1. **General Policy**
   - 1.1. Window Policy
   - 1.2. Refrigerator Policy
   - 1.3. Lighting Policy
   - 1.4. LIHEAP Room Air Conditioner Policy
2. **Screen by Screen Instructions**
   - 2.1. NEAT
   - 2.2. MHEA
   - 2.3. EA-QUIP
   - 2.4. Buydown and Leveraging
3. **Compliance Review**
4. **Ancillary and Incidental Repair Measures**

1. General Policy

The United States Department of Energy (USDOE) Weatherization Assistance Program has sponsored the development of a database computer software tool to help weatherization authorities make decisions about the cost effectiveness of individual energy conservation measures. Separate audit methods were developed for site-built residential structures and for manufactured housing (i.e. mobile homes). The Weatherization Assistant is a single entry point for operating either type of audit and organizing other types of weatherization data.

Required Audits:

- Single Family: National Energy Audit Tool (NEAT)
- Mobile Homes: Manufactured Home Energy Audit (MHEA)
- Multi Families: Energy Audit using the Queens Information Package (EA-QUIP)

Mandatory Audit Features:

The following are mandatory audit features that must be adhered to by WAP Agencies. Failure to do so may result in findings and noncompliance of grant agreement. Site specific audits must be completed on all units weatherized with US DOE Annual & USDHHS (LIHEAP) funds. The following requirements must be met when entering site specific energy audits

- WAP agencies must review and create libraries for all audits immediately when prices for materials and/or labor have changed.
- Please note that WAP agencies are required to select the "Evaluate All" option in the energy audits to ensure when windows measures are selected the effectiveness of the window measure is confirmed.
- To correctly perform a NEAT or MHEA audit, labor costs must be included in the library.
- WAP agencies are required to consider air sealing (infiltration reduction) as part of the NEAT energy audit analysis.
- Furnace Duct testing is no longer optional. The agency is mandated to perform duct blasting for the NEAT audit. Unless, there are clearance issues that inhibit the set-up process. In these cases, conducting pressure pan testing would be acceptable. Pressure pan testing is required for MHEA audits.
- *All health and safety measures must be entered into the audit under "Itemized Cost" section. The ASHRAE 62.2 2016 RED calculation sheet must be attached to the audit input report and placed in the client file.*

- Incidental Repair Measure (IRM) can only be entered as a measure if deemed necessary for the effectiveness of one or more ECM's. Enter the measure into the audit under "Itemized Cost" section. Including material and labor cost of the measure. Check the "Include in SIR" box. A comment must be added to this section indicating the ECM addressed by the IRM measure. The total package of weatherization measures must have a cumulative SIR of 1 or greater to perform the IRM.

- Ancillary items are items necessary for installation of materials required by Standard Work Specifications (SWS) to achieve a finished product. The cost of ancillary items and installation are to be included within the cost of an individual ECM. Enter these costs into the "Additional Cost" section of a specific measure and add a comment.

- If HIP funding will be utilized to update the existing heating unit and or domestic hot water tank, the new unit's condition and Annual Fuel Utilization Efficiency (AFUE) or Uniform Energy Factor (UEF) will be required to be entered into the audit.

- For multi-family buildings, all EA-QUIP audits must be reviewed by State Monitor followed by a physical site assessment to confirm the work indicated on the audit is required for the multi-family project. If the project will be funded through LIHEAP WX, WAP Agency can proceed to a bid upon receiving written approval from State Monitor. If the project will be funded through DOE Annual funds, the project must be submitted to OLIEC for forwarding to USDOE for review and approval prior to any work commencing. WAP Agency must provide the following documents for submission to USDOE:

    - Short narrative describing existing building (size, no. of units, envelope, building age, mechanical systems) and proposed improvements.
    - Audit – EA-QUIP
        - Online EA-QUIP- WAP Agency must provide direct access to it with a password and userID.
    - Field assessment notes and back-up calculations (if any).
    - Any other documentation that was used to define the Scope of Work for the Project.
    - Scope of Work for the Project including SIR for each measure and cumulative SIR.

- To improve quality of audits, WAP agencies are required to include the existing cooling information for the NEAT/MHEA audits.

1.1. Window Policy

This guidance will apply when replacing windows applicable to single, mobile, and multi-family units. **Please note that door and window replacement, repair, and/or installation are not eligible as WAP health and safety expenses (WPN 17-7).** Replacement of 5 windows or more must be approved by the assigned State Monitor.

1. There must be a SIR of 1 or greater on the NEAT and/or any other approved audit to justify replacement.

2. Existing storm windows must be removed before installing new windows. Clients must be informed of this policy before Weatherization work is completed. If a client refuses to allow storm windows to be removed, then new windows cannot be installed. If the client consents, he/she must sign an acknowledgment that will be placed in the client file.

3. Pictures of the existing windows must be placed in the client file.

4. Exterior framing must be finished. This means that either the wood is painted or capped and caulked.

5. Windows must be correct size. Mistakes can result in disallowable measure.

6. Rotted wood must be replaced before painting or capping is completed. It is not acceptable to put capping over rotted wood.

7. Windows must operate properly after installation. This means that the window opens and closes smoothly and that locks operate as intended.

8. Pictures of <u>installed</u> replacement (new) windows must be placed in the client file.

9. For residential, single family homes, U-Factor must be .30 or lower.

1.2. Refrigerator Policy

The following policies and procedures will apply to the Replacement of Refrigerators. This list is not all-inclusive and may be amended to address other issues that become apparent after the start of the program.

<u>Refrigerator Replacement Policy</u>

Client Education The client must be given adequate information and sign an Acceptance Form to avoid problems with the delivery of the new refrigerator. If the client receives the information and declines to accept a replacement refrigerator, they are still entitled to have other work done that is recommended by the energy audit. It is most important that clients know that the replacement is based on the efficiency of the existing unit so the community does not think everyone who applies will get a new unit.

Payment for Refrigerators and Other Related Costs

The cost of the refrigerator includes delivery. However, if the client does not accept delivery of the unit, there will be a charge for the attempted delivery. To avoid these additional charges, each delivery request should have a backup or alternative delivery site. The alternate site must know that they may not receive the unit "early" so if it is successfully delivered to the primary location the alternate is not disappointed.

Unless there is a serious documented emergency, a client who fails to be available for delivery will forfeit the unit.

The cost of the refrigerator includes the pickup of the existing unit and refrigerant recovery. If the household has two refrigerators and agrees to discard both to receive one larger new unit, the agency will pay additional fee to have the second refrigerator removed.

Replacement Justification

1. Before a refrigerator can be replaced it must be evaluated. WAP Agency will use the Line Logger database to measure the rate of consumption and maintain the results in the client file.
    a. Testing is required on **all** refrigerators replaced in dwellings containing 1-4 units.
    b. 10% of the total refrigerators proposed to be replaced in a multi-family dwelling, 5 units or more, must be evaluated.
    c. If no model number is available, then the unit must be metered.
2. Only one (1) new refrigerator per household. If the family has more than one refrigerator, two can be replaced with one large size refrigerator. If the household opts to have only one unit replaced, it will be replaced with a comparable size unit. Free standing freezer units are not included.
3. If two refrigerators exist and only one can be replaced, then the unit with the higher SIR must be replaced.
4. Refrigerators with water and ice makers are not permissible.
5. Bottom Freezer refrigerators are allowable if client is ADA compliant.
6. A new refrigerator cannot be installed where none currently exists. If the refrigerator is inoperable, approval from the OLIEC will be required for replacement. Request must include a picture of the existing unit with efficiency information, if available.
7. The size of the refrigerator will be determined by the number of household members and amount of space available for the unit.
8. WAP Agency must insure, that the new refrigerator is installed with the correct hinge side.
9. Three colors are available (white, black, and egg shell/almond).
10. The WAP Agency will ensure that the client receives information regarding the make, model, and color of the refrigerator. The sub grantee will also have the client sign an acceptance form BEFORE the unit is delivered.
11. The client is to receive all instructional and warranty information for the refrigerator.
12. If a client refuses to accept a refrigerator, does not allow the old unit to be removed, or fails to keep two (2) delivery appointments, no refrigerator will be delivered to the client.
13. If a new refrigerator is defective upon delivery, the sub grantee will notify respective vendor and request a replacement.
14. WAP Agency is required to pay for all refrigerators delivered within 60 days. Payment cannot be withheld because other Weatherization measures have not passed inspection.

RENTAL AND MULTI-UNITS

1. If tenants pay for electricity and own the existing refrigerator, WAP Agencies are to use the procedures for single-family owner-occupied units.

2. If tenants do not pay for electricity directly and do not own the existing refrigerator, the replacement should not be considered a priority. If the landlord wants replacements AND the energy audit recommendation supports the measure, leveraging applies. Landlords must pay 50% of the cost for replacements. Any measures ranked higher must be installed before refrigerator replacements.

3. If tenants do not pay for electricity but own the refrigerators, replacement units may be considered AFTER the installation of measures that will reduce heating cost.

4. Refrigerator replacement is part of the average cost, must be recommended by the energy audit, and cannot be installed as a health and safety measure.

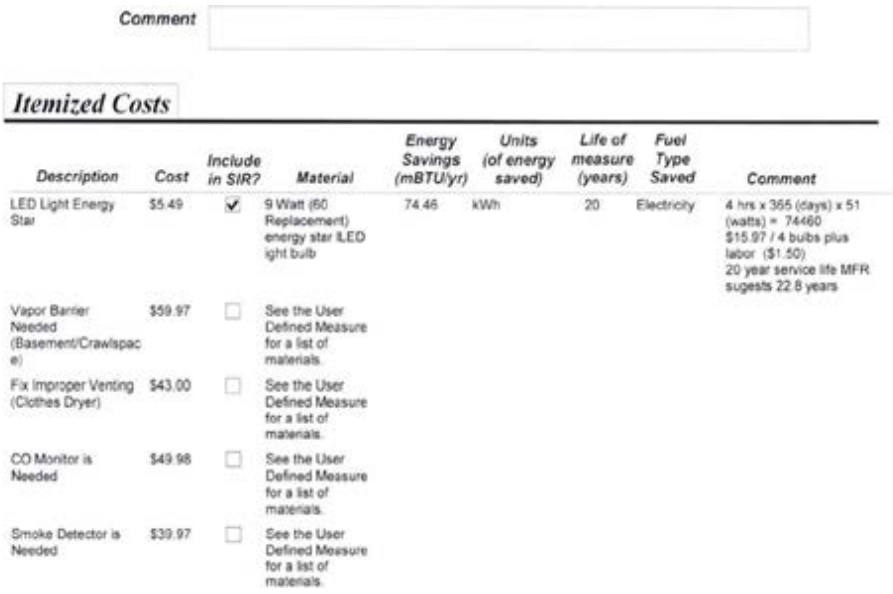
5. Replacement is also allowed in vacant units.

6. When a unit becomes vacant and the landlord received the refrigerator through the weatherization program, the refrigerator is to remain in the unit.

7. Copy of invoice for the refrigerator must be included in the client file.

1.3. Lighting Policy

As of May 11, 2017, New Jersey is approved to use Light emitting diode lighting (LEDs) in the Weatherization Assistance Program with the restrictions that LEDs will be Energy Star qualified or of equal or better quality and efficiency. *LED lights in the NEAT/MHEA audit will be entered in the "Itemized Costs section. Enter the calculated "Energy Savings" of the proposed quantity of light bulbs to be installed. See below image which demonstrates how the LED will reflect in the Itemized Costs:*



Comment

Itemized Costs

Description	Cost	Include in SIR?	Material	Energy Savings (mBTU\yr)	Units (of energy saved)	Life of measure (years)	Fuel Type Saved	Comment
LED Light Energy Star	$5.49	☑	9 Watt (60 Replacement) energy star ILED ight bulb	74.46	kWh	20	Electricity	4 hrs x 365 (days) x 51 (watts) = 74460 $15.97 / 4 bulbs plus labor ($1.50) 20 year service life MFR sugests 22.8 years
Vapor Barrier Needed (Basement/Crawlspac e)	$59.97	☐	See the User Defined Measure for a list of materials.					
Fix Improper Venting (Clothes Dryer)	$43.00	☐	See the User Defined Measure for a list of materials.					
CO Monitor is Needed	$49.98	☐	See the User Defined Measure for a list of materials.					
Smoke Detector is Needed	$39.97	☐	See the User Defined Measure for a list of materials.					

Fluorescent lighting is an allowable weatherization measure. Exterior lighting is permissible on Single Family, Mobile homes and Multi-Family units as long as the lighting fixture itself is physically attached to the building. Lighting upgrades must be recommended by the Energy Audit to consider its' cost effectiveness with other weatherization measures that will be installed in the dwelling unit.

1.4 LIHEAP Room Air Conditioning Replacements:

For Central Air Condenser replacement agency's must adhere to the Heating Improvement Program's policies on replacement requirements.

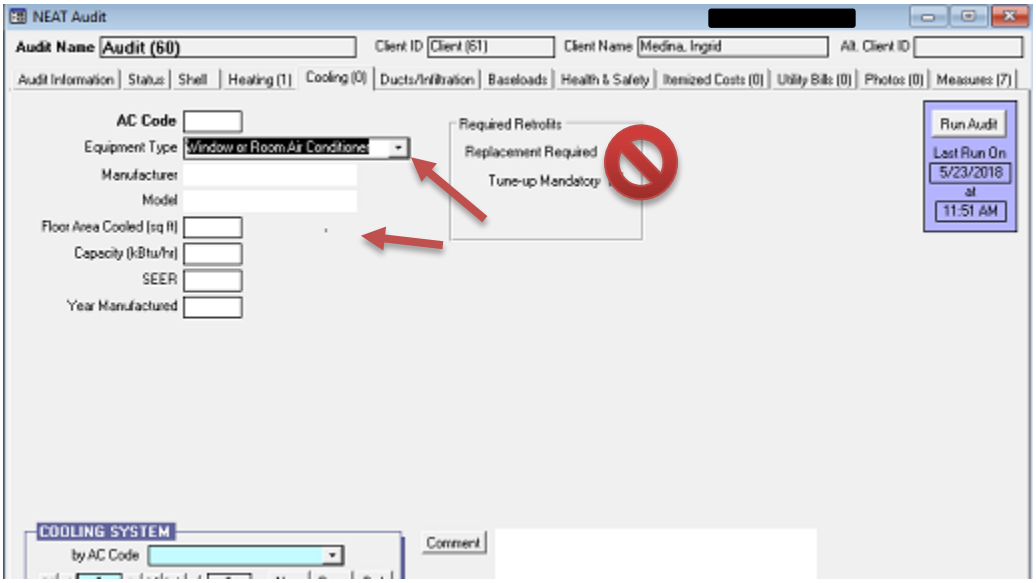
If the client has non-working room air conditioner(s) and is elderly or has small children, or health problems related to excessive heat, the OLIEC supervisor must give permission to replace the room A/C unit(s) under LIHEAP Health and Safety, on a case by case basis.

1. Verifying that Room Air Conditioner Qualifies for replacement under LIHEAP WAP.

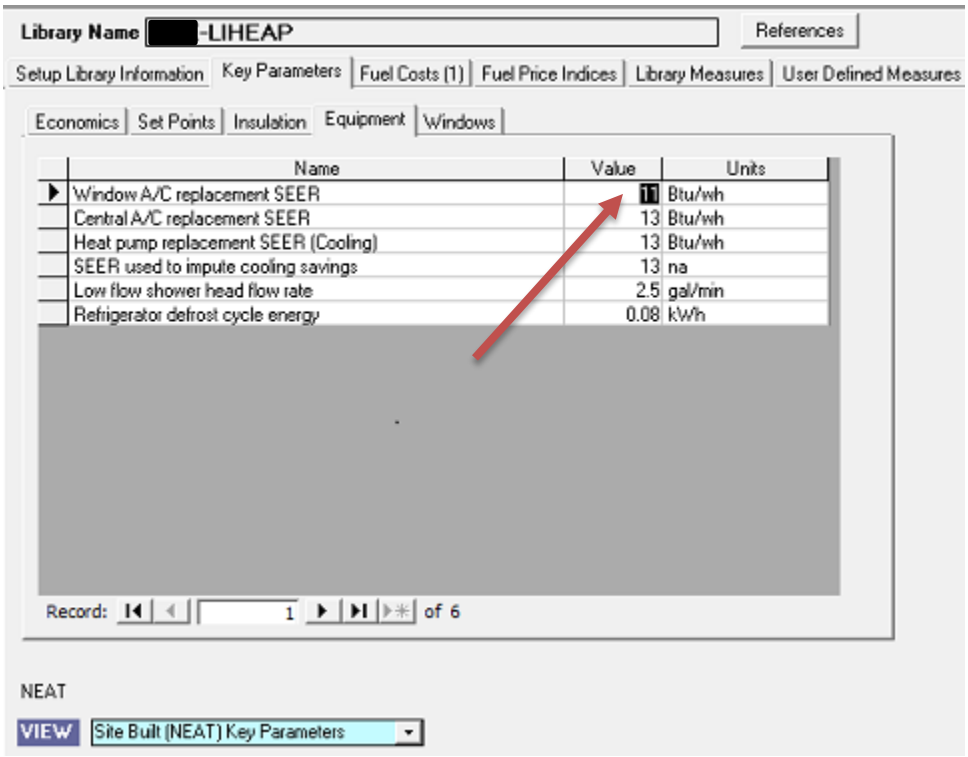
   i. Is the system replacement justified? NEAT/MHEA energy audit must recommend room air conditioner with a Savings to Investment Ratio (SIR) of 1 or greater for replacement justification.

   ii. Replacement can only be assessed for existing room air conditioner(s). Maximum allowable replacement is 3 room A/C units.

