

# Memorandum

**To:** Lisa Skumatz, Connecticut Energy Efficiency Board Evaluation Consultant  
**CC:** Emily Rice, CT EEB Executive Secretary  
**From:** George Lawrence, CT EEB C&I Technical Consultant  
**Date:** 6/24/2021  
**Re:** X1939 Phase 1 Best Practices Research – Early Retirement

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Provided below are summary and highlight comments on X1939 Phase 1 Best Practices Research dated June 4, 2021. These comments supplement those contained in the marked-up draft report that was also submitted. Most of the comments below are included in the marked-up draft and are provided here as a high-level summary and for emphasis.

1. There are many examples of equipment that are used far beyond their Effective Useful Life (EUL). Boilers, packaged Roof Top Units for HVAC, chillers and industrial process equipment are commonly used for decades, despite significant maintenance costs and efficiency penalties to keep them operational. Often times the cost of replacement is high and could involve logistical access difficulties such as basement or rooftop installations which drive up the costs. Program intervention may be necessary to overcome the status quo in this type of situation.

Can the evaluators please clarify if early retirement can also be applied to equipment that is beyond EUL, but that can be documented to meet the following criteria:

- Is fully functional
- Needs only minor economically viable repairs (e.g. repair cost is < 20% of replacement cost) for continued operation
- Was beyond 2/3 of its EUL, with documented evidence of either commitment to long-term maintenance or a facility's inability to make the capital commitment necessary to replace it, even if major repairs are needed.

Yes, as long as the equipment meets any one of the outlined criteria listed above then it can qualify for Early Retirement.

2. If equipment beyond EUL can qualify for early retirement, then what is the correct way to calculate savings? Does Remaining Useful Life (RUL) = 1/3 EUL in this case? Yes, the

way our initial recommendation was written then in this case RUL is either 1/3 of the EUL or, if it is a measure that has an RUL in the CT PSD then it is the RUL that is outlined in the CT PSD. That being said, there was a recommendation made through the review process to use the survival curve method, in which case the RUL would be dependent on the age of the existing equipment and the survival curve for that equipment. We will add detail to the report on this as well.

3. Table 4-1 appear to have incorrect quantities. Is data from one Company missing? We will follow up on this and correct if there is an error.