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FISCAL IMPACT REPORT

LAST UPDATED _____

SPONSOR Chandler/Garratt/Stewart/Pope **ORIGINAL DATE** 2/4/23

BILL

SHORT TITLE Public School Ventilation Improvement Act **NUMBER** House Bill 30

ANALYST Liu

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT* (dollars in thousands)

	FY23	FY24	FY25	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
State Share of HVAC Systems Awards		\$4,200.0 - \$63,000.0	\$4,200.0 - \$63,000.0	\$8,400.0 - \$126,000.0	Recurring	Public School Capital Outlay Fund (PSCOF)
Ventilation Verification Assessments		\$2,476.2 - \$4,186.0	\$2,476.2 - \$4,186.0	\$4,946.4 - \$8,372.0	Recurring	School Budgets
Local Share of HVAC Systems Awards		\$15,800.0 - \$237,000.0	\$15,800.0 - \$237,000.0	\$31,600.0 - \$474,000.0	Recurring	School Budgets
Total		\$22,473.2 - \$304,186.0	\$22,473.2 - \$304,186.0	\$44,946.4 - \$608,372.0	Recurring	PSCOF and School Budgets

Parentheses () indicate expenditure decreases.

*Amounts reflect most recent analysis of this legislation.

Relates to Senate Bills 60, 95, and 131

Sources of Information

LFC Files

Responses Received From

Public School Facilities Authority (PSFA)

Public Education Department (PED)

Department of Health (DOH)

Regulation and Licensing Department (RLD)

SUMMARY

Synopsis of House Bill 30

House Bill 30 establishes a Public School Ventilation Improvement Act, requiring all schools to perform assessments on all school ventilation systems and improve, if necessary or cost-effective, the ventilation systems or air quality in public schools based on the assessment. The assessments are public reports and must be performed every five years by a skilled and trained construction worker. This bill does not contain an effective date and, as a result, would go into

effect June 16, 2023, (90 days after the Legislature adjourns) if signed into law.

FISCAL IMPLICATIONS

The bill does not contain an appropriation but requires schools to conduct a ventilation verification assessment (VVA) on all mechanical ventilation systems in every school every five years. Schools must make appropriate corrective actions identified in the VVA, including repairs, upgrades, or replacement of the existing heating, ventilation, and air conditioning (HVAC) system or the installation of stand-alone mechanical ventilation systems if necessary or cost-effective.

PSFA reports school districts own a total of 65 million gross square feet of school building space, not including district-owned noneducational spaces and other facilities. PSFA estimates costs to school budgets for VAAs could range between \$12.4 million and \$21 million. Schools may apply to the Public School Capital Outlay Council (PSCOC) for replacement of HVAC systems but currently cannot receive PSCOC funding for VAAs.

Estimated Costs for Ventilation Verification Assessments for all New Mexico Schools

School Size (Gross Square Feet)	Number of Schools	Estimated Time for Assessment per School	Estimated Cost of Assessment per School	Total Estimated Cost Range
0 – 50,000 GSF	217	5-7 days	\$8,000 - \$15,000	\$2.1 M - \$3.8 M
50,001 – 100,000 GSF	367	8-14 days	\$15,000 - \$25,000	\$5.3 M - \$8.8 M
100,001 – 200,000 GSF	125	15-30 days	\$25,000 – \$40,000	\$3.1 M - \$5.0 M
200,001 – larger GSF	50	30+ days	\$40,000 - \$70,000	\$2.0 M - \$3.5 M
Totals	759			\$12.4 M - \$21 M

Source: PSFA

Although initial costs for VAAs will likely be significant in the initial years of implementation, the LFC estimate on additional operating budget impact for VAAs projects the recurring annual cost of assessing facilities on a five-year cycle, given limitations of time and workforce capacity—eventually incurring a fifth of PSFA’s estimated cost over the long term.

PSFA notes the average cost to replace or upgrade an HVAC system is between \$500 thousand and \$5 million per school facility. Assuming a unit cost of \$45 per square foot to \$60 per square foot to replace an HVAC system, including associated and required work to complete projects, PSFA anticipates up to 25 percent of school buildings in the state may need HVAC upgrades, and estimates the cost of replacing HVAC systems across 25 percent of the statewide square footage will range between \$731 million and \$975 million.

