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Via Email: OCE@bpu.nj.gov

**Re: NJCEP Protocols to Measure Resource Savings**

Thank you for this opportunity to provide stakeholder input on proposed edits to the NJCEP Protocols to Measure Resource Savings document. These comments pertain primarily to multifamily construction within the **Commercial & Industrial** sections. Please note that page numbers refer to the marked up version provided for comment.

1. In general, the C&I tables do not call out multifamily buildings falling under C&I programs, even though the tables are often quite granular with respect to other building use categories. In lieu of a designated multifamily building type, guidance should be provided as to the appropriate category to select. However, note that the resulting compromise may be less than ideal. For example, multifamily buildings may resemble "lodging" or "dormitories" in terms of structure but not occupancy patterns, which may more closely resemble "hospital".
2. C&I Electric HVAC, page 106- : No algorithms or values are provided to compare VRFs with standard systems, similar to the addition of ductless minisplits in the residential sections.
3. Water Heaters (Tank Style), page 155- :
    a. Does this protocol apply only to a standalone piece of equipment or would it also apply to a system with a boiler & storage tank or an indirect water heater?
        i. If considering indirect or boiler/tank systems, would the efficiency of the combustion equipment need to be de-rated? What would be the protocol for de-rating?
    b. Is there a methodology for de-rating the efficiency of existing equipment that is significantly older than the assumed baseline of ASHARE 901-2007 (i.e. early retirement of old, inefficient equipment that would otherwise remain in use)?
4. Prescriptive Boilers/Furnaces, page 162- :
    a. Regarding the Oversize Factor of 0.8 for both baseline and proposed equipment, this seems reasonable for a proposed piece of equipment but leaves little room to accurately depict the degree to which baseline or existing equipment is

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oversized. It would be preferable to have an allowance to use an oversize factor based on measurable site specific conditions. It would also be helpful to have a methodology to account for elimination of redundant boilers/furnaces. This is less of an issue for a prescriptive program such as Smart Start but is a potential problem if the protocol is applied to programs like P4P.

b. Regarding the ΔT Design Temperature difference, the protocols provide a prescribed outdoor design temperature based on project location, but do not specify an indoor design temperature (the KEMA study that the algorithms are derived from uses 65°F). Is this intended to be a variable input or is it simply a data point that was intended to be prescribed but overlooked?

5. Modified HDD Table, page 167 (also see comment #1 above): The table does not include multifamily and the logical building type to use seems to be lodging. However, the adjustment factor for that building type would suggest that the building is only in occupied mode 28% of the time. In lieu of a specified multifamily building type, what would be the appropriate building type to use?

Thank you again for this opportunity to provide input. Our team at MaGrann would be happy to provide any additional information or clarification that would be helpful in evaluation of these comments.

Sincerely,

Ben Adams
Vice President, Program Development