

August 12, 2022

Via E-mail Only

Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: **Stretch Code Straw Proposal Comments**

Dear Secretary Card, Commissioner Woodcock, and Director McCarey,

Acadia Center appreciates the opportunity to comment on the proposed Stretch Energy Code and Specialized Stretch Code Draft Regulation (also known as the Net Zero Code), released by the Department of Energy Resources (DOER) on June 24, 2022. Acadia Center previously submitted [comments](#) on the Stretch Code Straw Proposal presented by the DOER at a virtual briefing on February 8, 2022. Though there were some changes between that proposal and this one, much of Acadia Center's previous comments remain relevant. For example, Acadia Center still recommends that the Net Zero Code require all low-rise residential buildings be all-electric and that compliance pathways requiring rooftop solar "where feasible" should have an alternative compliance mechanism in cases where solar is not deemed feasible. However, our organization did want to highlight some additional recommendations and changes.

Buildings

Though All Residential "Low-Rise" Buildings Should be Required to be All-Electric, if not then DOER Should Maintain HERS Requirements

While Acadia Center recommends that DOER consider an all-electric requirement for low-rise residential buildings in the Specialized Code, if DOER chooses not to pursue this change, Acadia Center urges DOER to maintain the HERS 42 requirement for the mixed fuels pathway and the HERS 45 requirement in the all-electric pathway in both the Specialized Code and Stretch Code. While clearly not as impactful as a mandate increasing the number of all-electric homes built in the Commonwealth, the 3-point HERS gap between these two pathways represents a reasonable compromise that will help nudge developers towards all-electric construction. As DOER notes, developers that choose the all-electric pathway will reduce their construction costs while simultaneously providing new homes that offer lower overall ownership cost to buyers. **Acadia Center feels strongly that maintaining this 3-point gap between the two pathways will result in significantly more all-electric homes being built in the Commonwealth, making a meaningful contribution to the Commonwealth's overarching 2030 and 2050 GHG reduction targets.** Additionally, Acadia Center applauds the Department for the addition of the requirement that homes and units greater than or equal to 4,000 square feet must follow the all-electric or Zero Energy pathway.

The Addition of an Electrification Requirement of Space Heating for Curtain Wall Commercial Buildings is a Welcome Change

The initial Stretch Code and Net Zero Code straw proposal required commercial buildings with curtain walls to demonstrate a reduction in embodied carbon from a number of options, including 1) low carbon concrete; 2) carbon sequestering materials; 3) recycled materials; or 4) reused materials and building reuse. Commenters raised concerns about the feasibility of this provision and noted possible issues about linkage with the curtain wall. This proposed Stretch Energy Code and Specialized Stretch Code Draft Regulation replaces the embodied carbon requirement with a requirement to electrify space heating. **Acadia Center appreciates this change and applauds the Department for this proposal. We believe that this requirement addresses practical concerns and will have a significant impact upon emissions reduction.**

Electric Vehicle Charging

The Commercial EV-Ready Parking Requirements are too Low and the Definition of “Business use” is Too Broad.

The initial Stretch Code and Net Zero Code straw proposals provided little detail on metrics for parking spaces with wiring that accommodates the future installation of electric vehicle (EV) charging (referred to as “EV-ready”). The Draft Code language for the Stretch Code and Specialized Code for Commercial Buildings requires that “Group R and Group B” new commercial buildings make at least 20% of their parking spaces EV-ready. Group B buildings include a wide range of commercial buildings, including offices, bank, barber shops, and doctors’ offices. Group R buildings include multi-family building above approximately 12,000 square feet¹ and hotels. While this addition is appreciated, these requirements are still lower than our Commonwealth needs to prepare for our transportation future. In our [Stretch Code Straw Proposal comments from March](#), Acadia Center went into detail explaining the EV charging model codes developed by the Bay Area Reach Code Initiative, which have been adopted by five cities and one county in the San Francisco Bay Area.² **Acadia Center recommends that DOER propose EV charging infrastructure requirements for both the Stretch Code and the Net Zero Code that are in line with the model code recommendations above for offices, hotels/motels, and other commercial buildings. Acadia Center also recommends that DOER explore its ability to require a higher percentage of EV-ready parking spaces in specific commercial “destination parking” locations where visitors are likely to spend long periods of time (e.g., state parks, amusement parks, etc.).**