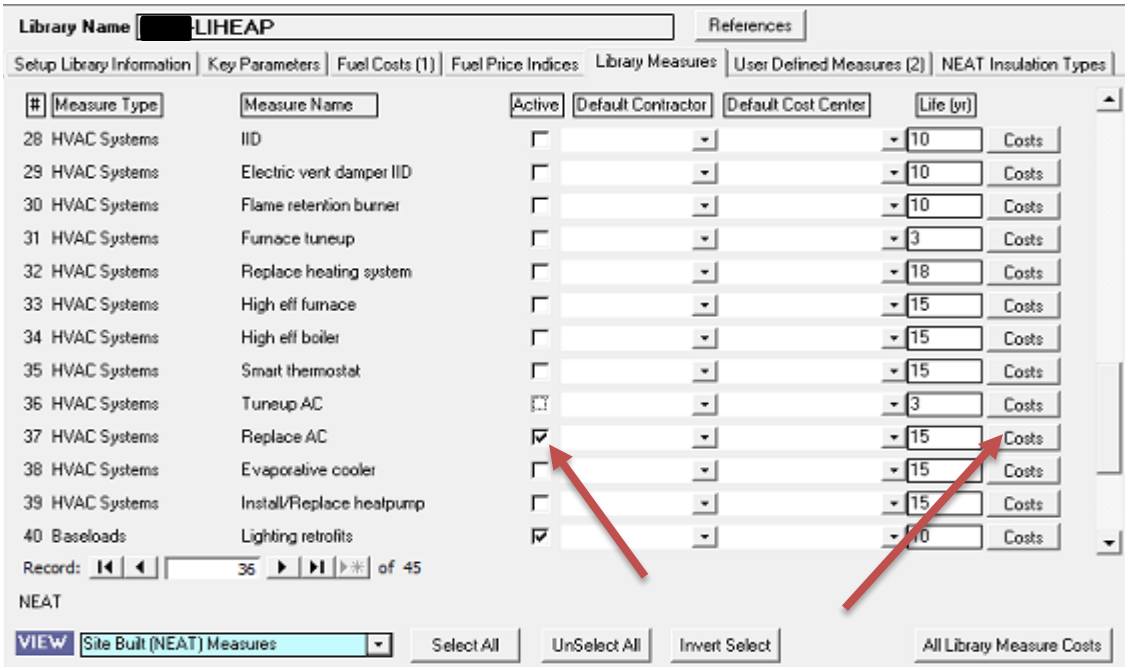
   iii. The existing room air conditioner(s) must be inputted into the energy audit Cooling Section. The audit cannot be forced to replace by checking the required replacement box.



iv. The agency must update energy audit Key Parameters for Window A/C replacement SEER value.



v. The agency must enable A/C replacement in the Measure Library and enter in material and labor for the measure.



vi. The agency must retain pre-and post-pictures of the replacement room A/C windows in the client file.

a. Replacement Guidelines

i. The replacement of Room Air Conditioner(s) must meet or exceed current Energy Star requirements found on www.energystar.gov under "Products", then "Find ENERGY STAR Products".

ii. Replacement of room A/C units must meet Standard Work Specifications found at https://sws.nrel.gov/spec/533021 The SWS outlines the following criteria:

a. Assessment

b. Selection

c. Installation

d. Decommissioning

e. Occupant education

iii. Replacement unit will provide same or better functionality than existing unit, but smaller duty unit will be provided if existing is oversized.

iv. Use the chart below to determine room A/C sizing.

Area to be cooled (square feet)	**Capacity needed (BTUs per hour)**
100 to 150	5,000

150 to 250	6,000
250 to 300	7,000
300 to 350	8,000
350 to 400	9,000
400 to 450	10,000
450 to 550	12,000
550 to 700	14,000
700 to 1,000	18,000
1,000 to 1,200	21,000
1,200 to 1,400	23,000
1,400 to 1,500	24,000
1,500 to 2,000	30,000
2,000 to 2,500	34,000

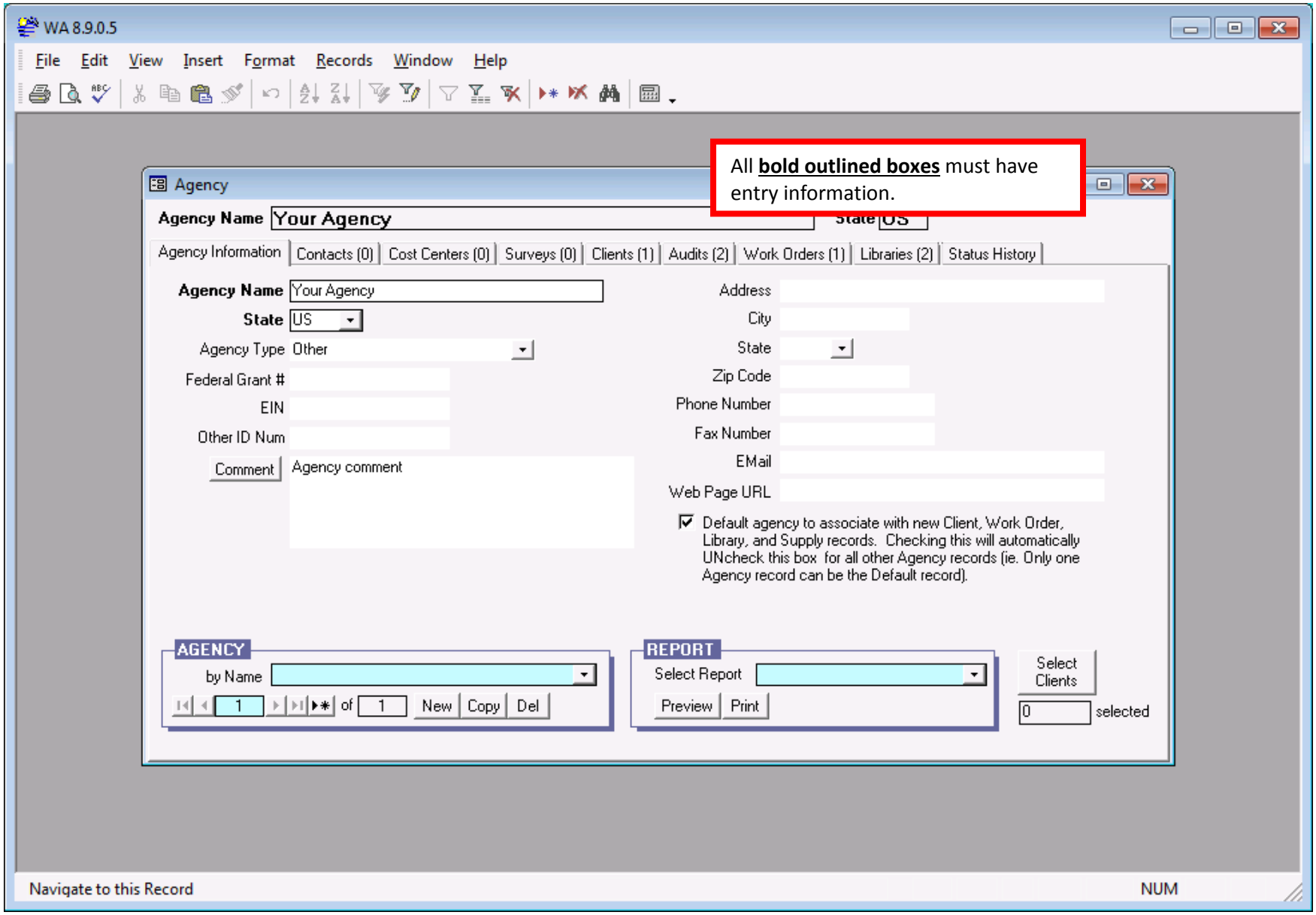
2. Screen by Screen Instructions:

2.1.NEAT

NEAT was designed for use by local agencies in the Weatherization Assistance Program. It is an approved audit that meets all auditing requirements set forth by the USDOE Weatherization Assistance Program as well as those anticipated from new regulations pertaining to waiver of the 40 percent materials requirement.

NEAT applies engineering and economic calculations to evaluate energy conservation measures for single-family, detached houses or small multifamily buildings. You can use it to rank measures for each individual house, or to establish a priority list of conservation measures for nearly identical housing types.

