

Instructions

- 1. Read the IAQ

 Backgrounder and the Background Information for this checklist.
- 2. Keep the
 Background
 Information and
 make a copy of
 this checklist for
 each ventilation
 unit in your school,
 as well as a
 copy for future
 reference.
- 3. Complete the Checklist.
 - Check the "yes," "no," or "not applicable" box beside each item. (A "no" response requires further attention.)
 - Make comments in the "Notes" section as necessary.
- 4. Return the checklist portion of this document to the IAQ Coordinator.

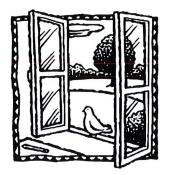
Ventilation Checklist

N.T	ame: William Blouin			
	chool: Lake Garda School			
	111 1111.1-			
	nit Ventilator/AHU No: All AHU S	/		
Re	oom or Area: Entire School Date Completed: 1/1/29			
Si	gnature: Welch. De			
1.	OUTDOOR AIR INTAKES			
la.	Marked locations of all outdoor air intakes on a small floor plan (for example, a fire escape floor plan)		No	N/A
1b.	Ensured that the ventilation system was on and operating in "occupied" mode	ď		
AC	CTIVITY 1: OBSTRUCTIONS			
	Ensured that outdoor air intakes are clear of obstructions, debris, clogs,	/	/	
1.4	or covers	Y		
ra.	frequently block an intake)	v		
AC	CTIVITY 2: POLLUTANT SOURCES			
le.	Checked ground-level intakes for pollutant sources (dumpsters, loading	/	_	
1 f.	docks, and bus-idling areas)	V		
	toilet, or laboratory exhaust fans; puddles; and mist from		/	
1α	air-conditioning cooling towers)	V		
ıg.	intakes (e.g., relocated dumpster or extended exhaust pipe)			Y
	THINKS 2. AIDELOW			
	CTIVITY 3: AIRFLOW Obtained chemical smoke (or a small piece of tissue paper or light plastic)	M		П
	Confirmed that outdoor air is entering the intake appropriately			
2	SYSTEM CLEANLINESS			
			,	
	CTIVITY 4: AIR FILTERS Replaced filters per maintenance schedule	т\		П
	Shut off ventilation system fans while replacing filters (prevents dirt from	_/	, _	_
	blowing downstream)			
	Vacuumed filter areas before installing new filters	ٽ ⁄		u
	around) the air filter	1		

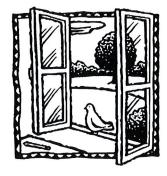
2e. Confirmed proper installation of filters (correct direction for airflow).........

