

2010 National C.L.E.A.N. Awards nominations

The 2010 National C.L.E.A.N.™ Awards application package is now available at www.neahin.org/cleanaward. The C.L.E.A.N. stands for Custodial Leaders for Environmental Advocacy Nationwide. The deadline for application/nominations is December 7, 2009.

The national C.L.E.A.N.™ Award will recognize the contributions that custodians make to public health in their schools, communities, and their profession. The award will be presented to a school custodian who demonstrates outstanding leadership in the field of school cleanliness, and reflects the contributions that education support professionals (ESP) can make to public health.

The award program is a joint initiative of the National Education Association (NEA), the NEA Health Information Network (NEA HIN) and the Soap and Detergent Association (SDA).

Up to five awards will be presented to one top recipient and four runners-up. The awards will recognize a single custodian or a team of custodians from one school. Applicants may self-nominate or they may be nominated by someone in their school, district, or state/local affiliate. Only current NEA members are eligible to apply.

The National C.L.E.A.N. Award recipients will receive:

- All expense paid trip, including travel, lodging, meals, and salary reimbursement, to the NEA National ESP Conference to receive award
- Cash Award
- One year NEA and National Council of Education Support Professionals (NC-ESP) membership
- Products/Supplies for school
- School celebration for the top recipient on National C.L.E.A.N. Day, which may include a visit by representatives from NEA and SDA
- Recognition in national, state, and local publications and magazines

To learn more about the program and the 2009 winners, visit www.neahin.org/cleanaward/winners.html.

Control indoor exhaust fumes



Engines running indoors can cause a build-up of exhaust fumes containing a toxic mixture of unburned or partially burned fuel, gases, vapors, and soot particles. The engine may be in a school bus, car, truck, floor sweeper, lawnmower, snow blower or other equipment. The fuel may be gasoline, diesel, propane and others. The building or garage may be for parking, repair, maintenance, or a shop used for instruction. No matter the scenario, exposure of drivers, mechanics, maintenance and custodial staff, other school staff and students to exhaust fumes indoors must be controlled. This can be accomplished through precautions with the engine, the fuel, and the building—then reinforced with training for all concerned.

Exhaust fume composition depends on the size, type, temperature, and condition of the engine, type and grade of fuel used, and type of emission controls on the engine. Common toxic components of exhaust fumes include carbon monoxide, Volatile Organic Compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PAHs), aldehydes, and oxides of nitrogen and sulfur. Fine and ultrafine particles from diesel engines may cause the most harmful effects to the lungs, including asthma and cancer. Carbon monoxide from gasoline engines poses the most immediate threat—headache, nausea, and asphyxiation. Benzene present in gasoline exhaust and is known to cause leukemia.

Local associations should work with their UniServ field rep to ensure that school districts implement a program to protect staff potentially exposed to engine exhaust. Ask the district for an inventory of engines and fuels in use and then see if these controls are in place.

Engine controls

- Regular engine maintenance and tune-ups.
- Catalytic converters for gasoline-fueled vehicles.
- Add-on “retrofits” on the tailpipe of diesel vehicles, like diesel particulate filters and diesel oxidation catalysis.

- Closed crankcase system on school buses.
- Minimize operation and idling time.
- Minimize number of engines operating at one time.
- Phase out diesel-powered engines.
- Purchase gasoline-powered Low Emission Vehicles (LEV), Hybrid Electric Vehicles (HEV), or Zero Emission Vehicles (ZEV), which are currently electric.
- Districts with fleets with centrally fueled vehicles can purchase an Alternative Fueled Vehicles (AFV), that use alternative fuels such as natural gas, biodiesel and electricity, which emit far less air toxins.

Fuel controls

The cleanest burning fuel available should be used. The Environmental Protection Agency (EPA) has set standards for low sulfur gasoline and low sulfur diesel, which will help ensure the effectiveness of low emission-control technologies in engines and reduce harmful air pollution.

Building controls

Local exhaust ventilation: This is the best way to reduce exposure to exhaust fumes. Tailpipe or stack exhaust hoses should be provided for any vehicle being run indoors. This consists of a small hood that attaches tightly to the vehicle tailpipe, flexible hose that transports the fumes outdoors, and a high-powered fan that provides suction. The fumes must be discharged where they will not be drawn back into the building through doors, windows, or ventilation system intakes. A hose without a fan will not work because the resistance of the hose will cause leakage around the connection between the tailpipe and the hose.

General ventilation: This method uses roof vents, open doors and windows, roof fans or floor fans to move air through the work area. The air that is exhausted must be replaced with clean outdoor air. If not designed or planned properly, this ventilation may only spread the exhaust around the work area. In addition, open doors and windows are impractical during cold weather. Roof fans are important if there are long periods of engine idling, for example, during winter warm-ups. General ventilation alone may not adequately reduce the diesel exhaust. A combination of both local and general ventilation is best.

Wall openings: In buildings that are not below grade, natural ventilation can be provided by wall openings that are at least 25 percent of the wall area.

Pit floor areas: Because fumes can collect in these below-grade spaces, continual mechanical ventilation must be provided.

Carbon monoxide alarms: If a high concentration of CO is detected, the device sounds an alarm, giving people in the area a chance to ventilate the area or safely leave the building. Get the district to purchase carbon monoxide sensors that alarm at 35 parts per million part of air (ppm).

Close doors to stairwells, offices, etc: When exhaust seeps into schools through doors, windows, and ventilation systems, children and school staff are at risk.

Applicable PEOSH standards

Two Public Employee Occupational Safety and Health (PEOSH) standards apply to exhaust fumes indoors:

Indoor Air Quality (IAQ) standard applies in educational facilities like shops but not in garages. It requires maintenance of ventilation systems and forbids entry of contaminants into the ventilation system.

Hazard Communication standard applies in both schools and garages and requires effective training by a technically qualified instructor be provided to all employees exposed to hazardous chemicals upon initial assignment or introduction of a new hazard, with refresher training every two years. The hazards and controls for exhaust fumes should be covered.

For more information

Indoor Air Quality Checklist used by PEOSH inspectors:

www.state.nj.us/health/eoh/peoshweb/iaqchecklist.pdf

Hazard Communication Checklist used by PEOSH inspectors

www.state.nj.us/health/eoh/peoshweb/hazcomcheck.pdf

Help stop the soot from school buses, NJEA Reporter, December 2006. Visit njea.org, click “Issues” then “Health and Safety”.

Specifications for local exhaust ventilation systems for garages.

www.ohiobwc.com/downloads/blankpdf/OAC4123-1-5-99.2.pdf

Underfloor system, page 38; Overhead system, page 39.