Estimated HVAC Replacement Costs to Meet Standards and Requirements:

Percentage of existing gross square feet that may require HVAC replacement	Total GSF that may require HVAC replacement	Estimated total cost to replace HVAC systems in schools (\$45 - \$60 per square foot)
25% of GSF in NM schools	16,250,000 GSF	\$731.3 M - \$975 M
50% of GSF in NM schools	32,500,000 GSF	\$1.5 B - \$1.95 B

Source: PSFA

Based on available, qualified engineering and construction labor to perform the corrective action work, PSFA estimates no more than 40 to 60 HVAC replacement projects could be in process concurrently throughout the state. Taking the limitation of only 40 or 60 projects and the estimated average cost of \$500 thousand to \$5 million per HVAC project, LFC estimates annual

HVAC system replacement costs could range between \$20 million and \$300 million. According to PSFA, the state, or PSCOC, share of project costs for the 175 school facilities with the worst condition is 21 percent. As such, the impact to the public school capital outlay fund for PSCOC awards for 21 percent of these projects would be between \$4.2 million to \$63 million. In turn, school districts and charter schools receiving PSCOC awards for HVAC replacement would be responsible for about \$15.8 million to \$237 million of the costs each year.

SIGNIFICANT ISSUES

New Mexico school districts have escalated efforts to improve indoor air quality in schools since the onset of the Covid-19 pandemic and the availability of \$1.5 billion in federal emergency (ESSER) relief funding, which could be used for purposes outlined in this bill. In response to requirements set by PED for school reentry, school districts attempted to purchase and install MERV 13 filters, which provide stronger filtration. While an existing HVAC system can be upgraded to accommodate more restrictive air filters, such as MERV 13, districts struggled with delays in the delivery of the new filters, unpredictable variability in cost, and impractical requirements for bulk purchases from suppliers. PSFA notes MERV 13 filters cost three to five times more than MERV 8 filters, the type of filter commonly used by schools.

Provisions of this bill would require all schools to conduct VAAs on all mechanical ventilation systems every five years and make corrective actions as needed. The bill requires VAAs to be performed by a certified assessor or mechanical engineer. The assessment shall verify whether the existing system is operating in accordance with design parameters and meets the 2021 New Mexico Mechanical Code. The assessment shall include testing, measurement or verification of each mechanical unit's overall condition, operation and maintenance. Appropriate corrective actions must be included in the report.

PED must require school districts to make the appropriate corrective actions to ventilation systems, as identified in the assessment report. Corrective actions include testing, adjusting and balancing existing systems and units, repairs, upgrades, or replacement if necessary or cost effective. The bill further lists the types of corrective actions that may be identified in the ventilation verification assessment, and also proposes the circumstances in which portable filtration and air cleaners may be used in the existing heating, ventilation and air conditioning infrastructure.

The bill requires corrective actions required by the VAA be performed by a skilled and trained construction workforce in licensed by the Construction Industries Division (CID) at RLD. PSFA, PED, and CID must ensure VAA and construction meet all standards and requirements. Once the assessments and corrective actions are complete, school districts must submit a ventilation verification report the PED, to include specific information ensuring the work was done in compliance. This includes documentation of the initial operating ventilation rate verifications, the corrective actions made (adjustments, repairs, upgrade or replacements), the final operating conditions of the mechanical systems and units, verification of carbon dioxide monitors, and verification that all work was completed by certified technicians or mechanical engineers.

PERFORMANCE IMPLICATIONS

DOH notes good ventilation and indoor air quality are important in reducing airborne exposure

to viruses, including SARS-CoV-2, the virus that causes Covid-19, as well as other disease vectors, chemicals, and odors. Higher ventilation rates reduce the transmission and spread of infectious agents in buildings. Studies over the last several decades also highlight the negative health effects of poor ventilation including (1) a link between short-term sick leave, often associated with respiratory illness and low ventilation rates, and (2) correlations between low ventilation rates and high occupant densities and far higher rates of respiratory illness. In 2020, the federal Centers for Disease Control (CDC) and the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) recommended several goals related to HVAC systems and ventilation at schools, one of which was to improve filtration by installing more restrictive air filters to capture these particulates.

PED's Covid-19 Response Toolkit for New Mexico's Public Schools for FY23 uses the ASHRAE recommendation for school ventilation systems, which sets the target level for filtration in schools at minimum efficiency reporting value (MERV) 13 or higher, which on average will remove 75 percent of particles as small as 0.3 μm —effectively removing viral particles in the air. PED has been working with districts and schools to identify the highest quality compatible filters that meet these standards. Schools are also using portable high-efficiency particulate air (HEPA) fan/filtration systems to help enhance air cleaning (especially in higher risk areas such as a nurse's office or areas frequently inhabited by persons with increased risk of getting Covid-19).

ADMINISTRATIVE IMPLICATIONS

PSFA notes VAAs may take a week to a month to complete and cost more, depending on the size of the school. HVAC upgrade and replacement projects on existing buildings are costly due to the complexity of the systems, high costs of individual units and components, and labor costs. The necessary scope for an HVAC replacement project must often include other associated building systems, such as fire alarm/suppression, electrical, roof, ceilings, thermal insulation, and the building envelope, to ensure the new HVAC system is functional and code compliant; these additional, associated building system replacements can be costly.

