

DOCKETED

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Trane Comments CEC SRVEVR

Additional submitted attachment is included below.



Date Feb 4th, 2021

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Project Title: School Energy Efficiency Stimulus Program

CEC Staff and Commissioners,

Thank for you bring forward this program. Below are suggestions and comments based on our review of the legislation and Workshop attendance.

1. In developing projects for public school districts, it has been our experience that limiting the number of steps in the process is key to success. Having one group perform planning and another group implementing the project often creates gaps and multiple layers of overhead and markup. Previous programs have shown that by using the ESCO process, involving one company may further program achievements and reduce waste of funds. We encourage the use of a more Integrated Project Delivery model as defined by The American Institute of Architects and The National Association of Energy Service Companies.
2. We support a CO2 monitor in every classroom. CO2 monitoring provides direct feedback to the performance of the ventilation system and speaks to the core mission of AB 841 to improve student test scores with adjunct benefit of healthy classrooms. There is ample market competition to abet cost concerns and technical deficiencies.
3. As a major global manufacture of HVAC equipment, it is expected that Trane is predisposed to unilateral HVAC unit replacements. Aligning with ASHRAE recommendations for reducing airborne infectious aerosol exposure:
 - **Dilute** – fresh outdoor air dilutes buildup of indoor contaminants via proper ventilation.
 - **Exhaust** – removing exhaust air out is important, especially air from classrooms.
 - **Contain** – keeping temperature and humidity levels within the ASHRAE recommended range maximizing occupant comfort / reducing risk of microbial growth.
 - **Clean** – reducing particles, odors, or micro-organisms; mold, bacteria, and viruses.

We offer the following recommendation as a district partner and responsible corporate citizen. Development of a methodology, “checklist” to expedite unit replacement that will augment the AB 841 Assessment Report but also reduce time and cost. If a unit is better suited for replacement it would be an imprudent use of funds to complete the defined assessment steps outlined in AB 841, when the unit could instead be replaced with a newer, higher efficiency unit. Trane posits that should a unit meet specific criteria, then AB 841 could deem it more prudent to replace the unit with proffered funds. A possible checklist may include:

Age: HVAC Unit / System age, 75% or greater than ASHRAE recommended useful equipment life.

Filtration: Unit is not compatible with MERV 13 Filter(s).

Refrigerant: Unit uses R-22 Refrigerant. **

Data Sharing / Fault Detection: Lacking these capabilities.

4. In promoting the state's building electrification program, please consider the following. When HVAC systems or units that directly use fossil fuels are upgraded or replaced, that a preference is given when the new unit is all electric for both heating and cooling, i.e. a heat pump and does not directly use fossil fuels or a hybrid units that has fossil fuel heat and electric heat providing for dual fuel flexibility, electrification bridging and fuel price protection.
5. HVAC units upgrades to include sufficient sensing technology to enable the unit to perform AI enhanced self-continuous commissioning. This automated continuous commissioning process in concert with Fault Detection and Diagnostics technology to have reporting and alarming capabilities reinforcing the long-term sustainability of this ventilation improvement program.
6. Innovation will be a salient component of program success. Trane Technologies is approaching 1,000 US Patents. Innovation is an investment; we guard it closely. Conversely, Trane has been on the forefront of automation system interoperability. Our factory trained field HVAC technicians are an integral part of delivering these innovations. There will be a time when specific unique information needs to be accessed to solve a problem. We are asking the Commission to make an exception to the Skilled and Trained Workforce requirements, to include manufacture direct employees, it would not include dealers or distributors. This exemption would allow us to be directly engaged and provide valuable support to this program without putting our innovation investment at risk.
7. The intersection of AB 841 and the ongoing COVID -19 Pandemic is somewhat coincidental. As such, before any sterilization technology, i.e. Ultraviolet Germicidal Irradiation, Needle Point Bipolar Ionization or Dry Hydrogen Peroxide is endorsed, we would embrace a CEC sponsored research and vetting process to help the LEAs decide which of these technologies, if any would be most appropriate for their district.

** January 1, 2020 Ban on remaining production and import of HCFC-22 and HCFC-142b. After 2020, the servicing of systems with R-22 will rely on recycled or stockpiled quantities. <https://www.epa.gov/ods-phaseout>

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