Additionally, the “business use” Group B category utilizes the definition from the International Building Code.³ This category is exceptionally broad, and includes buildings such as office parks, barber shops, post offices, banks. The use and time spent at each of these locations varies dramatically, and EV-ready parking spaces should be allocated

¹ The average apartment size in the U.S. is about 900 square feet, so a 12,000 square foot building typically has approximately 13 units.

² Bay Area Reach Code “2022 Building Electrification & EV Infrastructure Reach Code Initiative.” <https://bayareareachcodes.org/>

³ See Summary of MA Draft regulations on Stretch Energy Code and Specialized Opt-in Code – June 2022, at 7. <https://www.mass.gov/doc/a-summary-of-the-proposed-specialized-stretch-energy-code-regulation-published-june-24-2022/download>

differently based upon these distinctions. For example, individuals utilizing an office park will likely spend significantly more time there than at a bank, where customers will come and go. Therefore, there should be distinctions based upon time and use.

Two Parking Spaces with Level 3 Direct Current EVSE is Not Equivalent to 20% of all Parking Spaces Being EV-Ready in Large Apartment Buildings and Offices

One of Acadia Center's key concerns with the Group R and Group B parking requirements is that the list of exceptions includes any building that provides two or more parking spaces with direct current fast charging (DCFC).⁴ In other words, if an apartment building or office buildings has two parking spaces with access to fast charging, they aren't required to pre-wire for or install any other EV chargers. This DCFC exception, which was not made publicly available in the Stretch Code Straw Proposal, is problematic, particularly for large apartment and office buildings.

The table below provides an example of two Massachusetts Stretch Code EV charging compliance pathways for a 200-unit apartment building with 200 total parking spaces. The developer can either include 40 level 2 EV-ready parking spaces or, instead, include two DCFC parking spaces.

Table 1: Mass Stretch Code EV Charging Infrastructure in 200-Unit Apartment Building with 200 Total Parking Spaces

Compliance Pathway	% Parkign Spaces Level 2 EV Ready	Total Spaces DCFC	Total Spaces Level 2 EV Ready	Total Spaces with EV Charging Infrastructure	% of Housing Units with Access to Dedicated EV Charging	Max Number of Housing Units Soley Reliant on DCFC for Charging
No DCFC	20%	0	40	40	20%	N/A
2 DCFC	0%	2	0	2	0%	200

In one scenario, 40 housing units have access to dependable EV charging. At the end of the day, they simply pull into their dedicated parking space and plug in their EV. In the other scenario, those 40 housing units must compete for two DCFC parking spaces.

Think about the logistics necessary for 40 different apartment units to share two DCFC parking spaces. It would essentially require a dedicated staff person to rotate vehicles into and out of the two DCFC parking spaces at all hours of the night to ensure that residents awoke to a fully charged EV. It's an entirely impractical solution on multiple levels, and the alternative scenario that features 40 dedicated level 2 parking spaces is vastly preferable to EV owners.

The Bay Area Reach Code referenced earlier takes a very different approach to exceptions for DCFC. Instead of the installation of two DCFC parking spaces eliminating the need for any other EV charging infrastructure in apartment and office buildings, the code specifies that one DCFC parking space may be substituted *for up to five* level 2 EVCS

⁴ See page 21 of the Stretch Code and Specialized Code for Commercial Buildings

parking spaces.⁵ As an example, consider the same 200-unit apartment building with 200 parking spaces, but apply the Bay Area Reach Code Initiative pathways.