If 25 percent of the school sites in the state (approximately 190 campuses) require HVAC replacement projects, the state may need four years to eight years to complete all projects, given HVAC projects typically take up to two years to complete. Potentially, the urban and more financially well-situated school districts could more quickly mobilize and access the services of the limited workforce to perform the assessments and the corrective action work. However, HVAC repairs, upgrades, and replacement projects vary in complexity and scope, requiring expertise in management throughout the design and installation processes. Many districts, especially small districts with limited staff or inexperienced project managers, struggle to successfully complete this type of complicated project without PSFA project management support.

Current law prohibits a state agency or local government agency (such as school districts) in part from accepting a bid or proposal from a person who directly participated in the preparation of the specifications, on which the specific competitive bid or proposal was based. PSFA notes if the VAA prepared by a company is used in the development of the specifications for the corrective action work, that company is prohibited from bidding on the HVAC project. This would further limit the availability of a qualified workforce to perform either the assessments or the corrective action work identified in the VAA. With an already limited workforce, many companies might

potentially opt to perform the more lucrative work of repairing or replacing entire HVAC units, rather than performing the VAA.

PED and PSFA note requiring school districts to use a “skilled and trained construction workforce” for VAAs may prove difficult in rural areas. The bill defines skilled and trained construction workforce as a “workforce in which at least 40 percent of the workers are graduates of or registered in and attending an apprenticeship program registered with the workforce solutions department or an apprenticeship program.” There are approximately 41 companies in New Mexico that meet the requirements of a “skilled and trained workforce” to perform the work required by the ventilation assessment as required in the bill.

PSFA notes Section 3(E) requires schools to submit VAAs to PED and suggests including PSFA as a recipient of the report. PED notes provisions of this bill may require 5 additional FTE to collect VAAs and monitor implementation of required improvements at a potential cost of \$557 thousand annually.

RELATIONSHIP

This bill relates to Senate Bill 60, which requires new public schools to install solar photovoltaic panels; Senate Bill 95, which appropriates \$25 million from the public school capital outlay fund for statewide school safety; and Senate Bill 131, which changes the local-state match rate formula, eliminates legislative offsets, and appropriates public school capital outlay funds to school districts.

TECHNICAL ISSUES

RLD notes Section 3(A) of the bill requires the ventilation assessment “meet the 2021 New Mexico Mechanical Code.” Because the code is updated every two years to three years, RLD recommends changing the language to “meet the current New Mexico Mechanical Code,” preventing the act from becoming outdated or requiring regular amendments.

PSFA notes Section 3(A) indicates school districts are required to conduct VAAs for “all mechanical ventilation systems in the school district.” This does not specify schools or educational facilities, and could therefore include all noneducational facilities, such as district offices, maintenance facilities, bus barns, etc. PSFA recommends clarifying the scope of VAAs in the bill.

OTHER SUBSTANTIVE ISSUES

PSFA develops an annual statewide ranking of all New Mexico school facility conditions, based on the results of PSFA assessments that document the facility condition and adequacy of all school buildings statewide. PSFA uses the weighted New Mexico Condition Index (wNMCI) score, a ratio of potential costs to correct educational adequacy deficiencies to the potential cost to replace the school, to rank projects for prioritization.

The HVAC capital improvement projects resulting from this bill would significantly change wNMCI scores and positions within the statewide ranking. PSFA notes correcting HVAC deficiencies is the most expensive assigned cost in the wNMCI calculation; therefore HVAC

improvements result in the largest impact on the wNMCI score. Schools with higher wNMCI scores, particularly those that are eligible, or nearing eligibility, for PSCOC standards-based or systems-based awards may be moved down the ranking due to HVAC improvements. Substantial improvements to the HVAC systems would result in significantly lower wNMCI scores and ranked positions, which would therefore reduce the schools' eligibility for future potential PSCOC funding.

Further, districts would need to notify PSFA when a HVAC upgrade or replacement project has been completed, to ensure the database is accurately representing the condition of school facilities. The PSCOC statewide ranking and prioritized funding may be destabilized if the data regarding the condition of school facilities and HVAC systems is not accurately maintained.

ALTERNATIVES

DOH notes, without appropriate funding to make improvements to the mechanical ventilation systems in school districts and charter schools, it is unlikely the necessary improvements could be initiated. The following are low-cost alternatives for ventilation interventions:

- No cost: opening windows; inspecting and maintaining dedicated exhaust ventilation; disabling demand-controlled ventilation controls; repositioning outdoor air dampers;
- Less than \$100: using fans to increase effectiveness of open windows; repositioning supply or exhaust diffusers to create directional airflow;
- \$500: adding portable HEPA fan/filter systems; or
- \$1,500 to \$2,500: adding upper room ultraviolet germicidal irradiation.

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