NEAT was written for the Weatherization Assistance Program by Oak Ridge National Laboratory. Many building energy consumption algorithms are taken from Lawrence Berkeley Laboratory's Computerized Instrumented Residential Audit (CIRA), published in 1982 for the U.S. Department of Energy. Equipment retrofit conservation measures are based on published reports on various heating retrofits. Heating and cooling system replacement conservation measures are based on the energy ratings of new heating and cooling equipment**.**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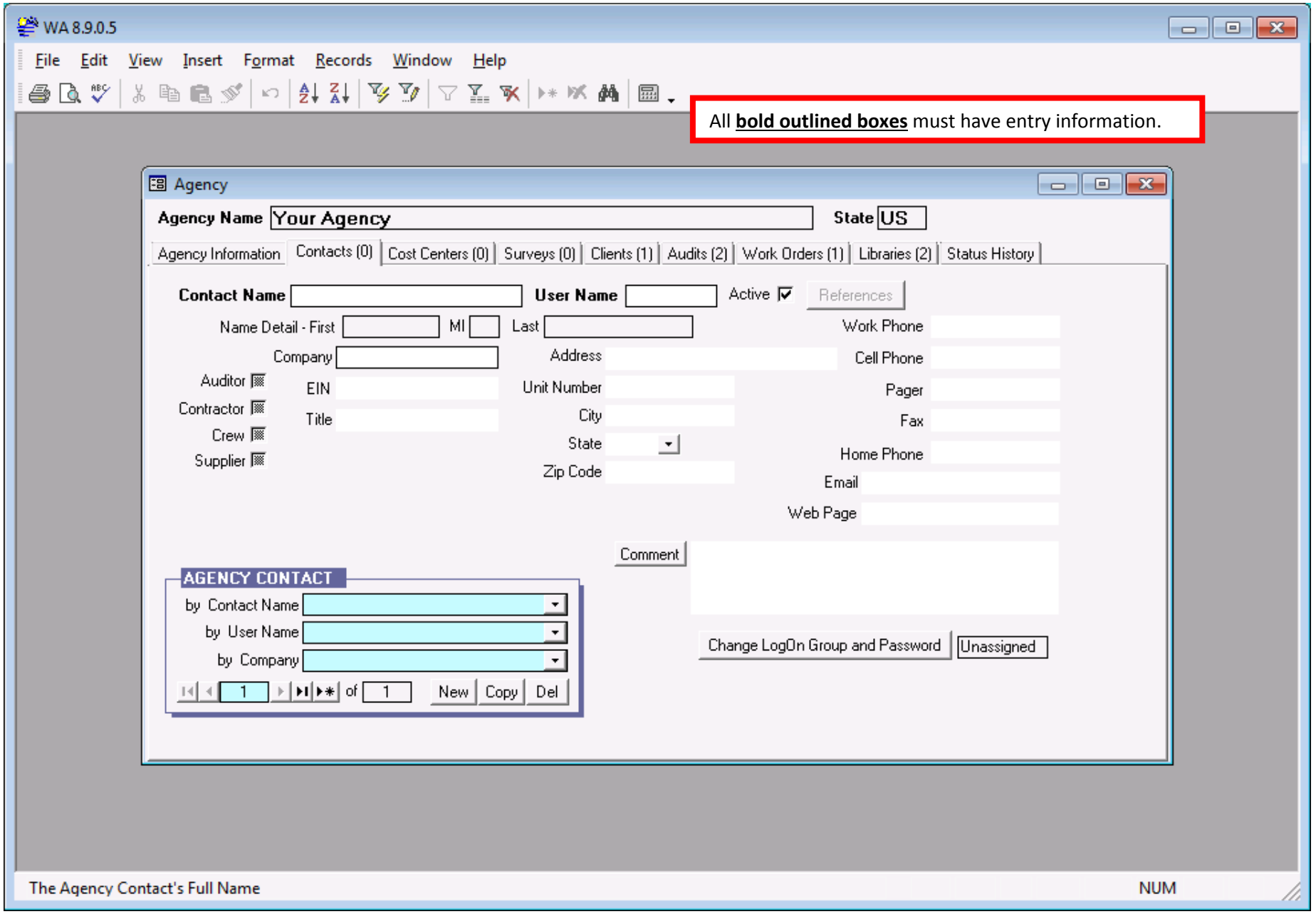
State US
Agency Information
Contacts (0)
Cost Centers (0)
Surveys (0)
Clients (1)
Audits (2)
Work Orders (1)
Libraries (2)
Status History
Agency Name Your Agency
State US
Agency Type Other
Federal Grant #
EIN
Other ID Num
Comment
Agency comment
Address
City
State
Zip Code
Phone Number
Fax Number
EMail
Web Page URL
Default agency to associate with new Client, Work Order, Library, and Supply records. Checking this will automatically UNcheck this box for all other Agency records (ie. Only one Agency record can be the Default record).
AGENCY
by Name
1 of 1 New Copy Del
REPORT
Select Report
Preview Print
Select Clients
0 selected
Navigate to this Record
NUM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All bold outlined boxes must have entry information.
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State US
Agency Information
Contacts (0)
Cost Centers (0)
Surveys (0)
Clients (1)
Audits (2)
Work Orders (1)
Libraries (2)
Status History
Contact Name
User Name
Active
References
Name Detail - First
MI
Last
Company
Auditor
Contractor
Crew
Supplier
EIN
Title
Address
Unit Number
City
State
Zip Code
Work Phone
Cell Phone
Pager
Fax
Home Phone
Email
Web Page
Comment
AGENCY CONTACT
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by User Name
by Company
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of 1
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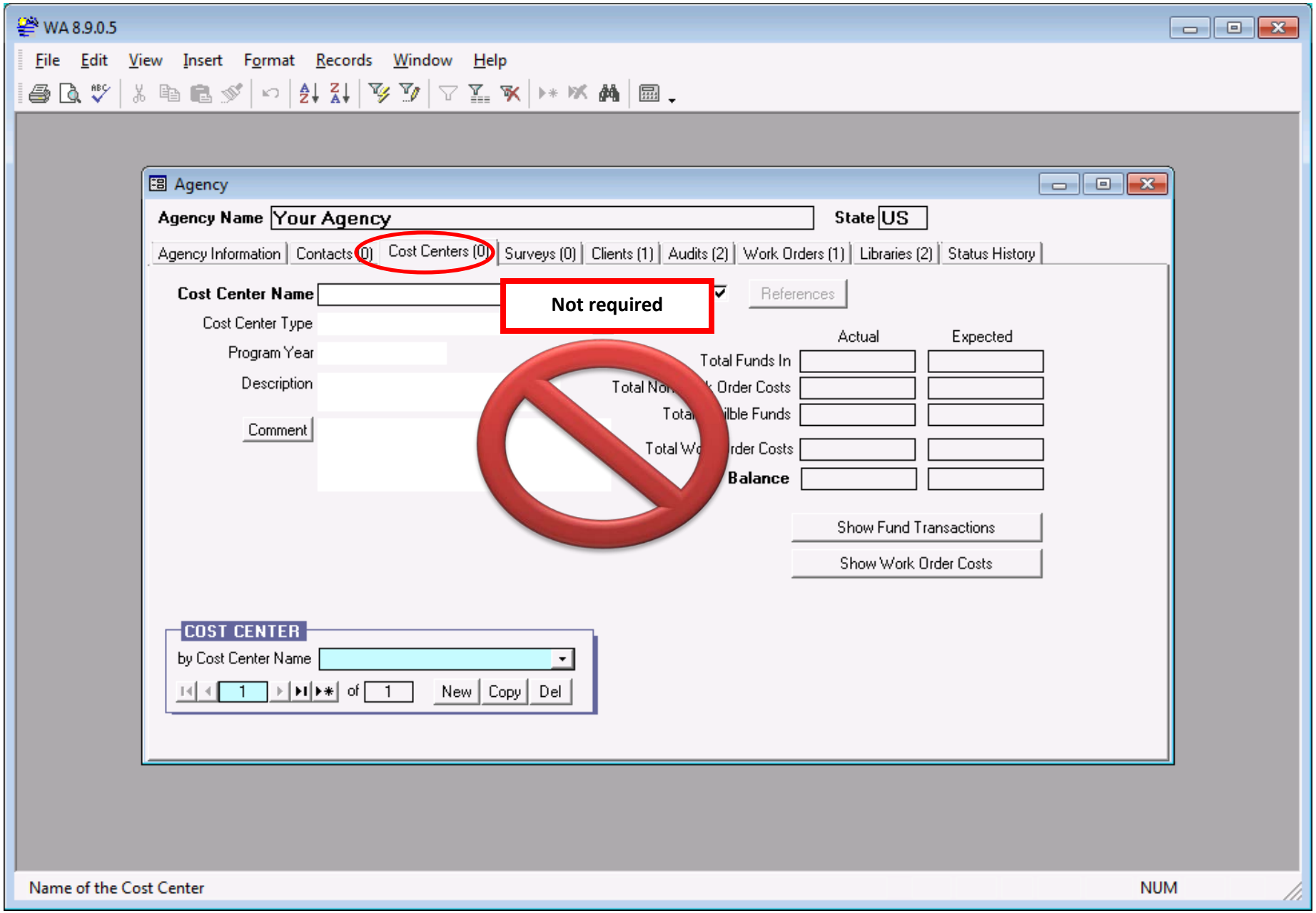
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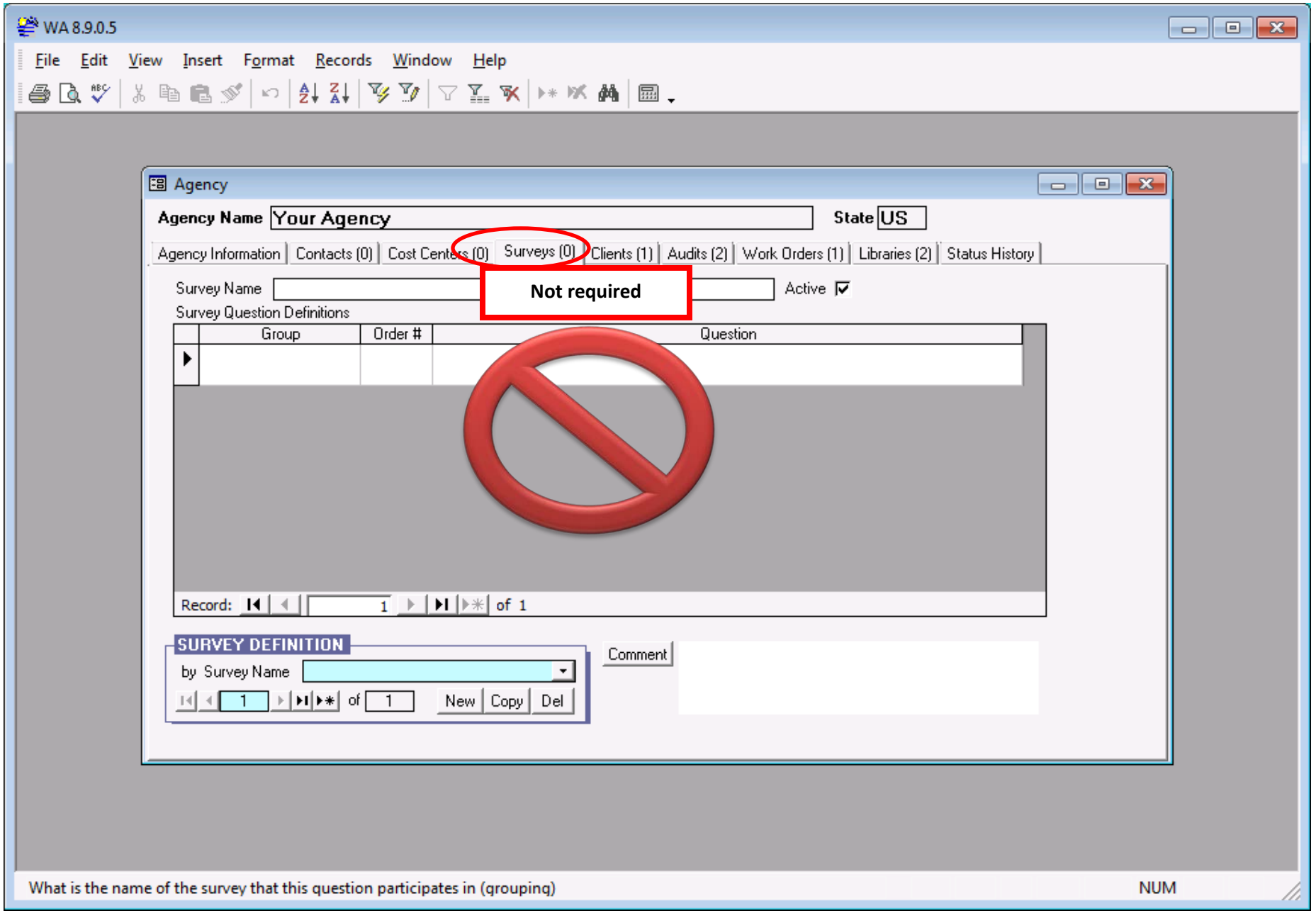
Agency Name Your Agency
State US
Agency Information | Contacts (0) | Cost Centers (0) | Surveys (0) | Clients (1) | Audits (2) | Work Orders (1) | Libraries (2) | Status History
Cost Center Name
Not required
References
Cost Center Type
Program Year
Description
Comment
Actual
Expected
Total Funds In
Total Non Work Order Costs
Total Available Funds
Total Work Order Costs
Balance
Show Fund Transactions
Show Work Order Costs
COST CENTER
by Cost Center Name
1 of 1
New Copy Del
Name of the Cost Center
NUM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State US
Agency Information
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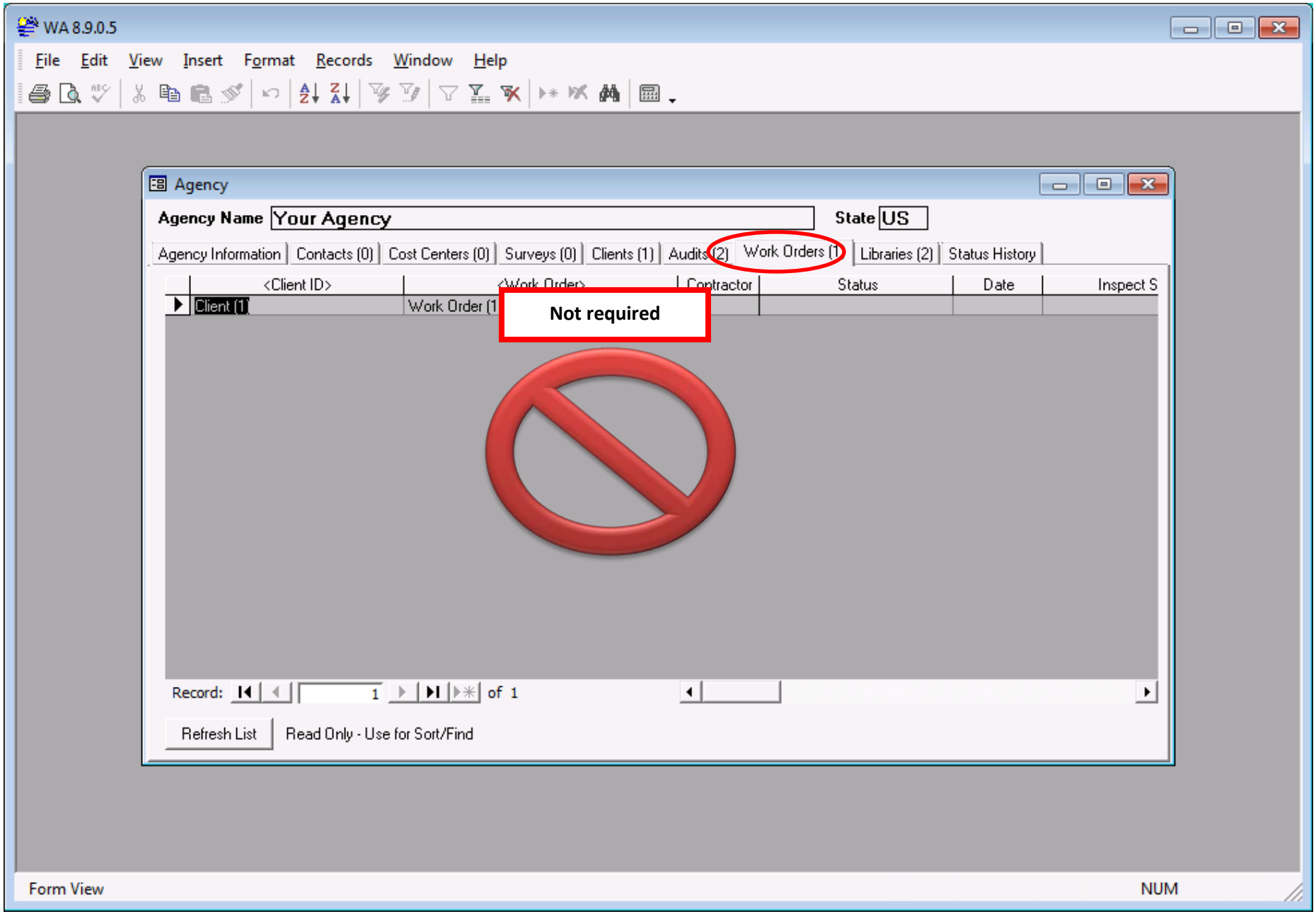
Cost Centers (0)
Surveys (0)
Clients (1)
Audits (2)
Work Orders (1)
Libraries (2)
Status History
Not required
Survey Name
Active
Survey Question Definitions
Group
Order #
Question
Record: 1 of 1
SURVEY DEFINITION
by Survey Name
1 of 1
New
Copy
Del
Comment
What is the name of the survey that this question participates in (grouping)
NUM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State US
Agency Information
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Clients (1)
Audits (2)
Work Orders (1)
Libraries (2)
Status History
<Client ID>
<Work Order>
Contractor
Status
Date
Inspect S
Client (1)
Work Order (1
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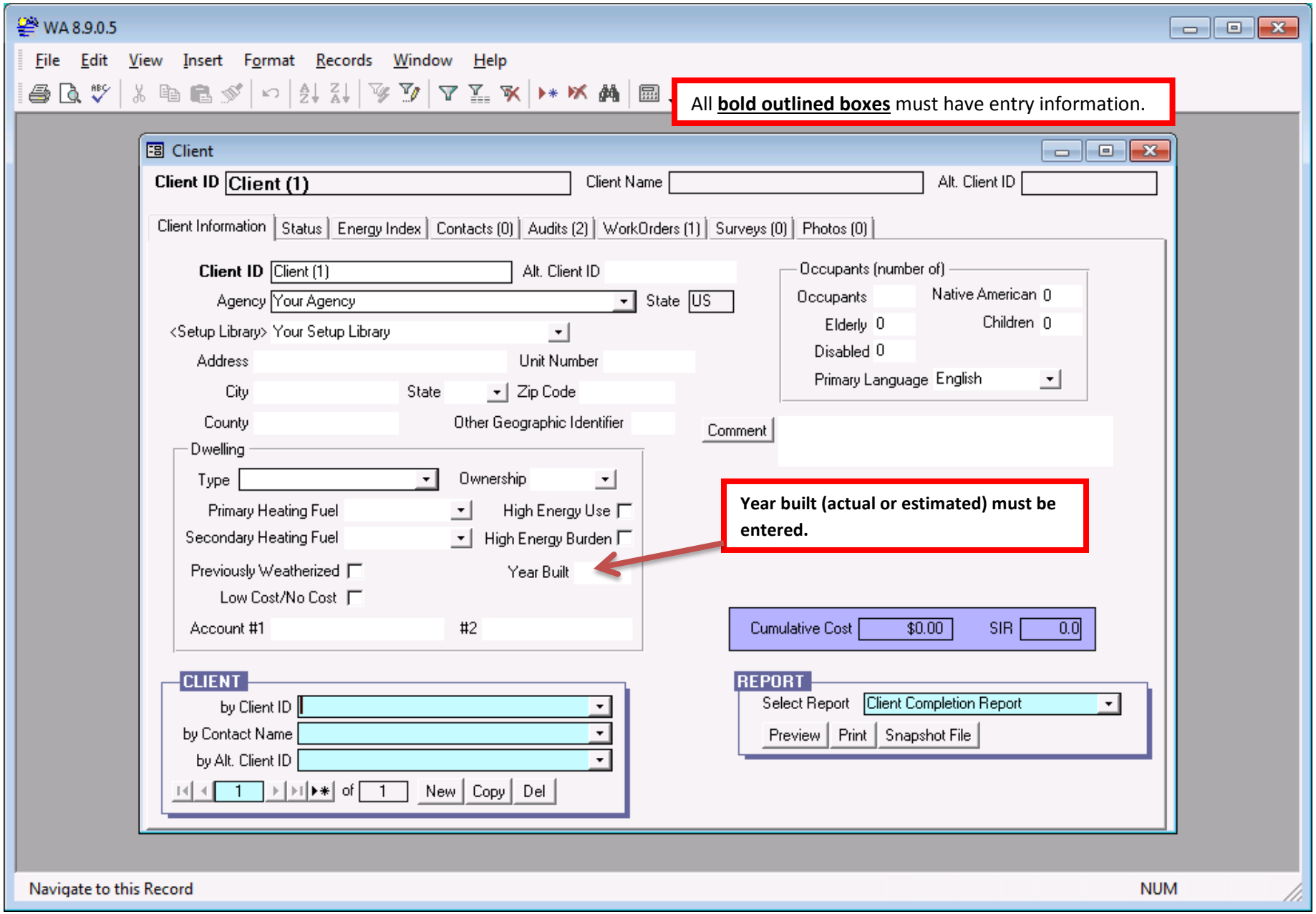
