, which have clearly identifiable causes, such as Legionnaire's disease, could also grow inside a closed building and could circulate in an HVAC system. Tuberculosis brought into the police facility with a temporary "guest" could also be circulated through the HVAC system and picked up by others in the building.

¹ United States Environmental Protection Agency, Indoor Air Facts No. 3

² Report to Congress on Indoor Air Quality, 1989

³ United States Environmental Protection Agency, Indoor Air Facts No. 3

EXHIBIT A

Indoor air pollution is caused by an accumulation of contaminants that come primarily from inside the building, although some originate outdoors. These pollutants may be generated by a specific, limited source or several sources over a wide area, and may be generated periodically or continuously. Common sources of indoor air pollution include tobacco smoke, biological organisms, building materials and furnishings, cleaning agents, copy machines, and pesticides.

A committee of the World Health Organization estimates that as many as 30 percent of new or remodeled buildings may have unusually high rates of sick building complaints. While this is often temporary, some buildings have long-term problems, which linger, even after corrective action is taken.

When the building is used by police to house individuals on a long or short term basis, the building also becomes a storage and growth area for any viruses or bacteria carried in by those individuals. Because many of today's buildings have been designed with closed air systems, the same air, containing the same microorganisms capable of causing illness, may circulate throughout the building again and again and again – that is, unless a **CREON2000** is inserted into the HVAC system so that it kills the microorganisms.

The impact of the microorganisms in the air and the resulting contact of the occupants of the building with the air and its microorganisms has become an increasingly important problem needing control. The number of sick days taken by employees as well as the number of employees who are not working to capacity because of the poor air quality is higher in buildings in which the same air carrying the same bacteria continues to circulate day after day.

One major problem, which could be limited or eliminated by the installation of a **CREON 2000®** system would be the airborne transmission of bacteria, viruses and fungi. The airborne transmission of bacteria, viruses, and fungi, microorganisms chiefly responsible for respiratory disease, is a serious problem for the occupants of a building with a mechanical ventilation system. Thus, while there is an initial cost for a **CREON2000** system and for its installation, the overall benefit would be to save money by having more productive, healthier employees. The **CREON2000** would also destroy airborne antibiotic resistant strains of bacteria into the building's indoor air by guests or visitors or employees. Without the **CREON2000** system to kill them as they pass through the system, these dangerous microorganisms could circulate throughout the building via the mechanical ventilation system, causing hard to cure illness again and again and again.

The ultraviolet (UV) radiation found in the **CREON2000** system can, therefore, radically reduce the spread of air born infections by killing the infectious microorganism which pass through the system. After the installation of a **CREON2000**, air borne molds, which could cause the destruction of important documents and books would be limited or eliminated, thereby increasing the life of those documents or books. But, even more important, those who work in the **CREON2000** protected environment would be exposed to fewer microbes, thereby increasing their ability to stay healthy, to feel good and to work more productively.

Controlling Indoor Pollution

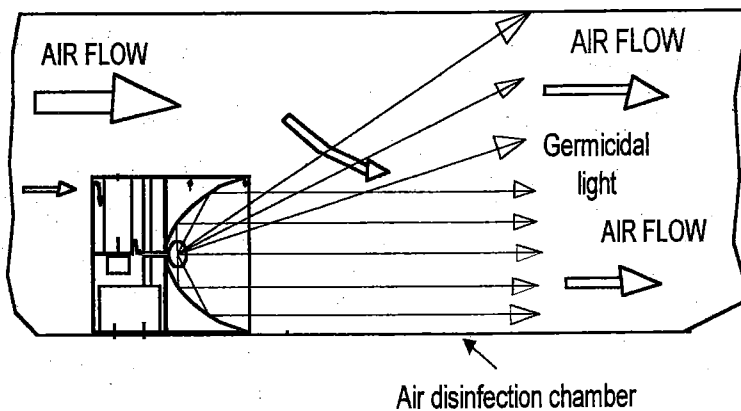
The new revolutionary patented **CREON2000** technology is the most effective approach to providing biological acceptable indoor air.⁴ It can provide much needed relief to allergy sufferers and can improve many aspects of the sick building syndrome problem, helping to control or eliminate the spread of many airborne diseases.

The patented **CREON2000** destroys cells of bacteria, mold spores, and other germs by employing germicidal ultra violet light. After exposure to the **CREON2000**, these dangerous particles are unable to reproduce. The **CREON2000** makes these dangerous particles unable to infect people or animals. This silent and absolutely safe process of air sterilization works in conjunction with the heating and air conditioning system. The **CREON2000** system has been engineered in the most efficient and convenient way so that its ability to improve the air quality in the environment of a given building will continue for many years with little maintenance.

