What Facility Condition Dataset Is Right for You?

This document is meant to serve as a companion to the Roth IAMS webinar of January 25, 2024, on 'Which FCA Dataset is Right for You'. We are going to provide a sample of element-level data that is typically included in each of the five different datasets reviewed on the webinar.
For the purposes of this document, we are going to use a boiler, which was replaced in 1992, in a building that was constructed in 1967 as the sample dataset.

Building-Type Model

In this instance, the boiler would be consolidated with all HVAC equipment and the date of installation is assumed to be the date of construction of the building. As the Expected Useful Life) EUL of the HVAC has been exceeded, the Replacement Year is set to the current year (2024)

Uniformat Code	Date of installation	EUL	Replacement Year	Cost
D30-HVAC	1967	35	2024	$2,000,000

Client-Informed Model

In this instance, the client will have adjusted the date of installation (assuming that the majority of the HVAC equipment was replaced). A client informed model could be done to Uniformat Level 3 (D3040), which would allow the Boiler to be broken out from the broader HVAC, however for this demonstration we are sticking with Uniformat II Level 2.

Uniformat Code	Date of installation	EUL	Replacement Year	Cost
D30-HVAC	1992	35	2027	$2,000,000

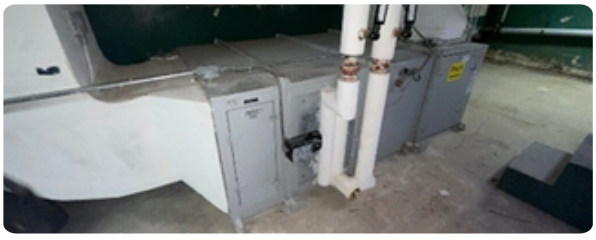
Validated Model

Validated Model will include an on-site assessment that focuses on the verification of the presence and condition of major building elements. Given that this element has a replacement year within the first few years following the site assessment a visual assessment would be completed and a photo captured. If the replacement year was beyond 5 years typically, photos would not be captured, and the condition rating would be based solely on lifecycle.

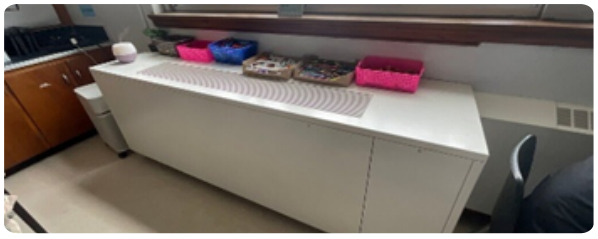
Uniformat Code	Date of Installation	EUL	Replacement Year	Condition	Cost
D30-HVAC	1992	35	2027	Fair	$2,000,000

Element Photo

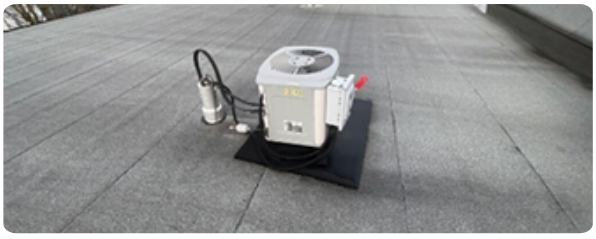
Natural gas fired atmospheric heating water boilers



Air Handling Unit (AHU) with heating coils



A unit ventilator with heating coils connected to the boilers



Rooftop condenser

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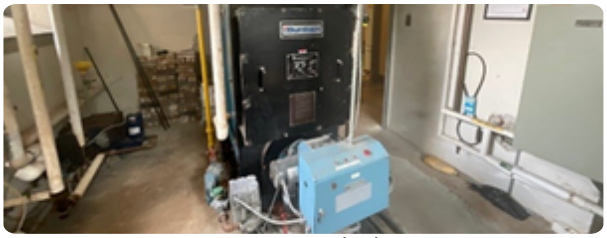
Time Limited Forecast

In this instance, typically Uniformat Level 3 would be used for the assessment. During the on-site assessment, Detailed information like that below would only be gathered on the elements that have a recommendation within the evaluation period (typically 5-10 years). All other elements would just have a brief element-level narrative. For this boiler the EUL has been exceeded, however, based on the observations of the assessor, the Remaining Useful Life (RUL) was set at 2 Years and as such the Replacement Year was adjusted from 2022 to 2024.

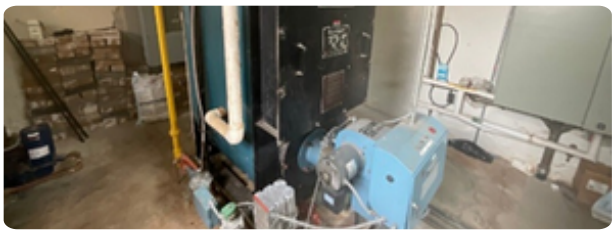
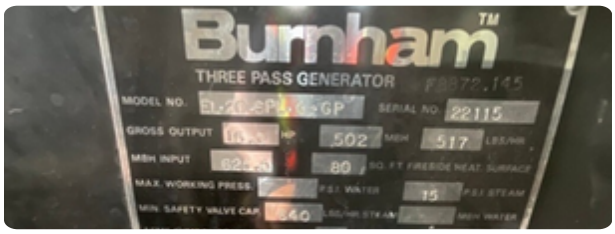
Uniformat Code	Date of Installation	EUL	Replacement Year	Condition	Cost
D3040-Boiler	1988	30	2024	Poor	$71,933

Element Photo	Narrative
 Heating water boiler	Building heating is provided by a natural gas-fired heating water (cast iron) boiler, which has a heating capacity of 625.5 MBH (625,500 BTU/hr). Deficiencies observed at the time of the assessment included corrosion and reports of poor performance. Given the observed deficiencies and age, a lifecycle replacement is recommended in the immediate to short term.

Element-Level Inventory

This represents a robust element-level dataset, with the granularity typically at Uniformat II Level 4.. The exact data fields collected can be adjusted based on the individual organizational needs and current asset management program. Data will be collected on each element observed within the building regardless of its RUL.

Uniformat Code	Date of Installation	EUL	Replacement Year	Quantity	Unit of Measure
D3040-Boiler	1988	30	2024	625.5	MBH
Condition	**Make**	**Model**	**Serial No.**	**Unit Cost**	**Recommendation Cost**
Poor	Burnham Corporation	EL.20.SPL.G.GP	22115	$115	$71,933

Description Narrative	Condition Narrative
Building heating is provided by a natural gas-fired heating water (cast iron) boiler. The boiler manufactured by Burnham Corporation is Model No. EL.20.SPL.G.GP, Serial No. 22115 and as a heating capacity of 625.5 MBH (625,500 BTU/hr).	Deficiencies observed at the time of the assessment included corrosion and reports of poor performance. Given the observed deficiencies and age, a lifecycle replacement is recommended in the immediate to short term.
Element Photo	**Element Photo**
 Heating Water Boiler	 Boiler Nameplate

What's Next

A clear understanding of the condition of your facilities is foundational to asset management. However, there are other important factors to consider. The more in-depth your FCA, the easier it is to integrate other types of facility data such as:

- Equipment Inventory and Barcoding;
- Accessibility Assessment Data;
- Energy Audit Data;
- Functional Adequacy Data; and
- Other data sources

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