Record: 1 of 1
Refresh List
Read Only - Use for Sort/Find
Form View
NUM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All bold outlined boxes must have entry information.
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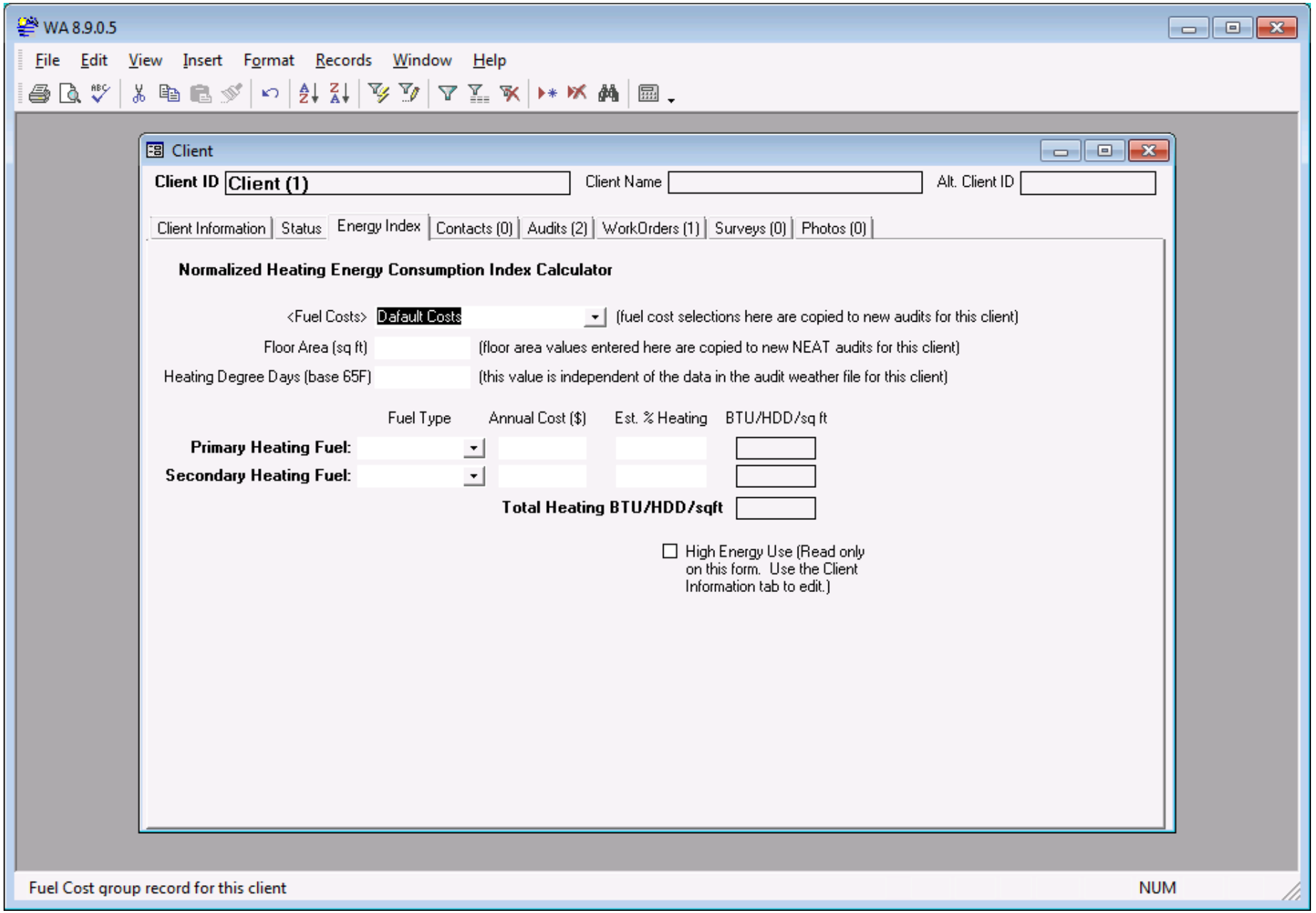
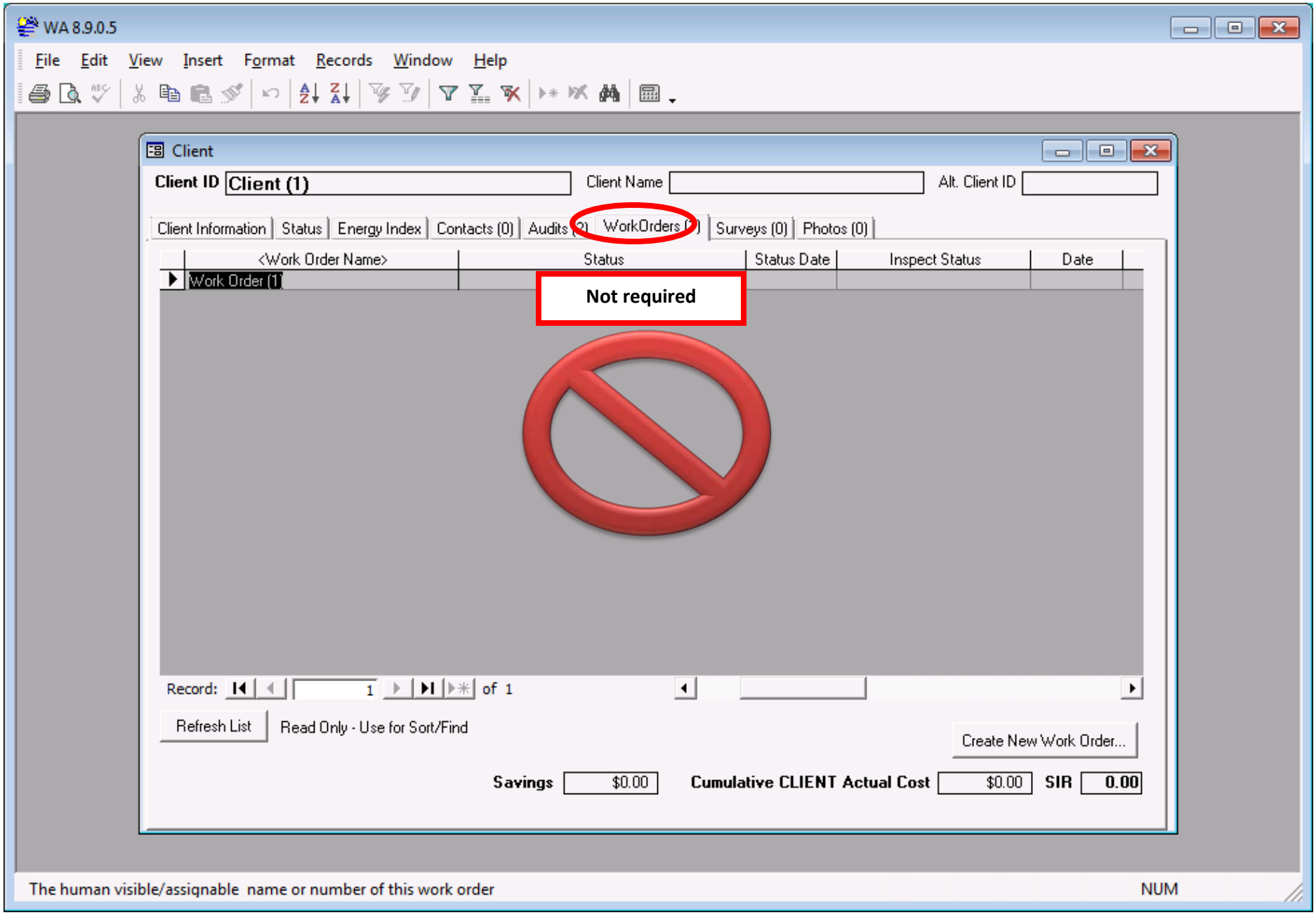
Client ID Client (1)
Client Name
Alt. Client ID
Client Information Status Energy Index Contacts (0) Audits (2) WorkOrders (1) Surveys (0) Photos (0)
Client ID Client (1)
Alt. Client ID
Agency Your Agency
State US
<Setup Library> Your Setup Library
Address
Unit Number
City
State
Zip Code
County
Other Geographic Identifier
Occupants (number of)
Occupants
Native American 0
Elderly 0
Children 0
Disabled 0
Primary Language English
Comment
Dwelling
Type
Ownership
Primary Heating Fuel
High Energy Use
Secondary Heating Fuel
High Energy Burden
Previously Weatherized
Year Built
Low Cost/No Cost
Account #1
#2
Year built (actual or estimated) must be entered.
Cumulative Cost $0.00
SIR 0.0
CLIENT
by Client ID
by Contact Name
by Alt. Client ID
1 of 1 New Copy Del
REPORT
Select Report Client Completion Report
Preview Print Snapshot File
Navigate to this Record
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Client
Client ID Client (1)
Client Name
Alt. Client ID
Client Information Status Energy Index Contacts (0) Audits (2) WorkOrders (1) Surveys (0) Photos (0)
Normalized Heating Energy Consumption Index Calculator
<Fuel Costs> Default Costs (fuel cost selections here are copied to new audits for this client)
Floor Area (sq ft) (floor area values entered here are copied to new NEAT audits for this client)
Heating Degree Days (base 65F) (this value is independent of the data in the audit weather file for this client)
Fuel Type
Annual Cost ($)
Est. % Heating
BTU/HDD/sq ft
Primary Heating Fuel:
Secondary Heating Fuel:
Total Heating BTU/HDD/sqft
High Energy Use (Read only on this form. Use the Client Information tab to edit.)
Fuel Cost group record for this client
NUM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File Edit View Insert Format Records Window Help
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Client Name
Alt. Client ID
Client Information Status Energy Index Contacts (0) Audits (2) WorkOrders (1) Surveys (0) Photos (0)
<Work Order Name> Status Status Date Inspect Status Date
Work Order (1)
Not required
Record: 1 of 1
Refresh List
Read Only - Use for Sort/Find
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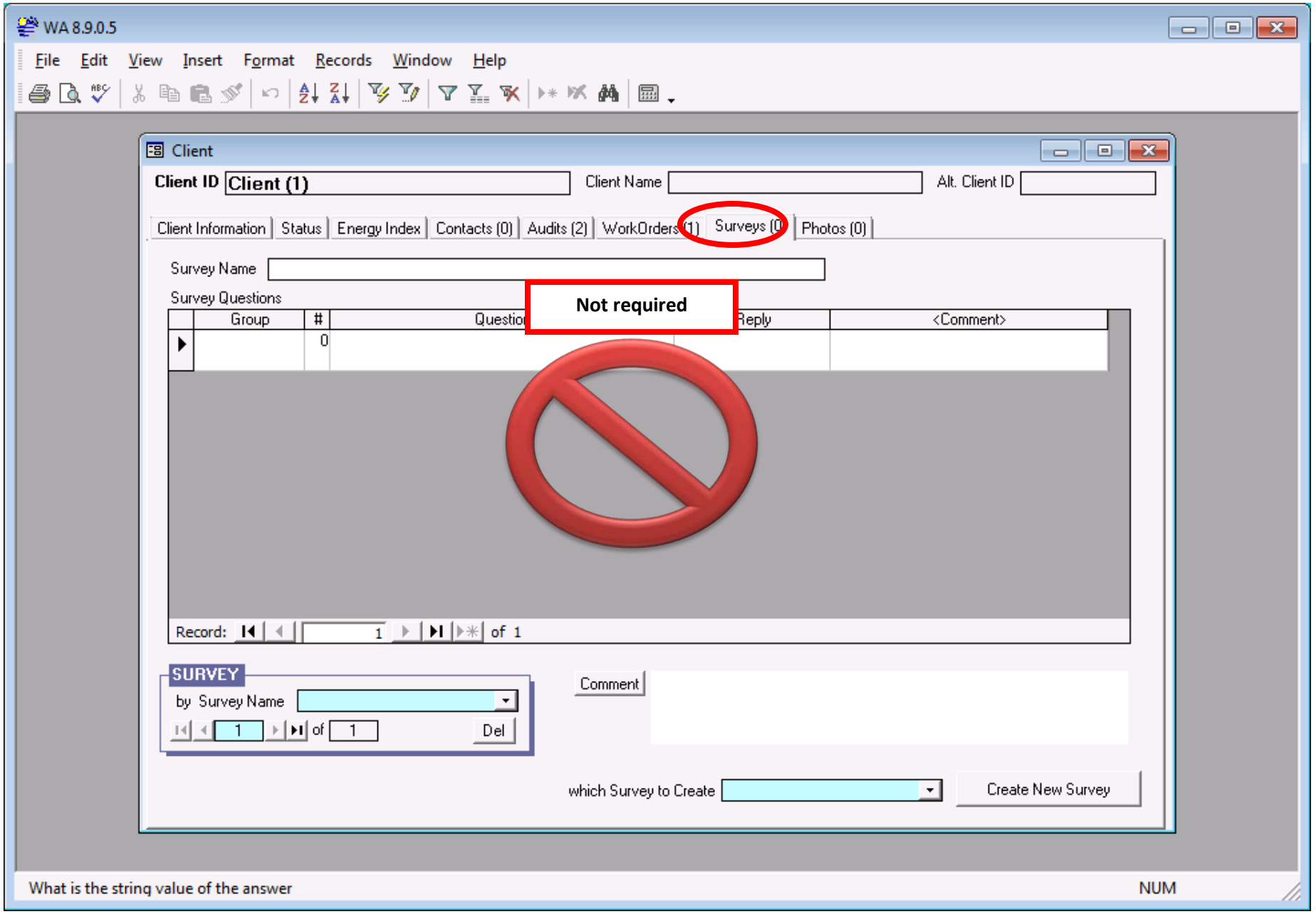
Savings $0.00
Cumulative CLIENT Actual Cost $0.00
SIR 0.00
The human visible/assignable name or number of this work order
NUM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Client Name
Alt. Client ID
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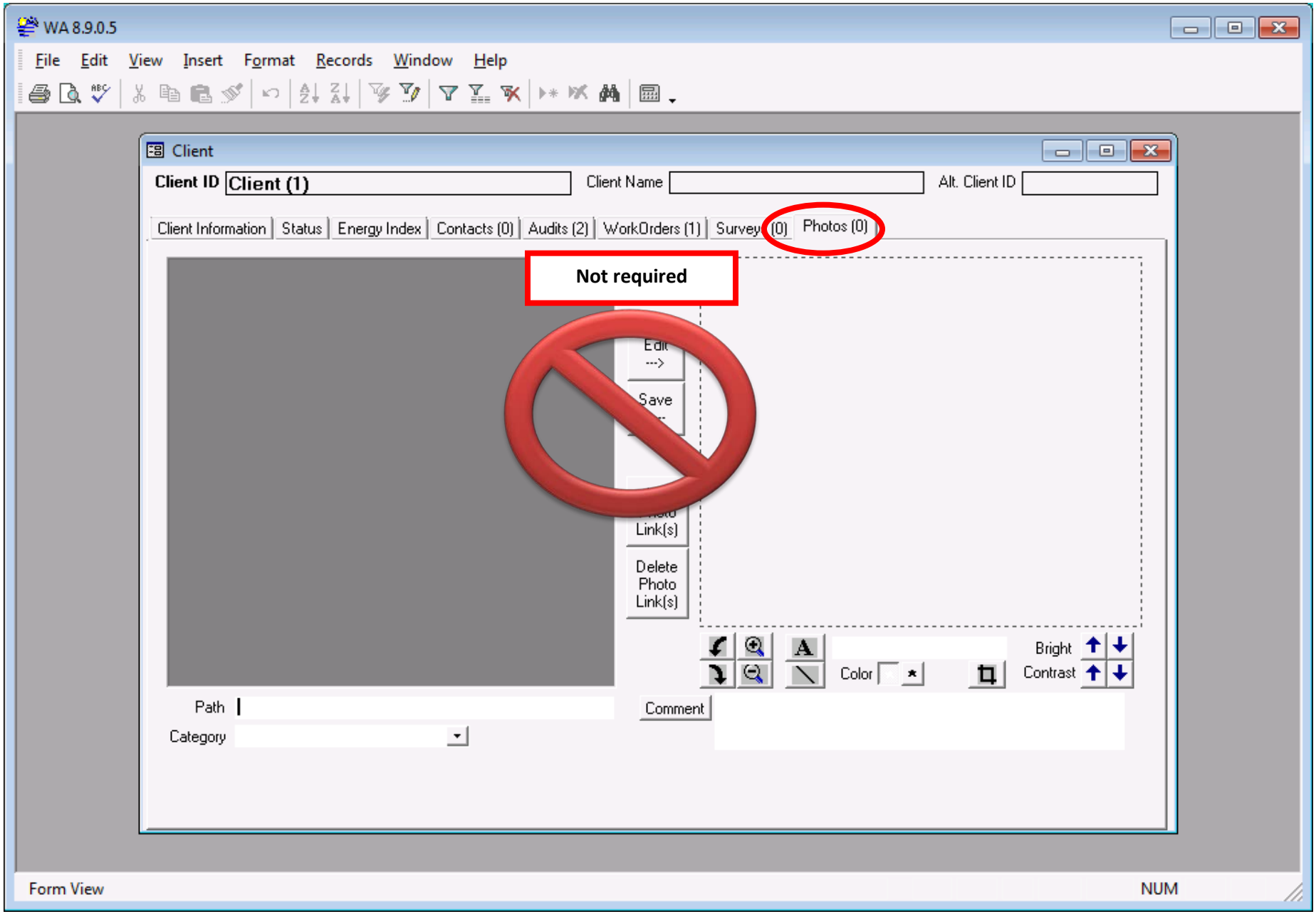
Survey Name
Survey Questions
Not required
Group # Reply <Comment>
Record: 1 of 1
SURVEY
by Survey Name
1 of 1 Del
Comment
which Survey to Create
Create New Survey
What is the string value of the answer
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Client
Client ID Client (1)
Client Name
Alt. Client ID
Client Information Status Energy Index Contacts (0) Audits (2) WorkOrders (1) Survey (0) Photos (0)
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Edit -->
Save
Link(s)
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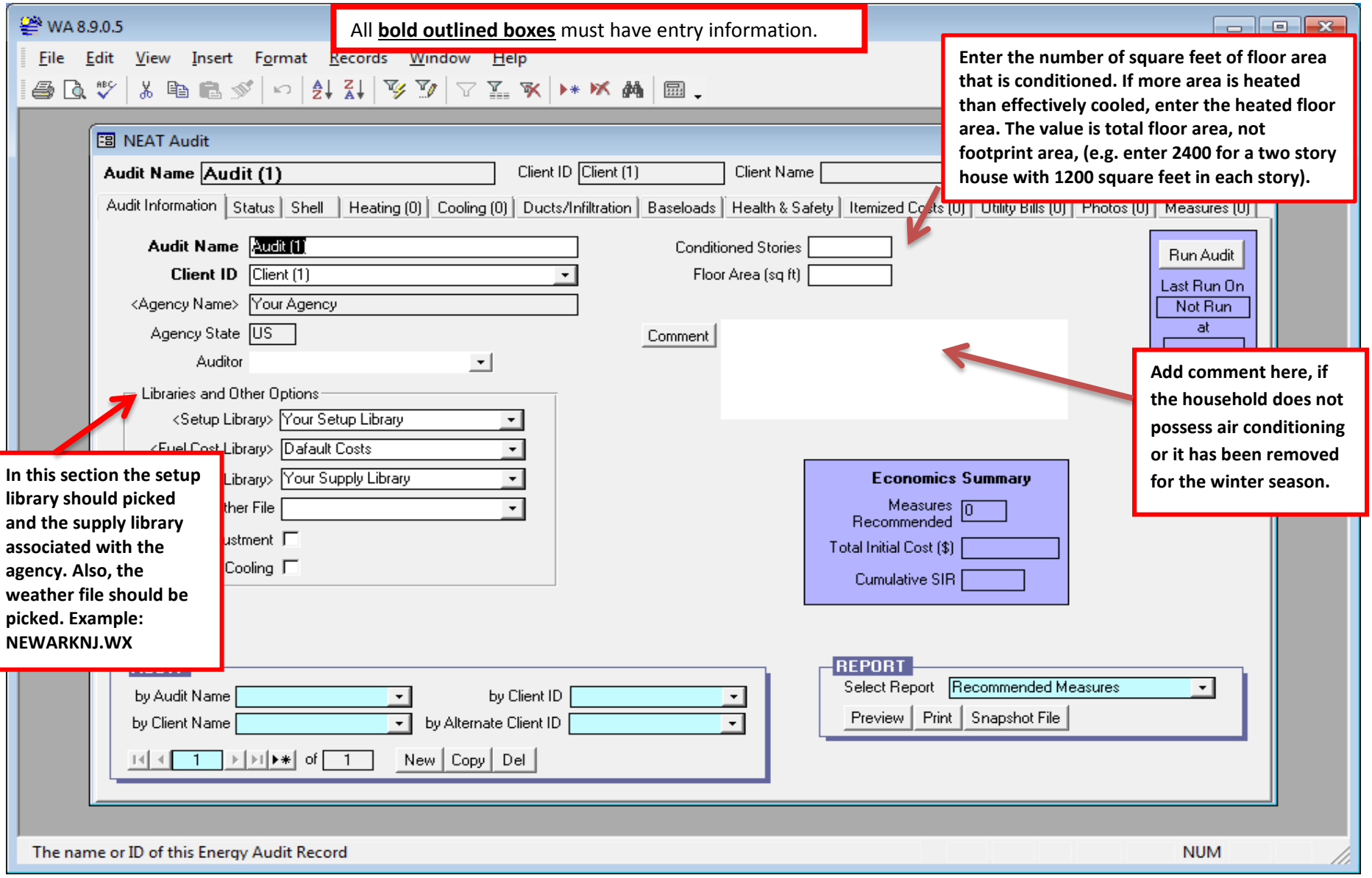
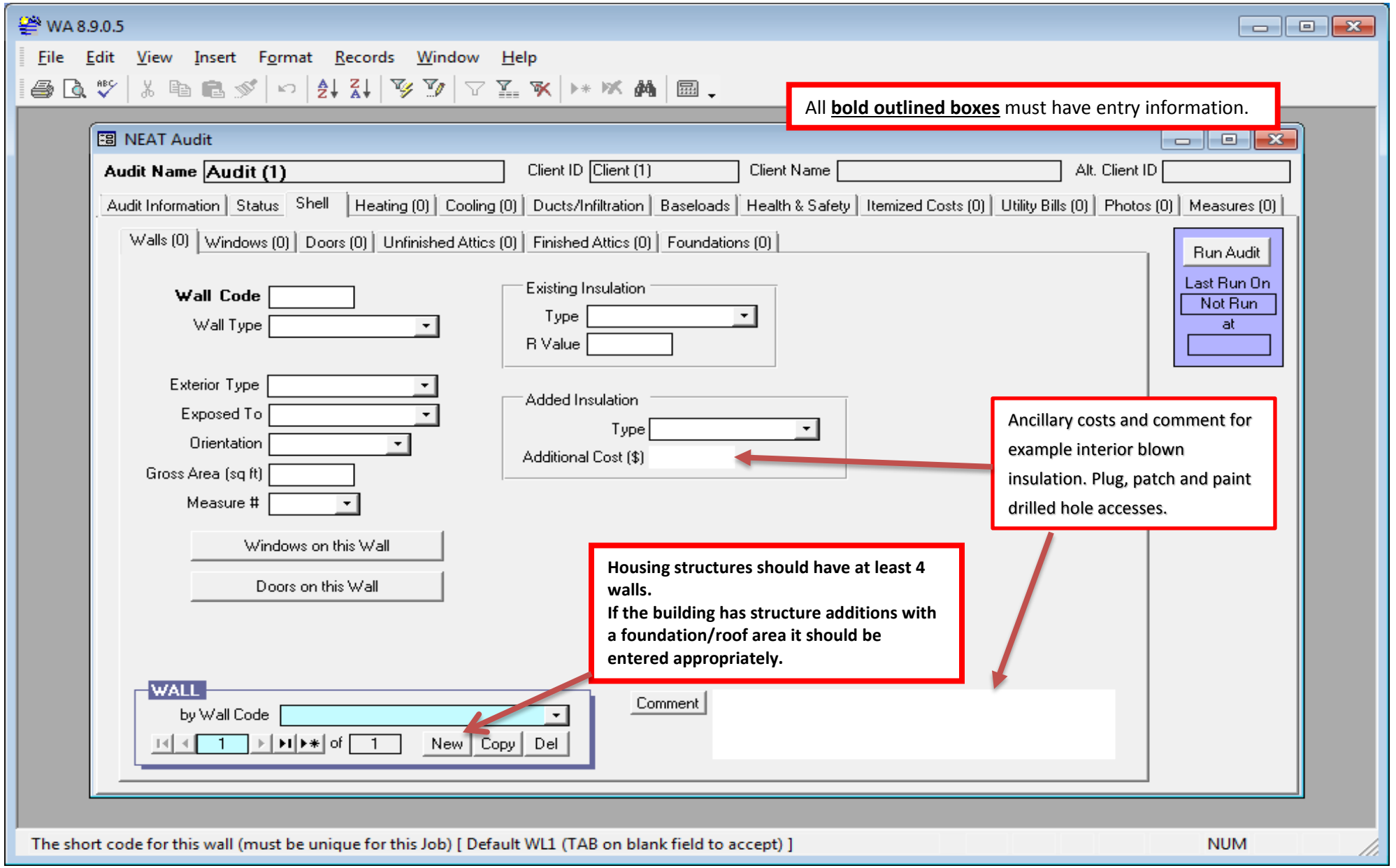
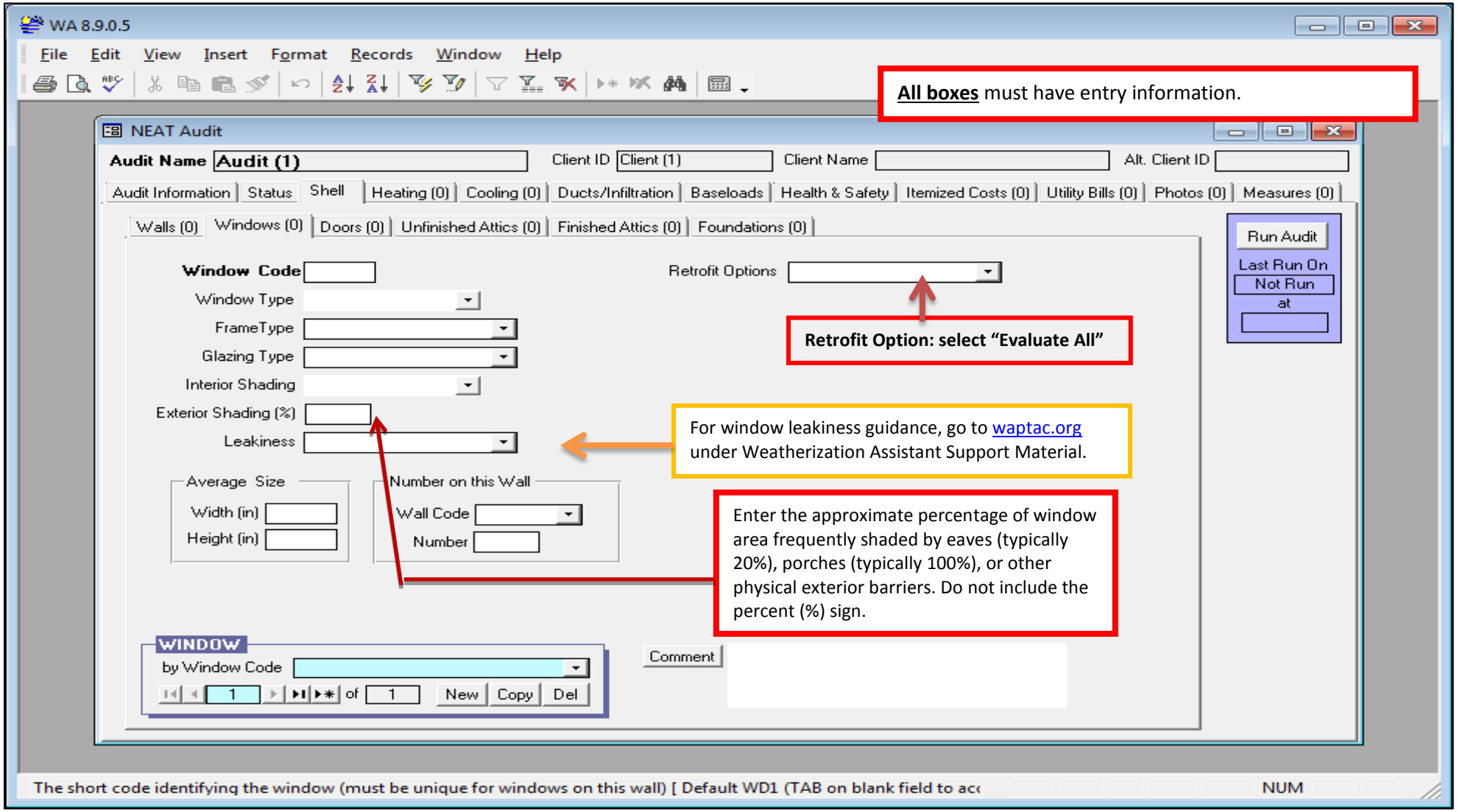
Bright
Contrast
Color
Path
Category
Comment
Form View
NUM


