

Smart Labs™ O&M Training Program

Session 1: Advanced Understanding of Laboratory Airflow Controls

Agenda	
Topic/Activity	Description
Welcome and Introductions	<ul style="list-style-type: none"> Review goals and objectives Administer pre-training quiz Gauge roles and backgrounds of participants
Modern Labs and Airflow Control Systems	<ul style="list-style-type: none"> Types of labs and activities Requirements for safe and productive workspaces Components and performance of a modern system
Refreshment Break	
Standards, Codes and Guidelines	<ul style="list-style-type: none"> Relevant standards and codes Operating specifications and performance criteria
Exposure Control Devices	<ul style="list-style-type: none"> Evaluating risk and demand for ventilation Types of devices (i.e. Fume Hoods, BSCs, Snorkels, etc.) Design, application, operation and performance
Lunch Break	
Laboratory Equipment	<ul style="list-style-type: none"> Lab configuration Types of supply and exhaust devices Operation and performance
Mechanical Systems	<ul style="list-style-type: none"> Exhaust and air supply systems Energy recovery Operation and performance
Break	
Building Automation and Airflow Controls	<ul style="list-style-type: none"> VAV airflow control types and sensors BAS communication, graphics and reports
Lab Ventilation Management Program	<ul style="list-style-type: none"> Roles and responsibilities Tasks, procedures, schedules and coordination
Review and Discussion	<ul style="list-style-type: none"> Concerns and questions Review Day 2 agenda

Session 2: Testing and Maintenance of Airflow Control Systems

Agenda	
Topic/Activity	Description
Review and Day 2 Agenda	<ul style="list-style-type: none"> Review Day 1 questions Review Day 2 agenda
Top Down Testing and Maintenance	<ul style="list-style-type: none"> TAB, commissioning and benchmarking Coordinating routine tests, maintenance and safety surveys
Test and Maintenance Procedures for the Airflow Control Systems	<ul style="list-style-type: none"> Systems testing and maintenance procedures System operating mode tests VAV control diagnostics and reporting
Refreshment Break	
Lab Environment Tests	<ul style="list-style-type: none"> Airflow measurements Ventilation effectiveness tests Data collection and analysis Diagnostics and reporting
Learning Activity - Lab and Systems Tests	<ul style="list-style-type: none"> Compile system operating data Analyze and diagnose system issues Analyze and diagnose lab issues
Lunch Break	
Fume Hood and ECD Tests	<ul style="list-style-type: none"> Airflow measurements VAV flow response and stability tests Monitor verification and calibration Airflow visualization tests Tracer gas containment tests
Break	
Learning Activity Fume Hood and ECD Tests	<ul style="list-style-type: none"> Compile operationing and performance data Analyze and diagnose issues
BAS Monitoring and Analysis	<ul style="list-style-type: none"> Utilizing the BAS to monitor system operation Establishing meaning ful alarms Using trend reports and key performance indicators
Managing Change	<ul style="list-style-type: none"> Recognizing different types of change Process for accommodating change
Review and Discussion	<ul style="list-style-type: none"> Post training quiz Questions and answers