**Straw Man – For 4/15 discussion, not an official comment draft.**

**NORMATIVE ANNEX X INVESTMENT CRITERIA**

Buildings seeking compliance using the exception to Section 9.1.1.1 or Section 9.1.1.2 shall demonstrate compliance with the financial investment criteria of this Annex.

**Included for discussion only.**

**9.1.1.1 Buildings with Energy Targets.** For *buildings* having *energy targets*, *energy efficiency measures* (*EEMs*) identified from the energy audit shall be implemented in order to meet the *building*’s *energy target*. The Energy Manager will develop a written plan for maintaining the *building*’s *energy-use intensity* (*EUI*) at or below the *energy target*.

**Exception:** Buildings may demonstrate compliance by implementing all of the EEM’s that achieve the financial criteria in Normative Annex O.

**9.1.1.2 Buildings without Energy Targets and Buildings without Comprehensive Metering.** Buildings that do not have an energy target ~~shall implement the EEMs identified from the energy audit.~~ and buildings without comprehensive metering shall implement all of the EEM’s that achieve the financial criteria in Normative Annex O.

**X1. ENERGY AUDITS AND INVESTMENT CRITERIA PATHWAY**

**X1.1** Buildings qualifying under the investment Criteria must complete a level 3 energy audit, and implement an optimized bundle of energy efficiency measures that provides maximum energy savings without resulting in a savings-to-investment ratio of less than one.

**X1.2** The audit procedures for the investment criteria shall be based on ANSI/ASHRAE/ACCA Standard 211 Section 5.5 for level 3 Audit. The level 3 audit shall follow, and consider the findings of, the Section 5.4 Level 2 Audit.

**X1.3 Investment Criteria Chronological Process**

**X1.3.1 Level 2 Audit.** Evaluate a comprehensive list of individual EEMs using basic financial screening techniques such as simple payback.

**X1.3.1.1 Owner Discretion Individual EEM.** Individual measures that do not pay for themselves over the useful life of the measure may be excluded from further consideration. For example, EEM that have a simple payback that exceeds the EEM service life.

**X1.3.2 Level 3 Audit.** Identify an optimized bundle of EEMs that provides maximum energy savings without resulting in a savings-to-investment ratio of less than one. The optimized bundle of measures shall be implemented based on the schedule established within the Energy Management Plan.

**X1.3.2.1 Owner Discretion Extended Useful Life.** The Energy Management Plan may include phased implementation such that the building owner is not required to replace a system or equipment before the end of the system or equipment's useful life. For equipment operating beyond the documented service life, the cost and benefits of delayed implementation and the expected replacement schedule shall be included in the energy management plan.

**X2. INCLUDED LCCA COSTS AND SAVINGS**

**X2.1** The costs and savings to be included within the life cycle cost analysis shall be based on ANSI/ASHRAE/ACCA Standard 211 Section 5.5.3 as modified by the following;

|  |  |
| --- | --- |
| Contingency Funds | 5% of the EEM implementation costs. |
| Water Savings from EEM | EEMs that provide water savings shall include the operations and maintenance savings resulting from implementation of the EEM. |
| Energy Audits | Audit cost are not included. |

**Included for discussion only**

**Standard 211**

**5.5.3 Life-Cycle Cost Analysis (LCCA).** LCCA 7,8,9,10 of

each recommended EEM shall be conducted for a timeframe

that spans, at a minimum, the life of the measure with the longest

service life and shall include the following:

a. Initial costs (per Section 5.4.8.1).

b. Financing costs.

c. Annual energy costs.

d. Escalation rates citing the source within the energy audit

report.

e. Discount rates citing the source within the energy audit

report.

f. Tax credits. [and benefits]

g. Cash incentives, grants, and rebates.

h. Expected periodic replacements.

i. Estimated recurring nonenergy costs (maintenance, etc.),

of each measure or set of measures. Such costs include

annual maintenance and service labor costs, routine

replacement of worn parts, or annual warranty fees from

manufacturers.

**5.4.8 Estimate EEM Costs**

**5.4.8.1** Estimate the total expected cost of implementation

for each practical measure. Cost estimates shall include

the following factors, as applicable:

a. Material costs

b. Labor costs

c. Design fees

d. Construction management

e. Site-specific installation factors

f. Permits

g. Temporary services

h. Testing, adjusting, and balancing

i. Utility service upgrades

j. Commissioning

k. Taxes

l. Profit [contractor profit]

m. Any additional adjustments that significantly impact the

cost estimate of the EEM

**X3. LIFE CYCLE COST ANALYSIS METHODOLOGY AND KEY VARIABLES**

**X3.1** Life-cycle cost analysis completed for buildings qualifying under the investment Criteria shall follow the National Institute of Standards and Technology (NIST) Life-Cycle Costing Manual Handbook 135 except as otherwise specified in this standard in Table X3.

**Table X3 Life Cycle Cost Analysis variables independent of NIST Handbook – 135 methodology.**

|  |  |
| --- | --- |
| Public Owner Discount Rate | A fixed annual rate based on the cost of borrowing through the Washington State Treasurer, Certificate of participation programs, the local program and the **State Lease-Purchase Program.** |
| Private Owner Discount Rate | Shall be the publish Wall Street Journal Prime Rate for [time frame TBD] |
| Financing | Applicants with documented costs of borrowing assuming one hundred percent of the EEM implementation costs are financed at an actual cost of borrowing and stated terms when the property being improved is listed as loan collateral. |
| Rate of Inflation | A fixed annual rate, as published annually by the WA State Office of Financial Management. |
| Fuel Escalation Rate | Based on NIST Handbook – 135 Annual Supplement - Fuel Escalation Rates as published by Commerce in the previous calendar year. |
| Study Period | Equal to the useful life of the longest lived EEM within an optimized bundle. (STD 211, 5.5.3) |