Table 2: Bay Area Reach Code EV Charging Infrastructure in 200-Unit Apartment Building with 200 Total Parking Spaces

Compliance Pathway	% Dwelling Units Access to Level 2 EVCS	% Dwelling Units Access to Level 1 EV Ready	Total Spaces DCFC	Total Spaces Level 2 EVCS	Total Spaces Level 1 EV Ready	Total Spaces with EV Charging Infrastructure	% of Housing Units with Access to Dedicated EV Charging	Max Number of Housing Units Solely Reliant on DCFC for
No DCFC	40%	60%	0	80	120	200	100%	N/A
2 DCFC	35%	60%	2	70	120	192	95%	10

In the Bay Area Reach Code example, if the developer chooses to not install DCFC, all 200 apartments have access to dependable, dedicated EV charging. Even if the developer chooses to add two DCFC parking spaces, 95% of apartment units still have access to dedicated EV charging. The ten remaining housing units would have to compete for two DCFC parking spaces. The Bay Area Reach Code Initiative, unlike the Mass Stretch Code, acknowledges that providing two DCFC parking spaces is not an adequate replacement for *all other* EV charging infrastructure in a large apartment building. Ten housing units without access to dedicated EV charging competing for two DCFC parking spaces, as is the case in the Bay Area Reach Code example, is much more reasonable than *200 housing units* competing for two DCFC parking spaces, as is the case in the Massachusetts Stretch Code example. All the points made above are also applicable to office buildings, where widespread access to EV charging, even at slow and moderate speeds, will be critical to driving EV adoption at scale in the Commonwealth.

DCFC is important and will be critical to driving EV adoption, particularly if it is deployed along key transportation corridors. DOER is correct in assuming that one DCFC parking space is more valuable than one EV-ready parking space. However, saying that 2 DCFC parking spaces in a 200-unit apartment building is equivalent to 40 level 2 EV-ready parking spaces in the same building is bad policy and will leave many EV owners (or perspective EV owners) living in multi-family housing without a reliable means of charging an EV. **Acadia Center recommends that the Commercial Stretch Code and Specialized Opt-in Code exception for DCFC be modified to specify that one DCFC parking space may be substituted *for up to five* level 2 EV-ready parking spaces.**

EV-Ready Requirements for Each Dwelling Unit in Low-Residential Buildings with Access to Parking Should be Higher

The initial Stretch Code and Net Zero Code straw proposal called for 10% and 20% of parking spaces to be EV-ready, respectively. This proposed Stretch Energy Code and Specialized Stretch Code Draft Regulation sets those requires at 20% for both proposed codes. This increase on the Stretch Energy Code is welcomed by Acadia Center. However, as Acadia Center outlined in its previous [comments](#), this figure still falls short of what is necessary to prepare our infrastructure for our coming transportation future. As pointed out in those comments, the model codes proposed by

⁵ See “30-0.3.2 Requirements by Building Type” section E, page 6 of EV Zoning Code. <https://bayareareachcodes.org/wp-content/uploads/2022/07/2022-EV-Zoning-Code.docx>

the Bay Area Reach Code Initiative are the result of a rigorous analysis to determine the most cost-effective path towards decarbonizing the transportation sector. **Acadia Center recommends that DOER propose EV charging infrastructure requirements for both the Stretch Code and the Net Zero Code that are in line with the model code recommendations above for all multi-family buildings, regardless of whether these multi-family buildings fall under the “low-rise residential” or “commercial” classification.** Additionally, for single-family and two-family homes where each dwelling unit is allocated more than one parking space, Acadia Center recommends that DOER require one level 2 EV-ready circuit and one level 1 EV-ready circuit. Further, the requirements for the Net Zero Code should be higher than those for the Stretch Code.

The Department Should Include Technical Analysis on EV-Ready Parking Spaces, Similar to the Analysis Supporting the HERS Scores.

The proposed Stretch Energy Code and Specialized Stretch Code Draft Regulation displaying how specific HERS scores were chosen. However, there appears to be little provided to support the decisions relative to the number of EV-ready parking spaces. **The Department should include technical analysis to support its EV-ready parking requirements.**

Thank you for the opportunity to comment on this incredibly important issue. If you have any questions or concerns, please do not hesitate to reach out.

Sincerely,

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