2. SYSTEM CLEANLINESS (continued)

AC	TIVITY 5: DRAIN PANS			
2f.	Ensured that drain pans slant toward the drain (to prevent water from accumulating)	Yes/ 🗹 ,	No	N/A
2g.	Cleaned drain pans	⊻/		
2h.	Checked drain pans for mold and mildew	₫		
	TIVITY 6: COILS	/		
21.	Ensured that heating and cooling coils are clean	☑		
	TIVITY 7: AIR-HANDLING UNITS, UNIT VENTILATORS			
2j.	Ensured that the interior of air-handling unit(s) or unit ventilator	/		
	(air-mixing chamber and fan blades) is clean			
2k.	Ensured that ducts are clean	☑		
	TIVITY 8: MECHANICAL ROOMS	/		
	Checked mechanical room for unsanitary conditions, leaks, and spills			
2m.	Ensured that mechanical rooms and air-mixing chambers are free of trash, chemical products, and supplies			
^				
	CONTROLS FOR OUTDOOR AIR SUPPLY	/		
3a.	Ensured that air dampers are at least partially open (minimum position)	໔		
3b.	Ensured that minimum position provides adequate outdoor air for occupants	/		
	Tot Goodpanio	•	_	_
	TIVITY 9: CONTROLS INFORMATION			
3c.	Obtained and reviewed all design inside/outside temperature and humidity			
	requirements, controls specifications, as-built mechanical drawings, and controls operations manuals (often uniquely designed)	17/		
	and controls operations manuals (often uniquely designed)	🛥	J	J
AC	TIVITY 10: CLOCKS, TIMERS, SWITCHES	/		
3d.	Turned summer-winter switches to the correct position	🗹		
	Set time clocks appropriately	🗖		U
3f.	Ensured that settings fit the actual schedule of building use (including night/weekend use)	V		
	mg.c. weekend dise)		J	_
	TIVITY 11: CONTROL COMPONENTS			
3g.	Ensured appropriate system pressure by testing line pressure at both the			~/
26	occupied (day) setting and the unoccupied (night) setting			A
3i.	Checked that the line dryer prevents moisture buildup	🖵		V
31.	compressor manufacturer's recommendation (for example, when you			
	blow down the tank)	🗖		P
3j.	Set the line pressure at each thermostat and damper actuator at the proper			
	level (no leakage or obstructions)	🗖		V
AC	TIVITY 12: OUTDOOR AIR DAMPERS	/		
	Ensured that the outdoor air damper is visible for inspection	🗹		
	Ensured that the recirculating relief and/or exhaust dampers are visible	/		
	for inspection	⊻	\neg	
3m.	Ensured that air temperature in the indoor area(s) served by each	m/		
	outdoor air damper is within the normal operating range	🍱		J



NOTE: It is necessary to ensure that the damper is operating properly and within the normal range to continue.



3.	CONTROLS FOR OUTDOOR AIR SUPPLY (continued)			
3n.	Checked that the outdoor air damper fully closes within a few minutes of shutting off appropriate air handler	Yes . ⊻	No	N/A □
	Checked that the outdoor air damper opens (at least partially with no delay) when the air handler is turned on			
	If in heating mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 85°F	. 🗹		
	If in cooling mode, checked that the outdoor air damper goes to its minimum position (without completely closing) when the room thermostat is set to 60°F and mixed air thermostat is set to 45°F	/		
3r.	 If the outdoor air damper does not move, confirmed the following items: The damper actuator links to the damper shaft, and any linkage set screws or bolts are tight	. Y		
Pro	ceed to Activities 13–16 if the damper seems to be operating properly.			
AC	TIVITY 13: FREEZE STATS			
3s. OR	Disconnected power to controls (for automatic reset only) to test continuity across terminals	. 🗖		ש
3t.	Confirmed (if applicable) that depressing the manual reset button (usually red) trips the freeze stat (clicking sound indicates freeze stat was tripped)	. 🗹		
3u.	Assessed the feasibility of replacing all manual reset freeze-stats with automatic reset freeze-stats	. 🗹		
clos	TE: HVAC systems with water coils need protection from the cold. The freeze se the outdoor air damper and disconnect the supply air when tripped. The tyge is $35^{\circ}F$ to $42^{\circ}F$.			
	TIVITY 14: MIXED AIR THERMOSTATS			
	Ensured that the mixed air stat for heating mode is set no higher than 65°F			
3w.	Ensured that the mixed air stat for cooling mode is set no lower than the room thermostat setting	. L		
AC	TIVITY 15: ECONOMIZERS			
	Confirmed proper economizer settings based on design specifications or local practices	4		
NO	TE: The dry-bulb is typically set at 65°F or lower.	,		
	Checked that sensor on the economizer is shielded from direct sunlight Ensured that dampers operate properly (for outside air, return air, exhaust/relief air, and recirculated air), per the design specifications			
load	TE: Economizers use varying amounts of cool outdoor air to assist with the of the room or rooms. There are two types of economizers, dry-bulb and en	coolin thalpy		-
and	r-bulb economizers vary the amount of outdoor air based on outdoor temperal enthalpy economizers vary the amount of outdoor air based on outdoor tem humidity level.	iture, perati	ure	

