Andover Education Association Response to NV5 HVAC Report

Included in this document is a brief summary of concerns that are outlined in the NV5 HVAC School Assessment Report for Andover Public Schools. The Association is troubled by the report's contradiction of misleading and false statements made by District officials in the last two months. The District has a responsibility to be transparent regarding health and safety protocols and building conditions with both its employees and the community at large. We encourage all stakeholders to take the time to read the report and its descriptions of individual school buildings, rather than rely on mischaracterizations by District officials. It is clear that the District has not been forthright and transparent about the evaluation of its facilities dating back to mid-August, and the School Committee elected to restart school without a thorough and comprehensive review of its HVAC systems. ASHRAE guidance recommended a comprehensive review and testing of systems prior to occupancy, which began on August 31st for most staff, and September 17th for most students (some student programs were run throughout the summer). This obviously was not completed, otherwise the many issues discovered by NV5's evaluation would have been remedied prior to any students or staff regularly entering the buildings.

The report does not specifically define what constitutes a "high priority issue" and a "low priority issue." Because of this, it is not clear which of the many "low priority issues" the District has remedied and which it has not, e.g. updating programming systems, adjusting damper positions, etc. The District has pointed out that the report states, "...the Department of Facilities meets and in many cases exceeds the guidelines outlined in the ASHRAE guidance for the reopening of schools." (p.7) However, this statement is misleading for several reasons.

1. Filters in multiple buildings that can and should be upgraded to MERV 13 have not yet been upgraded, and there is no timeline or commitment as to when they will be. The report indicates that MERV 13s are back-ordered, and it is anyone's guess as to when they will arrive and be installed. If this is the case, how can these systems be considered "meet[ing] and in many cases exceed[ing] ASHRAE guidance? The guidance states:

"Select filtration levels (MERV ratings) that are maximized for equipment capabilities, use MERV 13 if equipment allows, while assuring the pressure drop is less than the fans capability."

(ASHRAE Reopening Guidance, p.6)

This aspect of the report is particularly disturbing, as it contradicts what we were told by the Chair of the School Committee last month, and in an earlier public statement by the District.

"Everywhere where a MERV 13 filter can be installed it has been installed. However, as you may know, the univents in classrooms do not have the capacity for MERV 13 filters and in those spaces the MERV 8 filters meet ASHRAE standards and are being used. There have been no plans to replace the univents. There are no documents, emails or memos or reports 'that address steps that the District has taken or is planning to take in the event MERV 13 filters are unavailable for any District locations that are or will be inhabited by AEA members.'"

(9/11 e-mail from Shannon Scully in response to a 9/4 Association information request)

"The district will use filters rated at the highest efficiency the system is capable of handling. Filters will be changed every three months. At present, each school building's system is able to handle filters with a minimum rating of MERV-8; the systems in some buildings are able to handle filters with ratings of MERV-13 or MERV-14."

(8/20 District Update on HVAC Analyses)

2. The district has yet to prioritize the creation of any sort of Health and Safety Committee to review ongoing issues in individual buildings, which is part of the ASHRAE guidance. We have proposed this, but they will not agree to representation from every school building on the committee.

3. It is clear that the district would *not* be meeting the bare minimum ASHRAE guidance had the Association not requested this evaluation take place. **The School Committee voted on August 10th to have students and staff return to school buildings in September without having any detailed knowledge of the condition of the HVAC units, or their ability to operate as designed.** The request for an independent evaluation of the HVAC systems was made by the Association on August 13th, and it was repeatedly characterized by the District as unnecessary.

The NV5 report includes recommendations for next steps that the District is unwilling to undertake. The also makes it clear that there are recommended MERV 13 filter upgrades in some buildings that have yet to be completed. The District stated in our September 30th bargaining session that **they have no intention of completing NV5-recommended processes outlined in the report**--processes which actually evaluate how the air is circulated and whether the systems are operating as designed vs. superficial examinations of unit components and parts--and that they had "come as far as they could" with regard to HVAC commitments. In early August, the District published a memo regarding ventilation practices, which was worded to imply that the systems *are* operating as they were designed; however they will not know if that is in fact the case unless they follow through with the NV5 recommendations.

"Our schools all have HVAC systems in place which were designed to meet the ASHRAE Standards."

(8/10 District memo regarding ventilation practices)

As disconcerting as some of these issues are with regard to staff and student health and safety, it is also troubling how this report refutes public statements and communications from the Chair of the School Committee and the Superintendent. **It was not made public to the Association or the community that during the time period in which NV5 completed their evaluations (8/13 - 9/16), these issues were identified and shared with the District. The School Committee and Superintendent repeatedly insisted that not only were the buildings safe for staff and students, but that there were no issues with the HVAC system.**

"There's no evidence at all that the buildings are unsafe," School Committee Chair Shannon Scully said during a committee meeting Monday night. "Over the last five years, the town of Andover's invested over $3.8 million dollars in HVAC upgrades."

