Sample Ranch Cost Effectiveness Analysis **Exercise 7**

Repair Proposal 1 – Drill & Fill dense packing of exterior walls

Cost of Measure: $2,000
Life Expectancy: 20 years
Btus Saved: 29,021,850

Step 1 Convert Btus to Therms: Btu Saved/100,000 = Therms

Step 2 Calculate Annual Savings: Therms x Cost per Therm = Annual Savings
(Use $1.25 per Therm.)

Step 3 Calculate Simple Payback: Simple Payback (Years) = Initial Cost of repair / Annual Savings

Step 4 Calculate Rate of Return: Return on Investment (ROI %)
ROI % = Annual Saving / Initial Cost of repair x 100

Step 5 Calculate Savings to Investment Ratio: SIR = Life Cycle Savings / Initial Cost of repair
Life Cycle Savings is total amount of money the repair will save over its life expectancy
Life Cycle Savings = Life Expectancy (Years) x Annual Savings

Based on the information above, is this a cost-effective measure?

Sample Ranch Cost Effectiveness Analysis **Exercise 7**

Repair Proposal 2 – Replace old wood frame single pane windows with NFRC rated Energy Star Windows

Cost of Measure: $6,300
Life Expectancy: 20 years
Btus Saved: 7,187,400

Step 1 Convert Btus to Therms: Btu Saved/100,000 = Therms

Step 2 Calculate Annual Savings: Therms x Cost per Therm = Annual Savings
(Use $1.25 per Therm.)

Step 3 Calculate Simple Payback: Simple Payback (Years) = Initial Cost of repair / Annual Savings

Step 4 Calculate Rate of Return: Return on Investment (ROI %)
ROI % = Annual Saving / Initial Cost of repair x 100

Step 5 Calculate Savings to Investment Ratio: SIR = Life Cycle Savings / Initial Cost of repair
Life Cycle Savings is total amount of money the repair will save over its life expectancy
Life Cycle Savings = Life Expectancy (Years) x Annual Savings

Based on the information above, is this a cost-effective measure?

Sample Ranch Cost Effectiveness Analysis **Exercise 7**

Repair Proposal 3 – Repair Package including Example 1 Drill & Fill + Example 2 Window Replacement and Attic Flat insulation improvement from R12 to R49

Cost of Measure: $9,800
Life Expectancy: 20 years
Btus Saved: 45,119,250

Step 1 Convert Btus to Therms: Btu Saved/100,000 = Therms

Step 2 Calculate Annual Savings: Therms x Cost per Therm = Annual Savings
(Use $1.25 per Therm.)

Step 3 Calculate Simple Payback: Simple Payback (Years) = Initial Cost of repair / Annual Savings

Step 4 Calculate Rate of Return: Return on Investment (ROI %)
ROI % = Annual Saving / Initial Cost of repair x 100

Step 5 Calculate Savings to Investment Ratio: SIR = Life Cycle Savings / Initial Cost of repair
Life Cycle Savings is total amount of money the repair will save over its life expectancy
Life Cycle Savings = Life Expectancy (Years) x Annual Savings

Based on the information above, is this a cost-effective measure?