All **bold outlined boxes** must have entry information.
Enter the number of square feet of floor area that is conditioned. If more area is heated than effectively cooled, enter the heated floor area. The value is total floor area, not footprint area, (e.g. enter 2400 for a two story house with 1200 square feet in each story).
Add comment here, if the household does not possess air conditioning or it has been removed for the winter season.
In this section the setup library should picked and the supply library associated with the agency. Also, the weather file should be picked. Example: NEWARKNJ.WX
WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Audit Name Audit (1)
Client ID Client (1)
<Agency Name> Your Agency
Agency State US
Auditor
Libraries and Other Options
<Setup Library> Your Setup Library
<Fuel Cost Library> Dafault Costs
Library> Your Supply Library
ther File
ustment
Cooling
Conditioned Stories
Floor Area (sq ft)
Comment
Run Audit
Last Run On
Not Run
at
Economics Summary
Measures Recommended 0
Total Initial Cost ($)
Cumulative SIR
by Audit Name
by Client ID
by Client Name
by Alternate Client ID
1 of 1 New Copy Del
REPORT
Select Report Recommended Measures
Preview Print Snapshot File
The name or ID of this Energy Audit Record
NUM

2.1


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Wall Code
Wall Type
Existing Insulation
Type
R Value
Exterior Type
Exposed To
Orientation
Gross Area (sq ft)
Measure #
Added Insulation
Type
Additional Cost ($)
Ancillary costs and comment for example interior blown insulation. Plug, patch and paint drilled hole accesses.
Windows on this Wall
Doors on this Wall
Housing structures should have at least 4 walls.
If the building has structure additions with a foundation/roof area it should be entered appropriately.
WALL
by Wall Code
1 of 1 New Copy Del
Comment
The short code for this wall (must be unique for this Job) [Default WL1 (TAB on blank field to accept)]
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Window Code
Window Type
FrameType
Glazing Type
Interior Shading
Exterior Shading (%)
Leakiness
Retrofit Options
Retrofit Option: select "Evaluate All"
For window leakiness guidance, go to waptac.org under Weatherization Assistant Support Material.
Average Size
Width (in)
Height (in)
Number on this Wall
Wall Code
Number
Enter the approximate percentage of window area frequently shaded by eaves (typically 20%), porches (typically 100%), or other physical exterior barriers. Do not include the percent (%) sign.
WINDOW
by Window Code
1 of 1 New Copy Del
Comment
The short code identifying the window (must be unique for windows on this wall) [Default WD1 (TAB on blank field to ac
NUM