(9/1 WBUR article)

"This was not a decision the School Committee took lightly," says Chairperson Shannon Scully. "We have worked to ensure that our school buildings are safe for our students and staff, and we are well-positioned to enable in-person learning with the district's hybrid learning plan to start the school year. It is our responsibility under Massachusetts law to notify the DLR of the union's action."

(9/1 boston.com article re: filing a petition with the CERB in response to our 8/31 action)

"'It is unfortunate that some of our educators did not report to school buildings for their first day of work,' the school district's statement said. 'Our families overwhelmingly chose the hybrid model for their children to return to school this fall. The AEA's actions appear to align more with the state's union leadership than with the needs of our students, especially where the administration and school committee representatives have provided the AEA with reliable information that all of our school buildings are safe and ready to be occupied.'"

(8/31 CBS article)

"We have made significant efforts to ensure that we can return to our buildings safely. The district asked the highly qualified HVAC experts employed by the Town of Andover Facilities Department to evaluate the ventilation systems in each schoolhouse. Among these experts is a mechanical engineer with over eight years of prior experience as a private HVAC designer in healthcare, with expertise in the design of negative pressure isolation rooms for infectious patients. Her experience has been particularly relevant to COVID-19 school HVAC evaluations."

(8/28 district statement regarding our planned Workplace Safety Action)

Concerning Highlights from the NV5 Evaluation

"Lower priority items such as filter change-outs (MERV 8 changed to MERV 13) will be addressed once backlogged filter orders are received. CO2 sensor calibrations will be also performed as required. The CO2 sensor corrections are lower priority as the typical outside air volume delivered by the HVAC systems has already been increased based on the revised Metasys programming." (p.38)

Buildings still in need of upgraded MERV filters:

Doherty - Multiple MERV 8s need to be upgraded to MERV 13s

Bancroft - Multiple MERV 8s need to be upgraded to MERV 13s

Sanborn - Multiple MERV 8s need to be upgraded to MERV 13s

South Unclear--manufacturer needs to be contacted to determine whether the system can handle upgrade to MERV 13s; "South Elementary School has begun design phase services for replacement of all new HVAC equipment serving all spaces." (p.38)

West El (Unclear--needs to be confirmed that the auditorium unit can handle an upgrade to MERV 13s; also, HV Units were not inspected to determine filter type due to "high elevation"; from the report: "Unit Ventilators: Units have been provided with 1" MERV 8 filters. The majority of filters were dirty. NV5 was informed that these filters are scheduled to be replaced within the next week. The filters in the four unit ventilators serving the Cafeteria do not have MERV ratings. These four units have multiple filters in them and they do not appear to be the correct size for the units. Outside air dampers were confirmed to be programmed for a Minimum Position of 75% Outside Air (non-DCV). For a number of the unit ventilators, the dampers did not appear to modulate, or had minimal modulation. It was noted that the linkage for many of

these dampers were not functional, corroded and impeded by debris. The dampers and linkage are dirty.")

Recommendations for Improving HVAC System Performance

"It is recommended that the facilities group review the damper operations of each of the HVAC systems during the filter change that proceeds the start of the school year. With this, any damper operation deficiencies can be addressed prior to the school year. Throughout the school year, it is recommended that the facilities group reviews the Metasys BMS system periodically, to confirm that any overrides, communication drops or any other items can be addressed and set back to their normal operating parameters. As a majority of the schools have Unit Ventilator systems serving the classrooms, it is recommended that the custodial staff avoid sweeping the floors towards the bottom of the units as this is where the return air from the space is drawn in. This would help to avoid any paper trash or dust from being drawn in to the unit ventilators and reducing the effectiveness of the filters. Outside air inlets should also be cleaned on a regular basis as the intakes have the tendency to accumulate leaves, grass and other debris from the exterior of the building. It is recommended that the HVAC systems be retro-commissioned so that their full operation can be reviewed and any deficiencies can be addressed to keep the systems operating in the manner they were designed to operate. Refer to the next section for additional retro-commissioning information."

(NV5 Town of Andover HVAC School Assessment Final Report, p.39)

Retro-Commissioning

"Retro-commissioning is the application of the commissioning process to existing buildings. Retro-commissioning is a process that seeks to improve how building equipment and systems function together. Depending on the age of the building, retro-commissioning can often address problems that have developed throughout the building's life. In all, retro-commissioning improves a building's operations and maintenance (O&M) procedures to enhance overall building performance, increase occupant comfort and save energy. It is recommended that a building's HVAC systems be retro-commissioned every three to five years. It is estimated that retro-commissioning services would cost an estimated $25,000 to $30,000 per school. In addition to retro-commissioning, it is recommended that a certified Testing, Adjusting and Balancing (TAB) firm take air flow and water flow readings on the HVAC systems to evaluate if they are operating as originally designed. The TAB firm could then make any possible adjustments to the HVAC systems so that they are operating as close as possible to their original design."

(NV5 Town of Andover HVAC School Assessment Final Report, p.39)