How CREON2000 Air Disinfectant Works.

The standard heating and air conditioning system is designed to exchange the air in a building approximately six times per hour. Whether a house or office is open or closed, airborne bacteria are blown everywhere. Closed buildings with numerous occupants often have the highest bacteria count.

When the **CREON 2000** system is properly installed into an HVAC system, microorganism laden air flowing through the air disinfection chamber is irradiated by germicidal ultra violet (UV) light.



The high intensity germicidal light destroys or inactivates microorganisms. The nuclei of the cells of the microorganisms, due to photolytic processes caused by the **CREON2000** system, are so changed that all cell division, and therefore reproduction of the organisms, can no longer take place. Because the **CREON2000** kills the

⁴ Control of pollutants at the source is the most effective strategy for maintaining clean indoor air. Control or mitigation of all sources, however, is not always possible or practical. CREON 2000 effectively eliminates most or all airborne microorganisms.

microorganisms such as bacteria, molds, yeast, etc., they are no longer able to harm the occupants of the building.

Treating the air in a building with **CREON2000**, which is continually functioning within the central air system, insures that the air will be safer to breathe. As a result those who must work in the building will be better protected from air borne microorganisms. The cost of having better air is pennies a day per occupant.

The proposed system **CREON 2000** would improve indoor air quality and would bring a number of advantages to the Gahanna police building. It would do the following:

1. Limit or eliminate the spread of airborne diseases such as influenza, tuberculosis, legionnaires disease;
2. Bring relief to people who are suffering from allergy and asthma which is irritated and made worse when there are significant numbers of mold and fungi in the air;
3. Improve the productivity and health of the occupants of the building by dramatically reducing the microbiological contamination of the indoor air, which, in many cases, could cause those breathing the building's air to have headaches, drowsiness, or to function on lower activity level; and

Because the occupants of the building would be healthier and would feel better while in the building, it would decrease the number of days of absenteeism and increase worker productivity while they are working in a **CREON2000** protected building.

The Gahanna Police building is located in Gahanna, Ohio. The building has a mechanical heating, ventilation, and air-conditioning (HVAC) system; this system is designed to provide air at comfortable temperature and humidity levels. The HVAC system of the building has one air handling unit with total amount of air supply equaling 14700 CFM.

It is proposed that the **CREON2000-8** system be installed in the Gahanna Police Building. The system **CREON2000-8** is designed to disinfect indoor air which circulates in a building with 14700 CFM at an average of six (6) air changes per hour. Such a building and air change system would be accumulating airborne microorganisms from all sorts of sources from inside the building (biopollution) as well as from outside the building. The **CREON2000-8** unit, when properly installed, would dramatically decrease the number of microorganisms (bacteria, viruses and fungi), which are in the indoor environment and are circulating through the HVAC system. The microbe laden air would pass through the **CREON2000-8** system as it travels through the HVAC system and the **CREON2000** process would destroy them, radically limiting the spread of air borne infectious diseases inside the building via the ventilation system. As a result, the risk of infection from tuberculosis, influenza or legionnaire or other dangerous microbes or allergy causing microbes would decrease radically. Even the common cold's spread would be lessened.

The proposed **CREON 2000-8** air disinfection system for the building consist of eight (8) air disinfection units, **CREON 2000-C**, mounted in supply or return air ducts, depending

upon the position and accessibility of the duct. Given the size and design of the HVAC system in the building along with the amount of air, which must be protected from dangerous microbes, 8 disinfection units would adequately protect the indoor environment of the building. Each unit has patented antidust protection, high germicidal energy output exceeding 320 microW/cm2 @ 1 meter, and needs maintenance only once a year.

We are pleased to quote the CREON 2000 air disinfection system for the building:


CREON 2000-8	\$9,995.00
Installation	\$1,770.00

A special discount of twenty (20) percent for the City of Gahanna would be available in exchange for an agreement to allow General Innovations & Goods, Inc. to use the installed system in advertisements and for demonstrations of how the system works. With all special discounts taken into consideration, the total for the air disinfection system **CREON 2000-8** for the building and for the installation is:

CREON 2000-8 installed \$9,412;

Tax, if Applicable	\$541.19
Total	\$9,953.19

Thank you, for giving us the opportunity to quote this project for you.



Mark Glazman, Ph.D
President