Indoor Air Quality (IAQ) applications involving investigation of measures related to current guidelines pertaining to safe building operation shall contain scopes of work with similar tasks and deliverables as outlined in this IAQ Studies Guidelines document.

**FlexTech Consultant Eligibility:**

Only IAQ-approved FlexTech Consultants are eligible to engage in FlexTech IAQ studies. FlexTech Consultants interested in performing IAQ studies must submit two (2) Project Examples demonstrating their qualifications and ability to work on the following areas of focus:

* Improved Ventilation
	+ Including balanced energy or heat recovery ventilation systems, as applicable
* Advanced Air Filtration
* Building Operation Optimization
* Safe and effective air cleaning such as:
	+ Ultraviolet Germicidal Irradiation (UVGI)
	+ Other third-party verified safe and effective air cleaning options that are efficient at virus mitigation

Project examples must demonstrate quality of work, methodology, and measure analysis. Consultants will be reviewed based on the relevance and quality of Project Examples and the demonstrated ability to analyze the requested areas of focus (UVGI, Ventilation, Air Filtration, and Building Operation Optimization).

Project examples should be submitted to FlexTech@nyserda.ny.gov for consideration. NYSERDA will review Project Examples on a rolling basis. Consultants must be preapproved prior to performing IAQ studies.

**IAQ Study Goals:**

The goals of the IAQ study may include:

* Evaluating the performance of the existing air distribution systems and building controls
* Analyzing safe, healthy, and effective IAQ building solutions that maximize energy efficiency with a focus on ventilation, filtration, building operation optimization, effective air cleaning, and other appropriate strategies.
* Consultants shall reference credible and objective third-party resources to support their evaluation, such as the [ASHRAE Core Recommendations](https://www.ashrae.org/technical-resources/resources).

**IAQ Study Requirements:**

* IAQ studies shall analyze building solutions that maximize IAQ and energy efficiency
* Study areas of focus may include:
	+ Ventilation improvements
	+ Filtration improvements
	+ Building operation optimization
	+ Proven safe and effective air cleaning technologies
	+ Other appropriate strategies
* If proposing the analysis of air cleaning systems other than UVGI, the Consultant shall cite references of third-party sources that verify:
	+ - * + Efficacy of the air cleaning system (ex. SARS-CoV-2 virus inactivation, sorbent material adsorption) in a similar application as proposed in this study
				+ Safe operation with no harmful exposure or biproducts (ex. UL certification)
* Studies shall be ASHRAE Level 2 or comparable
* Rule of thumb savings calculations, percentage savings calculations, third-party savings calculators, or white paper references shall not be used to quantify energy impacts. These strategies may be appropriate to quantify IAQ impacts, but must be specified in the SOW and approved by the NYSERDA project manager.

**Scope of Work Requirements:**

* In addition to the tasks and deliverables outlined in the FlexTech Energy Study Scope of Work Guidelines Template, available here: [www.nyserda.ny.gov/All-Programs/Programs/FlexTech-Program/FlexTech-Documents-and-Resources](https://www.nyserda.ny.gov/All-Programs/Programs/FlexTech-Program/FlexTech-Documents-and-Resources), the tasks outlined below represent the minimum required tasks that must be included for IAQ study funding consideration, as applicable to the subject building(s) or systems.
* Deliverables may be submitted in any format if the Scope of Work content and Report Guidelines are adhered to.

**Required Scope of Work Content:**

Building Description:

 Provide an overview of the following existing building conditions:

* Gross floor area [*conditioned/unconditioned, and if the facility is Mixed-use, please differentiate between the Commercial sq. ft. and Multifamily sq. ft..],* vintage, use, location
* Current building occupancy levels
* Current building conditions, including:
	+ HVAC system description (heating and/or cooling equipment, air distribution system, ventilation supply and exhaust systems, filtration type and level, etc.)
	+ Ventilation and controls operation strategies, levels, settings, setbacks, etc.

Tasks: *[Add detail or additional tasks as necessary]*

The following specific tasks shall be conducted, and the evaluation approach used shall include:

* Collect and analyze a minimum of one year worth of historic building energy consumption to establish the baseline performance, EUI, and end use analysis of the systems affected by the proposed measures
* Perform surveys of the existing HVAC mechanical and control systems and spaces and interview building operator staff of the energy and IAQ performance of the building systems
* Baseline energy data collection methodology will be via: *[indicate approach (ex. Testing, nameplate, airflow sampling, etc.)]* and consist of *[# months, days, hours, etc.]* of use data beginning *[indicate month/year]*
* Baseline IAQ data collection methodology will be via: *[indicate approach (ex. Testing, nameplate, airflow sampling, etc.)]* and consist of *[# months, days, hours, etc.]* of use data beginning *[indicate month/year]*
* The baseline energy use and IAQ levels will be pro-rated to represent 100% building occupancy levels per design if the data sample set is based on building use conditions that are not representative of typical occupancy levels
* Building survey and data collection methodologies will comply with state, local, and federal requirements
* Energy impact calculation methodology will consist of: *[indicate approach (ex. Bin analysis, modeling, etc.) note: weather dependent measures must enlist an appropriate weather dependent calculation approach]*
* IAQ impact calculation methodology will consist of: *[indicate approach (ex. probability of infection, eACH, ASHRAE 62.1 IAQP, etc.)]*
* Perform economic and physical feasibility, energy impact, and IAQ impact analysis of the building solutions checked off below:

[ ]  Ventilation: *[Indicate ventilation options to be analyzed, indicate if airflow sampling will be performed]*

[ ]  Filtration: *[Indicate filtration options to be analyzed, indicate if filter pressure drop testing will be performed]*

[ ]  Building Optimization: *[Indicate building optimization options to be analyzed]*

[ ]  Proven safe and effective air cleaning: *[Indicate safe and effective air cleaning options to be analyzed including the type of UVGI system or other third-party verified safe air cleaning options. Consultant shall cite references of third-party verification for safe and effective air cleaning options other than UVGI]*

[ ]  Humidification: *[Indicate humidification options to be analyzed]*

[ ]  Other: *[please list]*

* Seasonal variations of the building conditions and/or operations (ex. humidity levels, heating vs. cooling capacity, VAV airflow levels, UVGI located in an AHU that only operated during the heating season, etc.) shall be identified in the report and taken into consideration as part of the analysis and final recommendations.

Assumptions:

* + The study will assume 100% occupancy

Deliverables to NYSERDA:

* + A draft report encompassing the tasks as outlined above that follows [FlexTech Final Report Requirements (Attachment B-1)](https://portal.nyserda.ny.gov/CORE_Solicitation_Document_Page?documentId=a0lt0000001aVidAAE) and a [FlexTech Project Summary Sheet (Attachment B-2)](https://portal.nyserda.ny.gov/CORE_Solicitation_Document_Page?documentId=a0lt0000001aVinAAE) will be provided for review and comment to the Customer and NYSERDA
	+ A final report that addresses all comments from NYSERDA and the customer