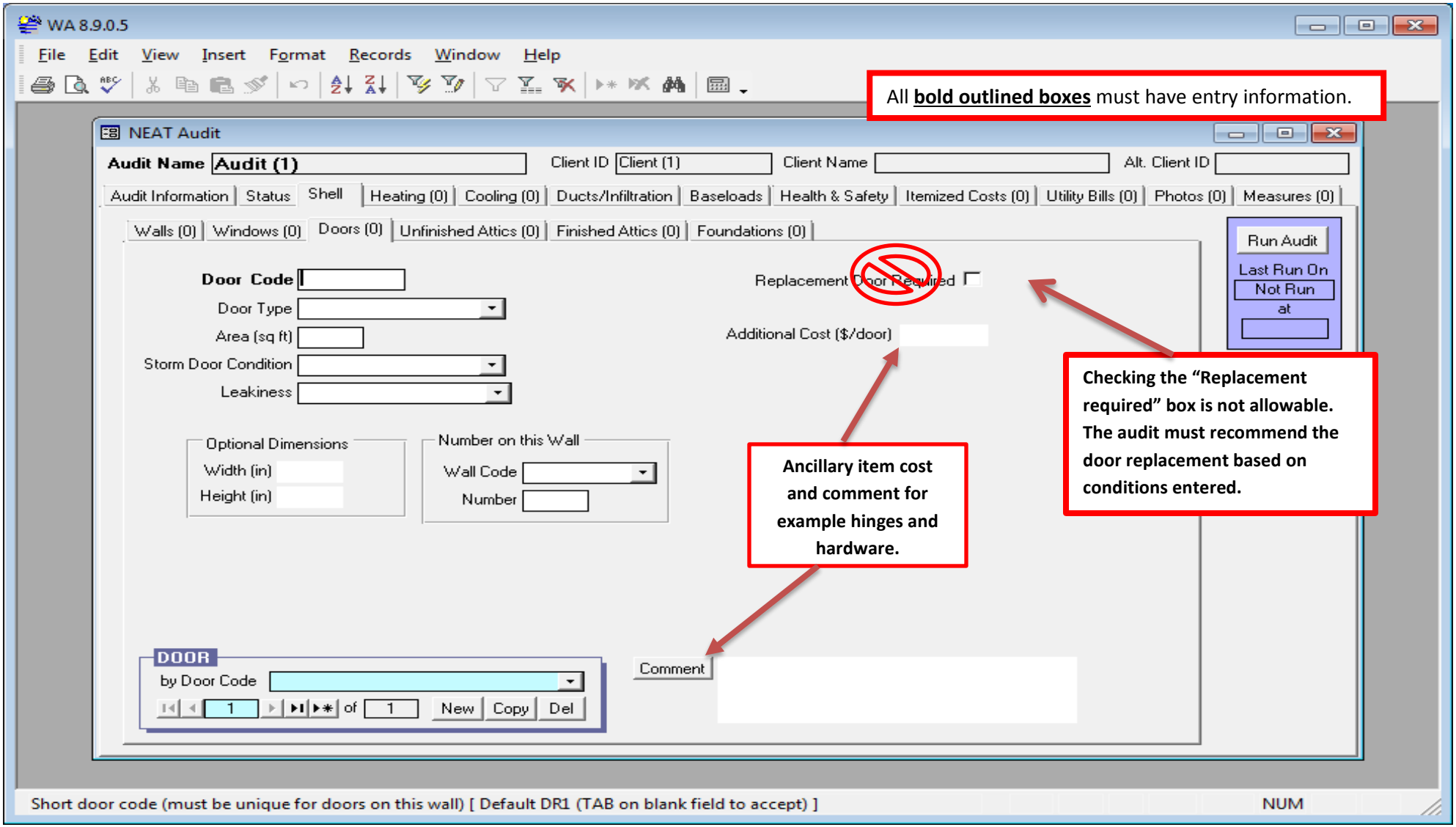
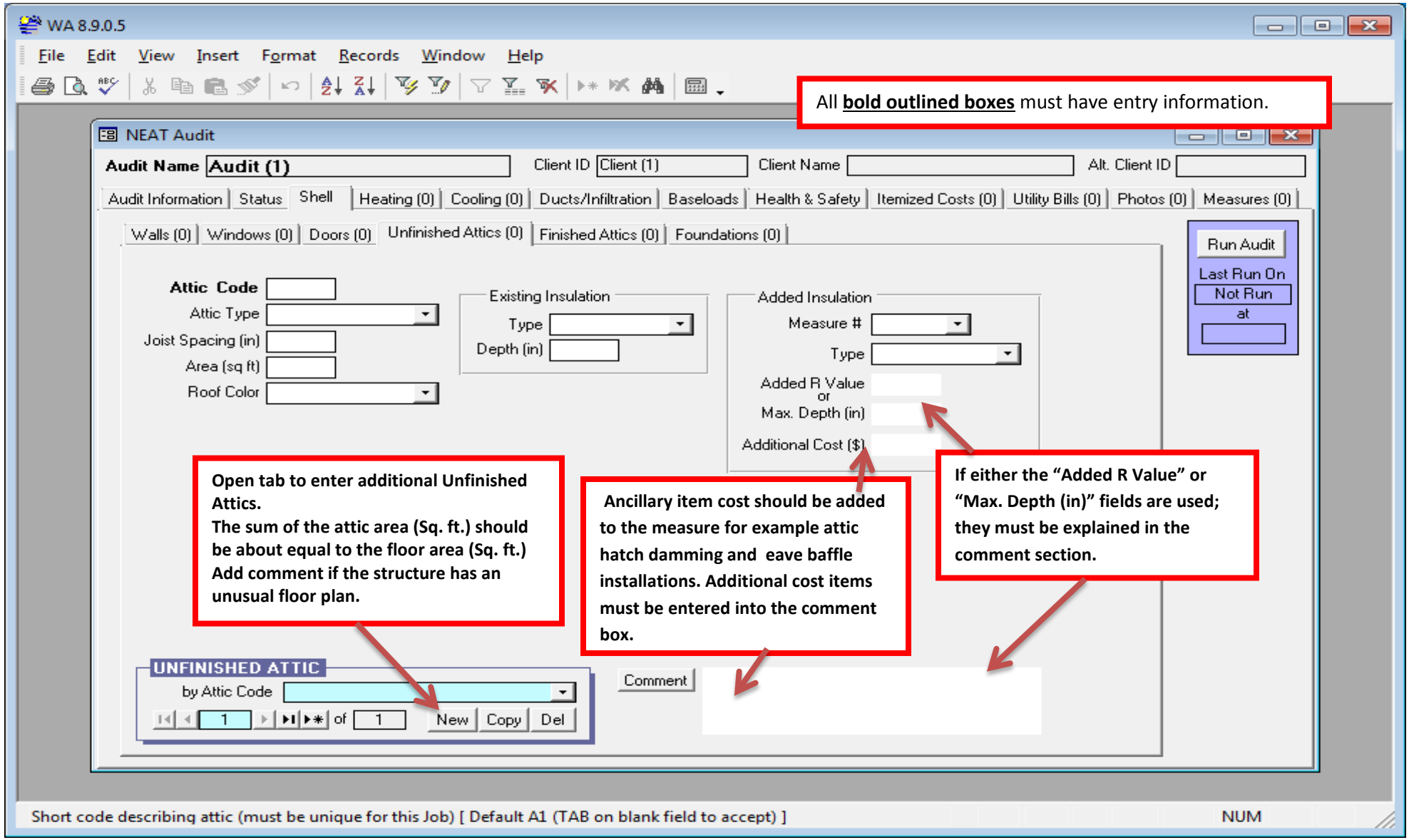
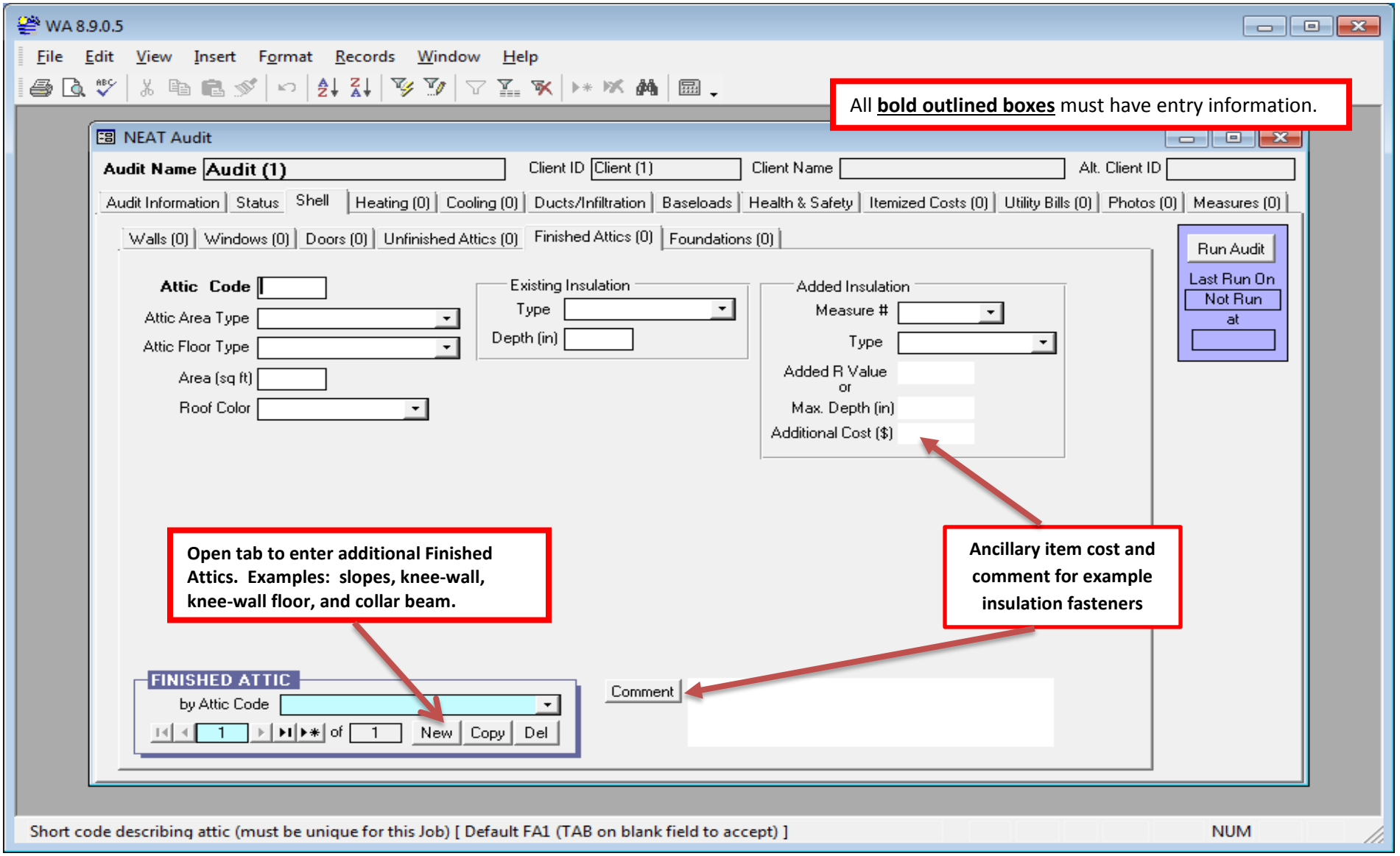
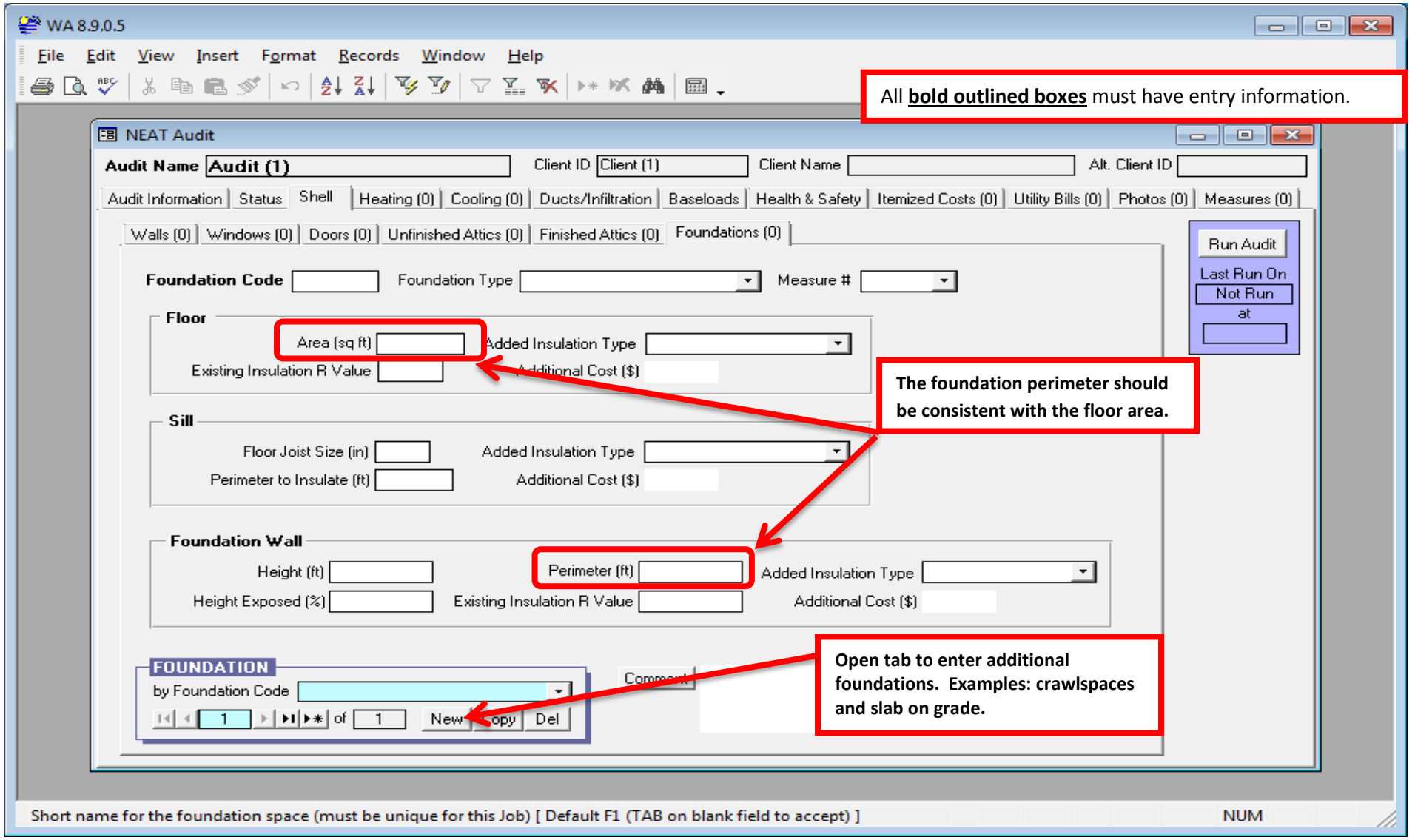
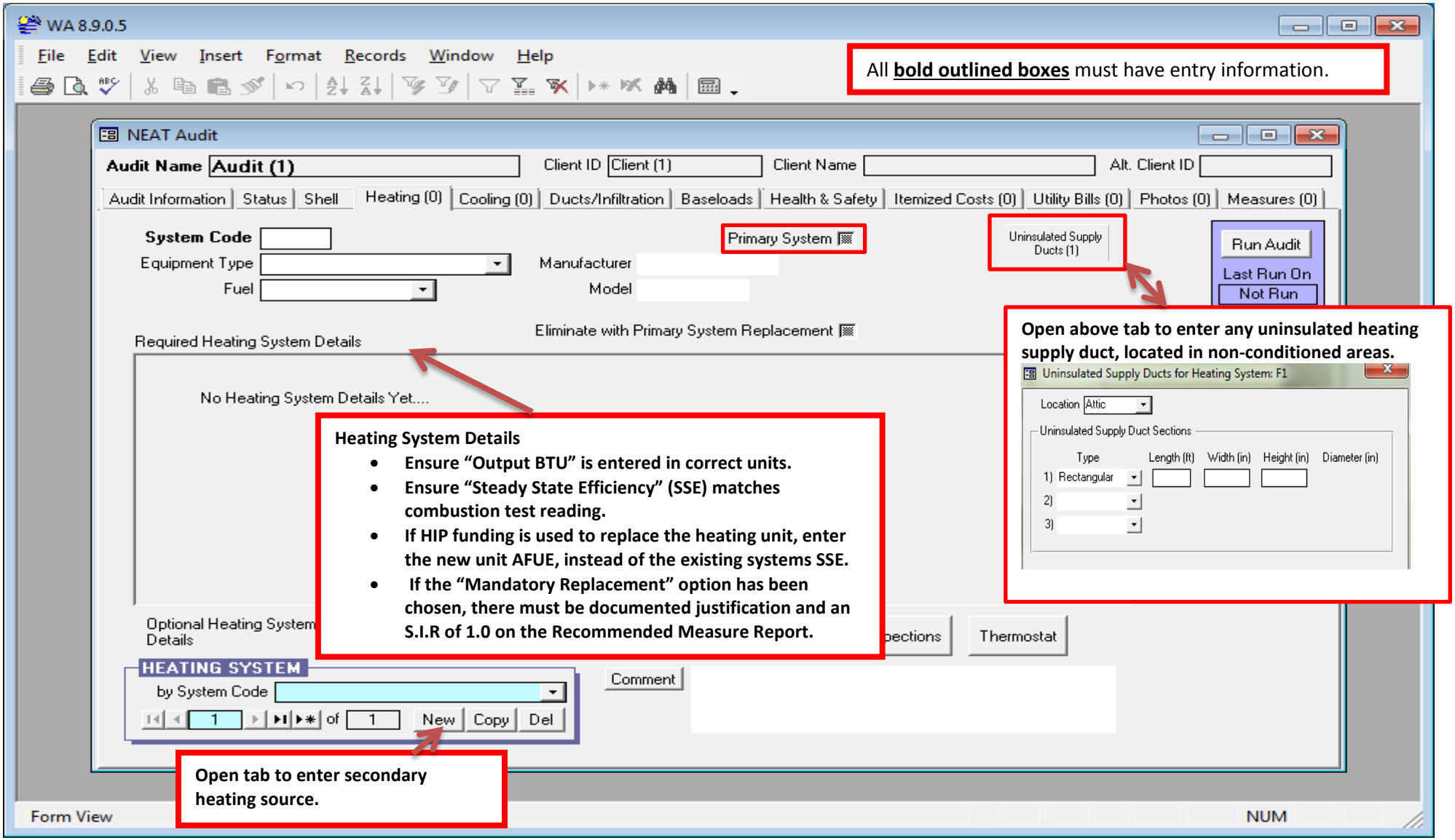

