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Additional submitted attachment is included below.

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March 26th, 2021

California Energy Commission
1516 Ninth Street
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Docket #: 20-RENEW-01
Project Title: School Energy Efficiency Stimulus Program

Dear CEC Commissioners and Staff,

Thank you for the opportunity to support this program that implements AB 841. I would like to submit the following comments and questions regarding the School Reopening Ventilation and Energy Efficiency Verification and Repair (SRVEVR) Program Revised Staff Draft Guidelines:

1. The Revised Staff Draft Guideline is missing program milestone dates. LEAs need to know the program dates ASAP, including the Tiers and when applications should be submitted. For example, when will the program be open for LEAs that are not in underserved communities?

2. Under Chapter 3, Section I, the revised staff draft guideline states that **Consultant fees are ineligible** under the grant program. I strongly suggest that the CEC reconsiders this rule. I would argue that an LEA needs the help from an architect and a mechanical engineer during the project. The resources to engage these professionals are cost-effective expenditures because that consultant can ensure that the assessment effort runs smoothly and that the program goals are met. In fact, the program should require an LEA to engage a Licensed Engineer (or other qualified professional) to perform a Ventilation Analysis to determine the OSA rates per room and System prior to the Assessment Phase Testing. That way, the TAB agent may use the time on-site during the assessment to make any adjustments to Balance the target OSA flow rate. LEAs need the assistance from a Licensed Professional Engineer to perform the necessary studies and make recommendations for upgrades to the HVAC systems. A LEA cannot determine the required ventilation rates on their own and we should not rely on a TAB Agent to perform this analysis unless they are qualified. It should also be noted that some participating LEAs are targeting a standard of care that exceeds the program guidelines as they endeavor to prepare for reopening. For example, a Teacher's Union may request that an LEA follow ASHRAE's Epidemic Task Force guidelines for Building Readiness. These details must be sorted out by a Licensed Mechanical Engineer (or other qualified professional like a Certified Energy Analyst). **The SRVEVR program should cover the LEA's costs to hire a Licensed Engineer to assist with assessing the ventilation delivery.**

3. **Frugal and effective use of Program Funds; Scope of Assessment Reports.** The SRVEVR Guidelines indicate that a LEA's application shall fully meet the Project Requirements to be deemed eligible. The criteria for the HVAC Assessment Reports require that *full* Test and Balancing (TAB) work be performed on every system, zone, and the envelope.

During the Assessment phase, a LEA's contractor and engineering team could make the necessary determinations regarding the HVAC system's viability to meet the program goals with less effort than a *full* TAB analysis. For instance, consider a single zone packaged (or split) HVAC system that serves one classroom. A TAB agent could perform a *targeted* set of measurements during the assessment phase, sufficient for the evaluation. Such an assessment could take less than 1/3 of the time (and resources) that a *full* TAB scope would take. And, that TAB report would still include enough data for the engineer to determine if the program goals can be met with cost effective alterations vs requiring a full unit replacement.

During the Verification Phase of the project, the LEAs could then engage a TAB agent to perform *full* TAB work. If new deficiencies are discovered during that time (duct distribution losses, building pressurization issues), the LEA and their contractor could address those issues at that time.

Suggestion: The Program Administrator (PA) should accept Assessment Phase applications from LEAs for SRVEVR Grants that include Assessment Reports that may not have *full* TAB reports for every system and allow the LEAs to use the program resources effectively.

4. **Emphasize upgrading existing classrooms without mechanical ventilation.** There are a significant number of classrooms in the state that are fitted with operable windows for 'natural' ventilation only. These classrooms sometimes have "unit heaters", or older hydronic heating systems. They often do not have mechanical cooling. **This program should support the installation of new Mechanical Ventilation where only natural ventilation exists, with an emphasis**. New Mechanical Ventilation can be a component of new mechanical cooling, or via an Energy Recovery Ventilator (ERV) type appliance. These retrofit ventilation systems shall also include MERV 13 media inclusion, per the Program goals. The revised staff guideline suggests that the program will support a school leaving natural ventilation with no filtration as-is. This must be rectified in the program language so it's clear that the goal is to install mechanical ventilation with filtration.

5. Assessment of deficient equipment, eligibility. If a HVAC system has reached its remaining useful life (RUL) per DEER, and it is deemed ineffective with respect to ventilation, filtration upgradeability, overall performance of air delivery and temperature control, **is this system eligible for replacement under the SRVEVR program?**

6. Consideration of MERV 13 improvements. Many existing HVAC systems do not have adequate static pressure to accommodate a filtration media upgrade to MERV 13 because the filter sections in those systems have high velocity airflow approach speeds. This is especially true for 'residential style' upright furnace-type air handling units, often utilized in classroom installations. **Question: should the Program emphasize or suggest that LEAs and their contractor and engineering team(s) consider alternative locations for MERV 13 filter placement where the airflow velocity low enough to not adversely affect system performance and air delivery?** Example: a 4" pleated MERV 13 filter, located outside the AHU, has a lower pressure drop due to reduced face velocity (100 fpm vs 400 fpm at the unit).

7. Consider incorporating relevant aspects to **ASHRAE's new Building Readiness Guideline**: https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-building-readiness.pdf Inclusion of the measures in this ASHRAE Guideline could be Grant-eligible but not mandatory measures for the Program.

8. Grant funds should be provided to the LEAs prior to completion so they can reimburse the agents performing the HVAC assessments, adjustments, and replacements. LEAs cannot accomplish the program goals with 50% or less up front.

9. Does the Program support LEAs costs for the installation of sterilization technologies like Needle Point Bi-Polar Ionization, Ultraviolet Germicidal Irradiation, Dry Hydrogen Peroxide or other systems for pandemic preparedness and disinfection?

Thank you for considering these points,

Scott Wayland, P.E.