

Project Summary

Barrier Facility and Engineering Controls Improvements for Rodent Production XXxxX, Inc., cccc OOO Park Drive, YyyY, NY 13088

This project involves the application of innovative and energy-saving engineering controls for barrier facility ventilation such as low-pressure drop, multi-point local exhaust ventilation, and heat recovery in the laboratory animal science industry. The scope of the project includes conceptual design, construction, installation, and monitoring evaluation. Benefits include reduction in energy use, improvement in productivity and process control, and improvement in health and comfort.

XXxxX, located in YyyY, is a biotech producing animal by-products that serves the laboratory animal science industry since 1976. XXxxX success has led to a recent expansion doomed to fail unless adequate energy and process efficiency improvements are implemented in a cost-effective way. The proposer will build an in-house barrier facility with heat recovery system for production of mice and rats. We propose a low-pressure drop design and the use of space-efficient exhaust ventilated caging system and other local exhaust devices. This process will eliminate loads (including heat, moisture, waste gases, and airborne contaminants) generated by caged-animals before they disperse in the work environment. It would make possible in-house production of inbred strains rodents, which is a key component to the viability of XXxxX.

The demonstration project will accommodate visitors from NYS biomedical research/testing institutions. Monitoring and evaluation systems will demonstrate implementation of energy benefits, heat recovery, low-pressure drop, multi-point local exhaust ventilation, optimal environmental conditions, increased production efficiency of rodent colonies, and space-saving features. Specifically, low-pressure drop would provide 65% energy recovery. In addition, we estimate that the heat removal efficiency of local exhaust devices would lower HVAC requirements and achieve a reduction of energy consumption by at least 50% when compared to traditional rodent housing system. Moreover, it would reduce by 80% both the cost of animals and the space required to produce them. Thus increasing the profit margin accordingly and freeing 3,700 sf of space for continued expansion of the business.