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Door Code
Door Type
Area (sq ft)
Storm Door Condition
Leakiness
Replacement Door Required
Additional Cost ($/door)
Optional Dimensions
Width (in)
Height (in)
Number on this Wall
Wall Code
Number
Checking the "Replacement required" box is not allowable. The audit must recommend the door replacement based on conditions entered.
Ancillary item cost and comment for example hinges and hardware.
DOOR
by Door Code
1 of 1 New Copy Del
Comment
Short door code (must be unique for doors on this wall) [Default DR1 (TAB on blank field to accept)]
NUM

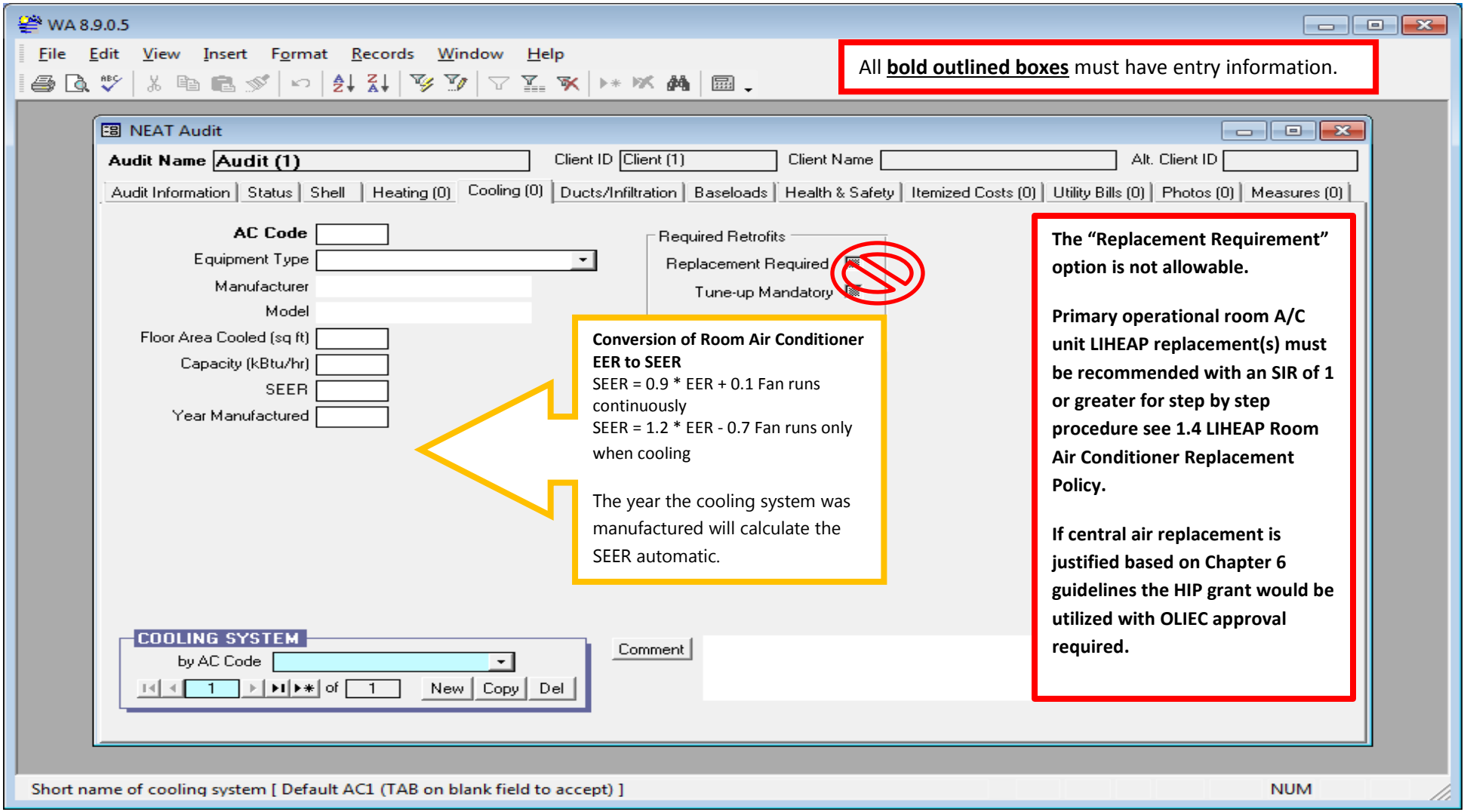
Figure 1

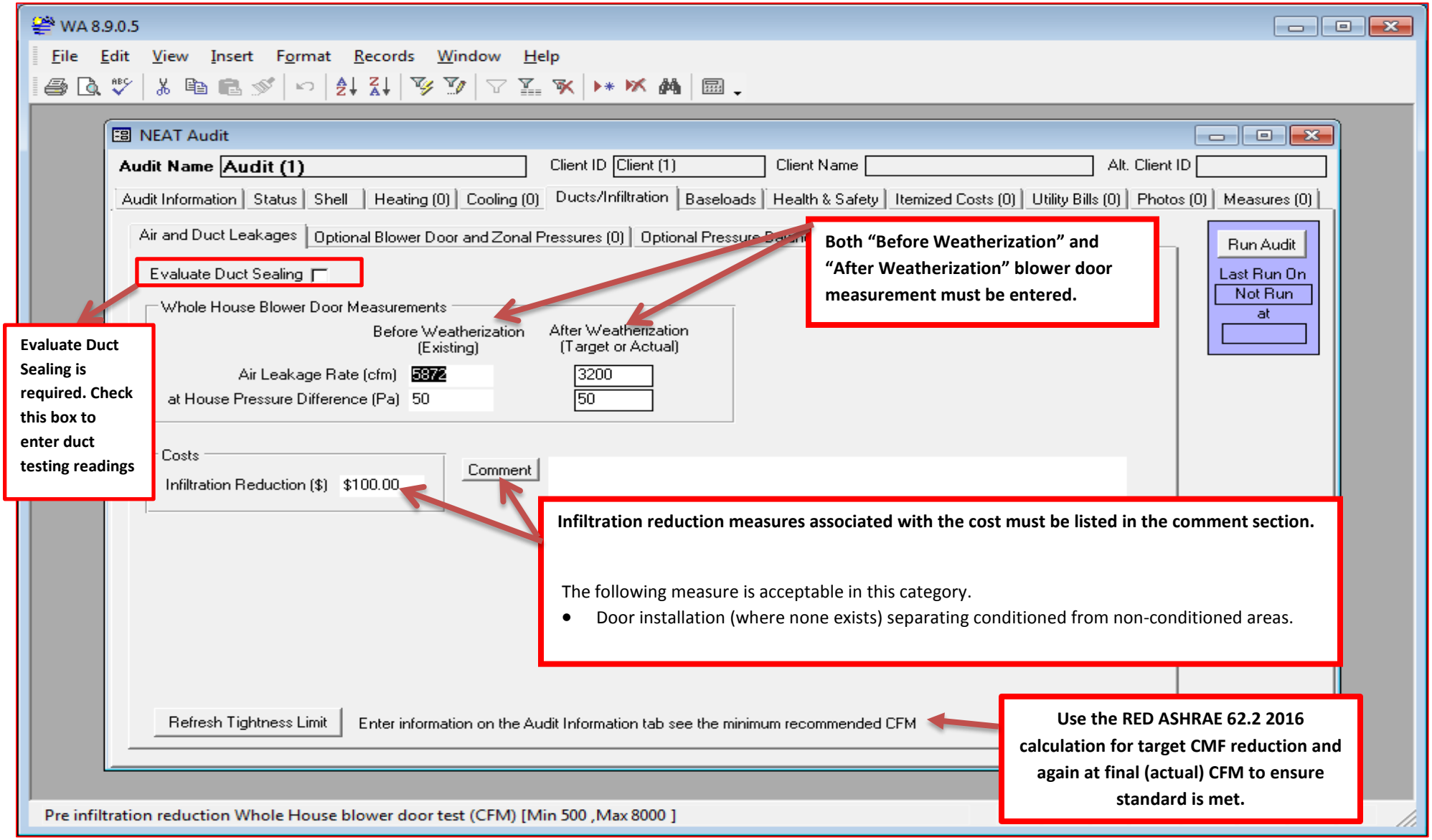

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Attic Code
Attic Type
Joist Spacing (in)
Area (sq ft)
Roof Color
Existing Insulation
Type
Depth (in)
Added Insulation
Measure #
Type
Added R Value
or
Max. Depth (in)
Additional Cost ($)
Open tab to enter additional Unfinished Attics.
The sum of the attic area (Sq. ft.) should be about equal to the floor area (Sq. ft.)
Add comment if the structure has an unusual floor plan.
Ancillary item cost should be added to the measure for example attic hatch damming and eave baffle installations. Additional cost items must be entered into the comment box.
If either the "Added R Value" or "Max. Depth (in)" fields are used; they must be explained in the comment section.
UNFINISHED ATTIC
by Attic Code
1 of 1 New Copy Del
Comment
Short code describing attic (must be unique for this Job) [Default A1 (TAB on blank field to accept)]
NUM

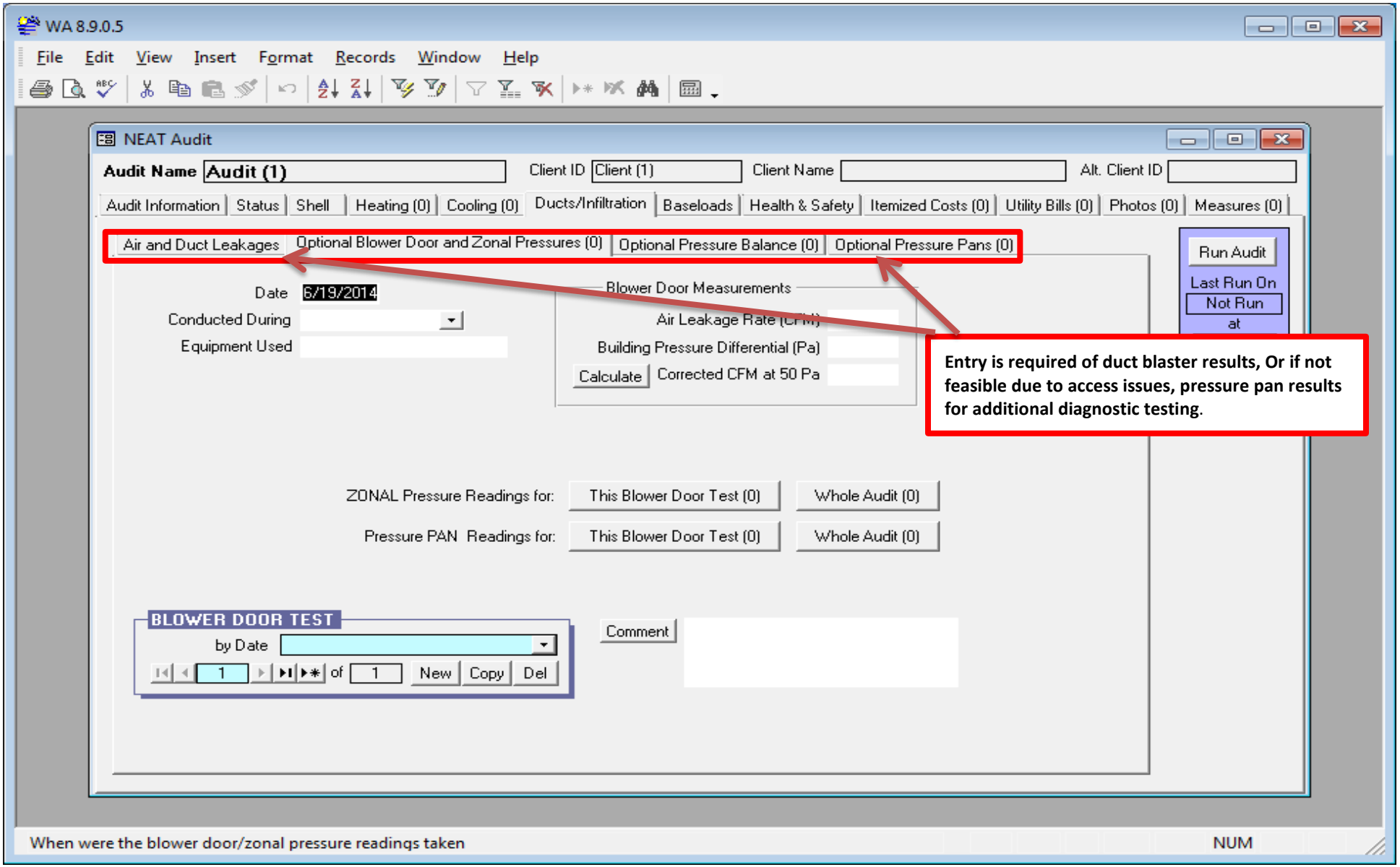

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Attic Code
Attic Area Type
Attic Floor Type
Area (sq ft)
Roof Color
Existing Insulation
Type
Depth (in)
Added Insulation
Measure #
Type
Added R Value
or
Max. Depth (in)
Additional Cost ($)
Open tab to enter additional Finished Attics. Examples: slopes, knee-wall, knee-wall floor, and collar beam.
Ancillary item cost and comment for example insulation fasteners
FINISHED ATTIC
by Attic Code
1 of 1 New Copy Del
Comment
Short code describing attic (must be unique for this Job) [Default FA1 (TAB on blank field to accept)]
NUM

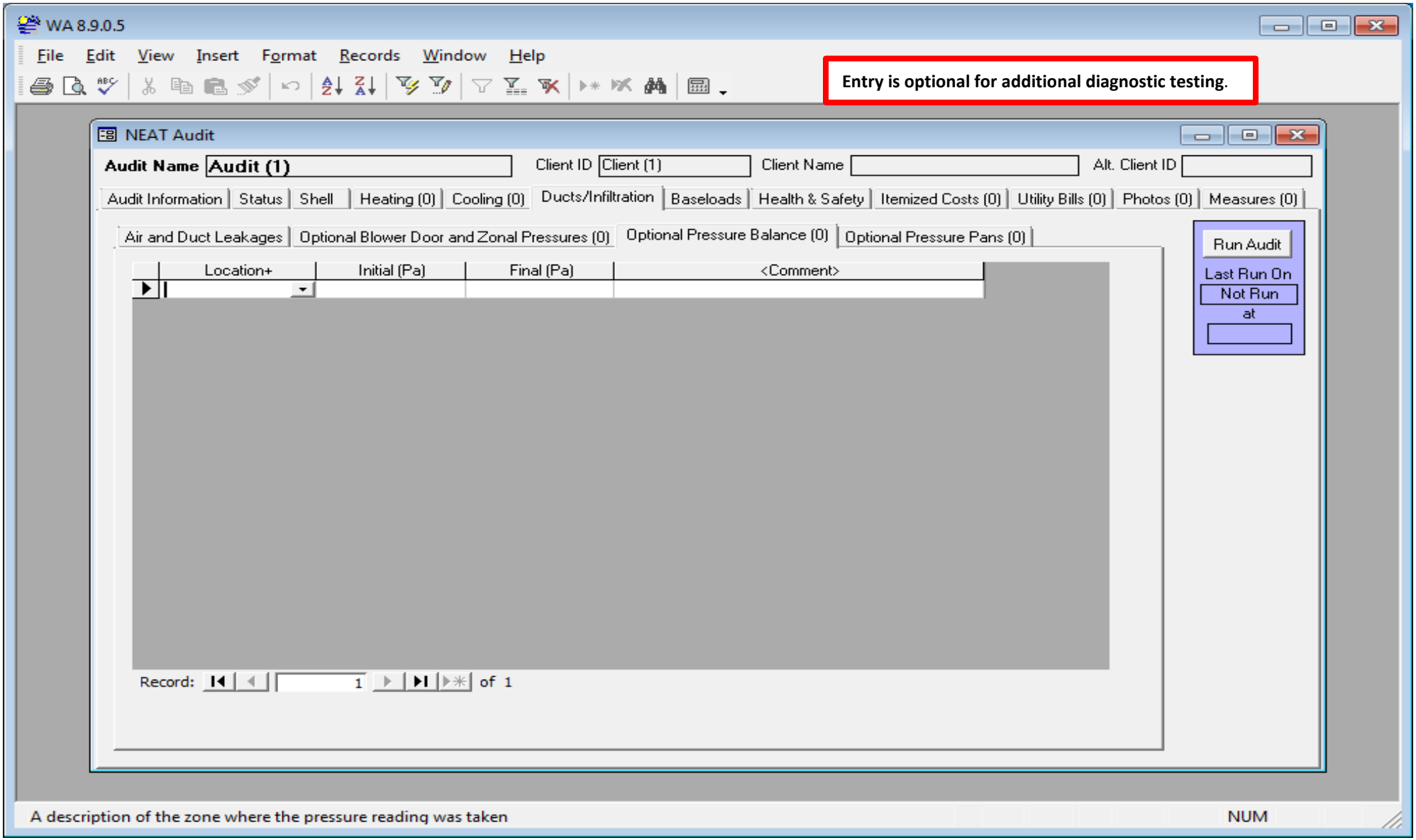

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Unfinished Attics (0) Finished Attics (0) Foundations (0)
Run Audit
Last Run On
Not Run
at
Foundation Code
Foundation Type
Measure #
Floor
Area (sq ft)
Added Insulation Type
Existing Insulation R Value
Additional Cost ($)
The foundation perimeter should be consistent with the floor area.
Sill
Floor Joist Size (in)
Added Insulation Type
Perimeter to Insulate (ft)
Additional Cost ($)
Foundation Wall
Height (ft)
Perimeter (ft)
Added Insulation Type
Height Exposed (%)
Existing Insulation R Value
Additional Cost ($)
FOUNDATION
by Foundation Code
1 of 1
New Copy Del
Comment
Open tab to enter additional foundations. Examples: crawlspaces and slab on grade.
Short name for the foundation space (must be unique for this Job) [Default F1 (TAB on blank field to accept)]
NUM