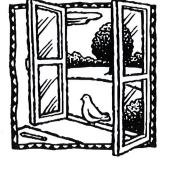
3. CONTROLS FOR OUTDOOR AIR SUPPLY (continued) **ACTIVITY 16: FANS** 3aa. Ensured that all fans (supply fans and associated return or relief fans) Yes No N/A that move outside air indoors continuously operate during occupied hours (even when room thermostat is satisfied)..... NOTE: If fan shuts off when the thermostat is satisfied, adjust control cycle as necessary to ensure sufficient outdoor air supply. 4. AIR DISTRIBUTION **ACTIVITY 17: AIR DISTRIBUTION** 4a. Ensured that supply and return air pathways in the existing ventilation system. 4b. Ensured that passive gravity relief ventilation systems and transfer grilles between rooms and corridors are functioning..... NOTE: If ventilation system is closed or blocked to meet current fire codes, consult with a professional engineer for remedies. 4c. Made sure every occupied space has supply of outdoor air (mechanical system or operable windows) NOTE: If outlets have been blocked intentionally to correct drafts or discomfort, investigate and correct the cause of the discomfort and reopen the vents. 4e. Modified the HVAC system to supply outside air to areas without an outdoor 4f. Modified existing HVAC systems to incorporate any room or zone layout and population changes 4g. Moved all barriers (for example, room dividers, large free-standing blackboards or displays, bookshelves) that could block movement of air in the room, especially those blocking air vents 4h. Ensured that unit ventilators are quiet enough to accommodate classroom activities Ensured that classrooms are free of uncomfortable drafts produced by air from supply terminals **ACTIVITY 18: PRESSURIZATION IN BUILDINGS** NOTE: To prevent infiltration of outdoor pollutants, the ventilation system is designed to maintain positive pressurization in the building. Therefore, ensure that the system, including any exhaust fans, is operating on the "occupied" cycle when doing this activity. Ensured that air flows out of the building (using chemical smoke) through windows, doors, or other cracks and holes in exterior wall (for example, 5. EXHAUST SYSTEMS **ACTIVITY 19: EXHAUST FAN OPERATION** 5a. Checked (using chemical smoke) that air flows into exhaust fan grille(s) 🛂

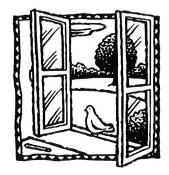
If fans are running but air is not flowing toward the exhaust intake, check for the following:

Inoperable dampers

· Broken fan belt

Obstructed, leaky, or disconnected ductwork Undersized or improperly installed fan





5. EXHAUST SYSTEMS (continued)

ACTIVITY 20: EXHAUST AIRFLOW

NOTE: Prevent migration of indoor contaminants from areas such as bathrooms, kitchens, and labs by keeping them under negative pressure (as compared to surrounding spaces). Yes No N/A 5b. Checked (using chemical smoke) that air is drawn into the room from Stand outside the room with the door slightly open while checking airflow high and low in the door opening (see "How to Measure Airflow"). 5c. Ensured that air is flowing toward the exhaust intake **ACTIVITY 21: EXHAUST DUCTWORK** 5d. Checked that the exhaust ductwork downstream of the exhaust fan (which is under positive pressure) is sealed and in good condition..... 6. QUANTITY OF OUTDOOR AIR **ACTIVITY 22: OUTDOOR AIR MEASUREMENTS AND CALCULATIONS** NOTE: Refer to "How to Measure Airflow" for techniques. 6a. Measured the quantity of outdoor air supplied (22a) to each ventilation unit 6b. Calculated the number of occupants served (22b) by the ventilation unit under consideration..... 6c. Divided outdoor air supply (22a) by the number of occupants (22b) to determine the existing quantity of outdoor air supply per person (22c)....... **ACTIVITY 23: ACCEPTABLE LEVELS OF OUTDOOR AIR QUANTITIES** 6d. Compared the existing outdoor air per person (22c) to the recommended levels in Table 1......

6e. Corrected problems with ventilation units that supplied inadequate

quantities of outdoor air to ensure that outdoor air quantities (22c) meet the recommended levels in Table 1......

NOTES