Indiana Department of Health

Eric J. Holcomb
Governor

Lindsay M. Weaver, MD, FACEP
State Health Commissioner

June 17, 2024

99 RDC 585
Dr. Marlon Mitchell, Superintendent
School City of East Chicago
1401 E. 144th Street
East Chicago, IN 46312

Dear Dr. Mitchell:

The purpose of this letter is to report the result of our indoor air quality evaluation of East Chicago Central High School on June 14th. This evaluation was conducted based on two complaints our office received regarding excessive temperatures in the classrooms. Upon arrival it was explained that there had been an electrical surge that damaged portions of the HVAC system in the building and some areas of the building were without ventilation or cooling. We did observe windows open in some of the classrooms that we visited in an attempt to cool and bring fresh air into those classrooms.

The Carbon dioxide (CO_2) levels inside were measured with the highest reading 1303 parts CO_2 per million parts of air (ppm) in room ZC9. The School Indoor Air Quality rule, 410 IAC 33-4-2 states "(a) "Outdoor Air shall be supplied to classrooms when occupied. (b) Carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration", in this case giving a limit of 1170 ppm. ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) recommends 15 cfm (cubic feet per minute) of outdoor air per person for classrooms.

The outdoor relative humidity was measured at 43 percent (%) and the indoor relative humidity had a range of 52 to 62%. The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) recommends the relative humidity in habitable spaces preferably should be maintained between 30% and 60% to minimize growth of allergenic and pathogenic organisms. Humidity levels above 50% have been found to

increase the population size of molds, fungi and mites that may cause allergies. The evidence suggests that humidity levels should be maintained between 40% and 50% to reduce the incidence of upper respiratory infections and to minimize the adverse effect on people suffering from asthma or allergies. Such a range would be hard to maintain, however, exposure to higher or lower levels are unlikely to affect the health of most people.

Based on sample results and our visual inspection we note the following:

1) **410 IAC 33-3-1(b) states "The IAQ coordinator's contact information shall also be published: (1) on the school or state agency's website; and (2) in the school or state agency's handbook"** We were unable to locate the Indoor Air Coordinator's contact information on either the corporation's or school's website. This information needs to be added to the website and handbooks.

2) **410 IAC 33-4-2 (a) states "Outdoor air shall be supplied to classrooms when occupied." and 410 IAC 33-4-4 (b) states "Where provided air-conditioning systems shall be capable of providing and shall be operated to maintain a temperature not to exceed seventy-eight (78) degrees Fahrenheit and sixty-five percent (65%) relative humidity during periods of student occupancy."** We understand that portions of the HVAC systems are not capable of providing ventilation or air conditioning until repairs are completed. Our measurements were taken between 10:00 and 11:00am. Some classrooms were already 79-80 degrees. We would expect the temperatures in these classrooms to continue to rise throughout the day. With the predicted high temperatures in the 90s this week we would anticipate even higher temperatures in the classrooms. We recommend that you consider temporarily relocating classes without air conditioning to areas of the building that do have air conditioning.

3) **410 IAC 33-4-2(b) states "carbon dioxide concentrations in the breathing zone shall never exceed 700 ppm over the outdoor concentration",** The carbon dioxide concentration in room ZC9 was slightly above the allowed limit. We recommend checking dampers to ensure that sufficient fresh air is being supplied to the classroom.

4) 410 IAC 33-4 requires schools to have written policies addressing vehicle idling, animals in classrooms, and minimizing student and staff exposure to chemicals. We were unable to locate the policies on the corporation website. Please either provide the link to those policies if they are available on the corporation website, or email copies of these policies to us.

410 IAC 33 requires you to respond within 60 days regarding any actions you take based upon this report.

The School Indoor Air Quality rule 410 IAC 33-6-2 requires this report, within 5 working days of receipt, to be posted for 14 days both at the school building stated in the report, and on the school's website, where it is accessible to students, parents, and employees. The rule also requires your response to this report to be posted within 5 working days of sending the response to us. That too is to be posted for 14 days. Please respond back providing the links where these are posted on the website.

Individuals experiencing any health problems should seek medical advice from a physician.

If you have questions, I can be reached at 317.682.9033.

Sincerely,

Ron Clark

RON CLARK,
Industrial Hygienist
Indoor Air Section, Environmental Public Health

Enclosure

TABLE 1
East Chicago Central High School

Measurements taken June 14, 2024

Sample	Location	Persons	Temp °F	RH %	CO2 ppm
1	Outside entrance #1 (10:00am)	0	83	41	470
2	A110	11	75	55	497
3	ZC9	0	76	56	1303
4	ZC13	17	77	55	992
5	ZC5	19	76	55	1131
6	A340	10	73	60	608
7	A319	0	77	61	506
8	A229	11	72	62	761
9	A221	1	73	62	642
10	A208	18	77	60	783
11	A286	12	79	56	687
12	A281	17	80	54	659
13	A268	15	79	52	672
14	Library -2nd floor	0	76	55	547
15	Outside entrance #1 (11:10am)	0	84	43	450

Notes:
% ---------percent
ppm-------parts per million