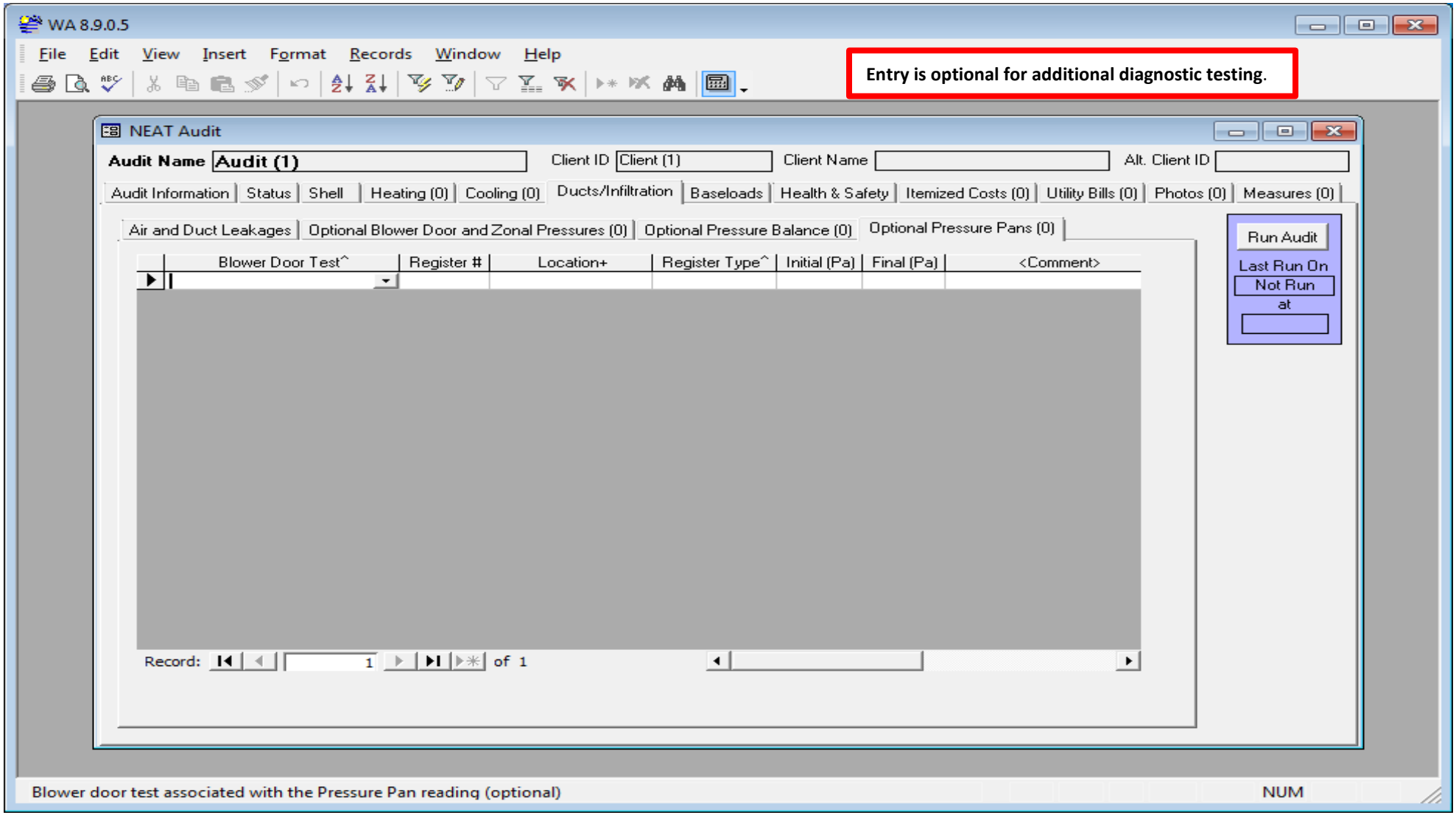

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
System Code
Equipment Type
Fuel
Manufacturer
Model
Primary System
Eliminate with Primary System Replacement
Uninsulated Supply Ducts (1)
Run Audit
Last Run On
Not Run
Required Heating System Details
No Heating System Details Yet....
Optional Heating System Details
Thermostat
Comment
HEATING SYSTEM
by System Code
1 of 1 New Copy Del
Open above tab to enter any uninsulated heating supply duct, located in non-conditioned areas.
Uninsulated Supply Ducts for Heating System: F1
Location Attic
Uninsulated Supply Duct Sections
Type Length (ft) Width (in) Height (in) Diameter (in)
1) Rectangular
2)
3)
Heating System Details
Ensure "Output BTU" is entered in correct units.
Ensure "Steady State Efficiency" (SSE) matches combustion test reading.
If HIP funding is used to replace the heating unit, enter the new unit AFUE, instead of the existing systems SSE.
If the "Mandatory Replacement" option has been chosen, there must be documented justification and an S.I.R of 1.0 on the Recommended Measure Report.
Open tab to enter secondary heating source.
Form View
NUM

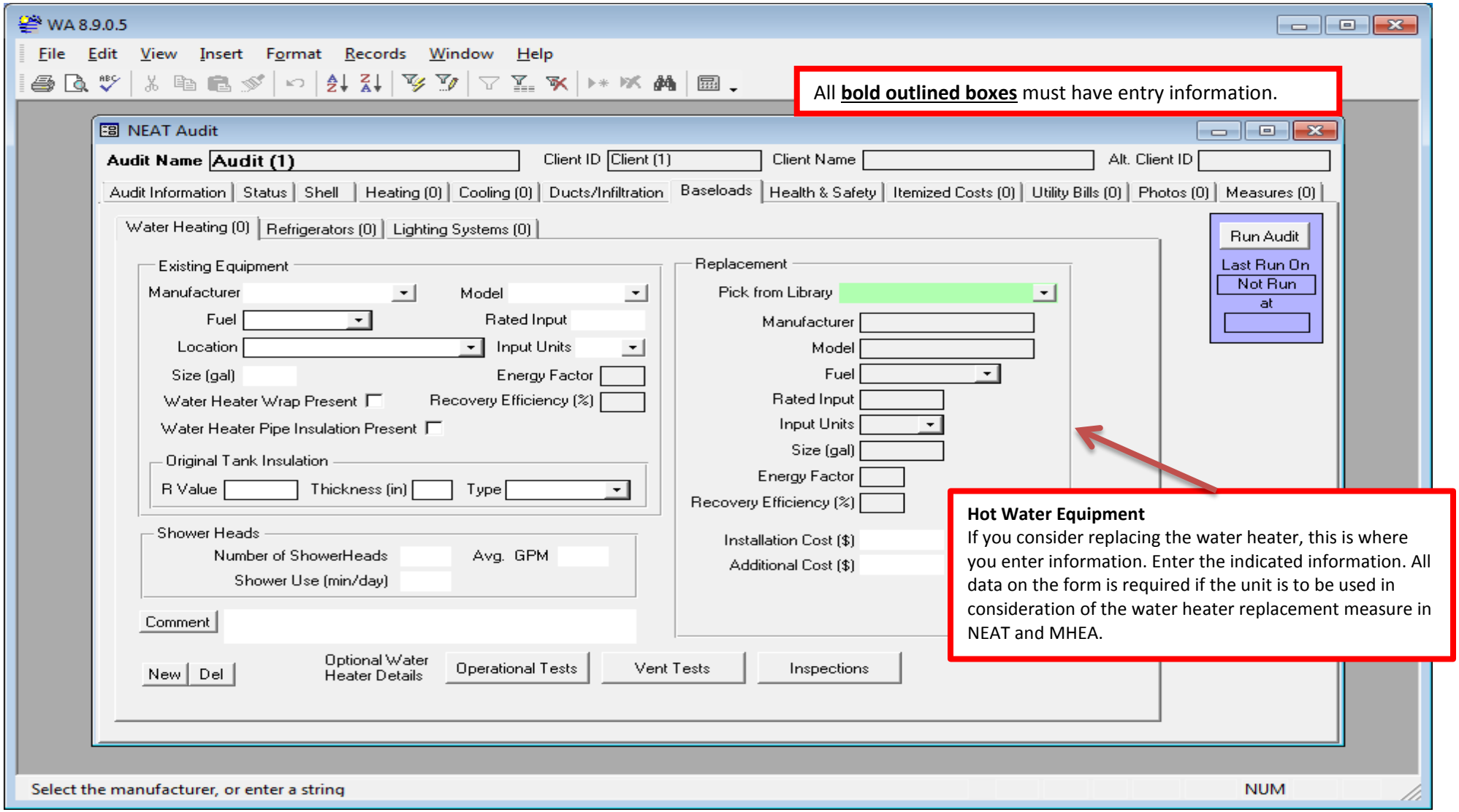

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
AC Code
Equipment Type
Manufacturer
Model
Floor Area Cooled (sq ft)
Capacity (kBtu/hr)
SEER
Year Manufactured
Required Retrofits
Replacement Required
Tune-up Mandatory
Conversion of Room Air Conditioner EER to SEER
SEER = 0.9 * EER + 0.1 Fan runs continuously
SEER = 1.2 * EER - 0.7 Fan runs only when cooling
The year the cooling system was manufactured will calculate the SEER automatic.
The "Replacement Requirement" option is not allowable.
Primary operational room A/C unit LIHEAP replacement(s) must be recommended with an SIR of 1 or greater for step by step procedure see 1.4 LIHEAP Room Air Conditioner Replacement Policy.
If central air replacement is justified based on Chapter 6 guidelines the HIP grant would be utilized with OLIEC approval required.
COOLING SYSTEM
by AC Code
1 of 1 New Copy Del
Comment
Short name of cooling system [Default AC1 (TAB on blank field to accept)]
NUM

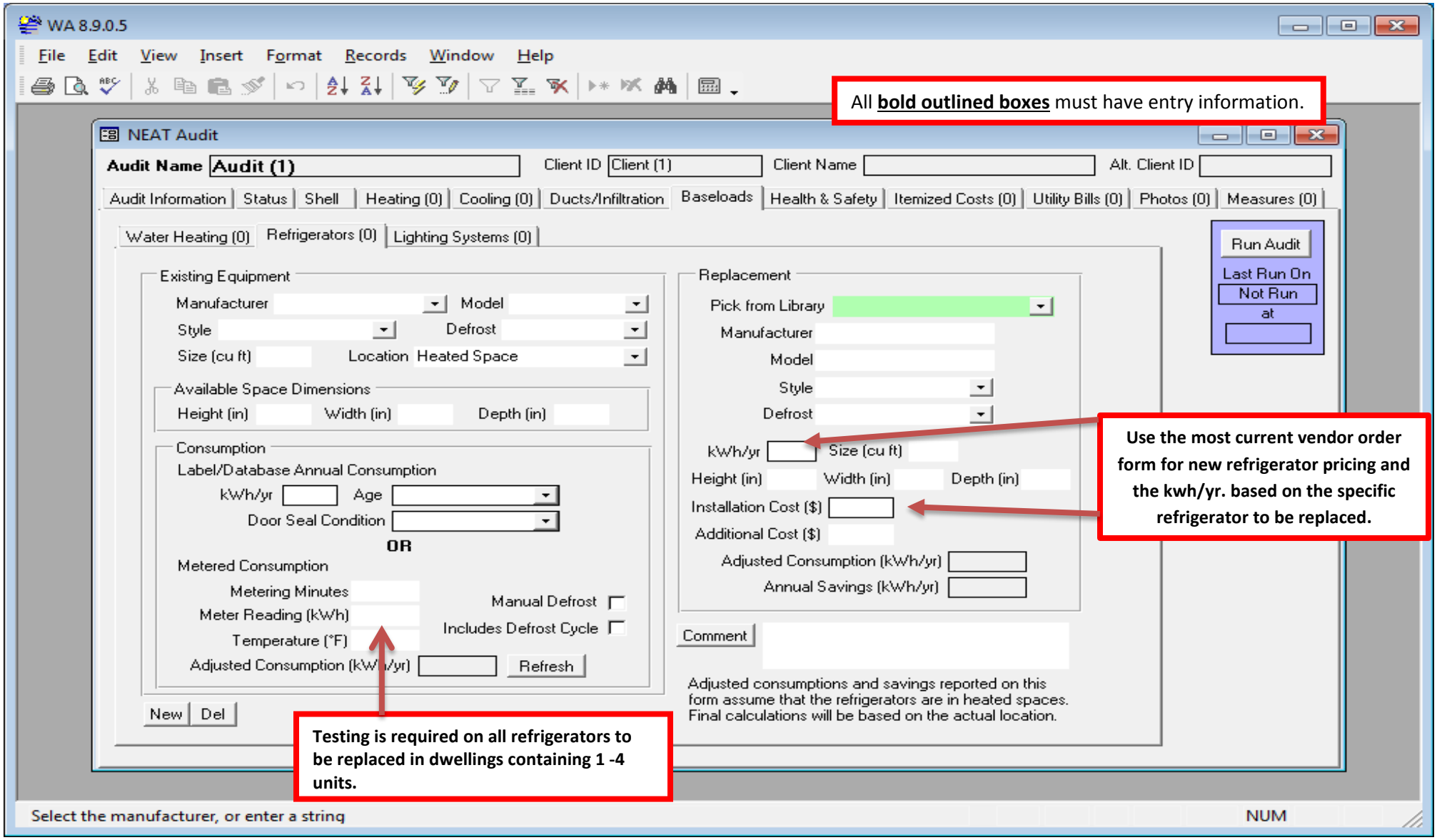

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages
Optional Blower Door and Zonal Pressures (0)
Evaluate Duct Sealing
Whole House Blower Door Measurements
Before Weatherization (Existing)
After Weatherization (Target or Actual)
Air Leakage Rate (cfm) 5872 3200
at House Pressure Difference (Pa) 50 50
Run Audit
Last Run On
Not Run
at
Costs
Infiltration Reduction ($) $100.00
Comment
Refresh Tightness Limit
Enter information on the Audit Information tab see the minimum recommended CFM
Pre infiltration reduction Whole House blower door test (CFM) [Min 500 ,Max 8000]
Evaluate Duct Sealing is required. Check this box to enter duct testing readings
Both "Before Weatherization" and "After Weatherization" blower door measurement must be entered.
Infiltration reduction measures associated with the cost must be listed in the comment section.
The following measure is acceptable in this category.
• Door installation (where none exists) separating conditioned from non-conditioned areas.
Use the RED ASHRAE 62.2 2016 calculation for target CMF reduction and again at final (actual) CFM to ensure standard is met.

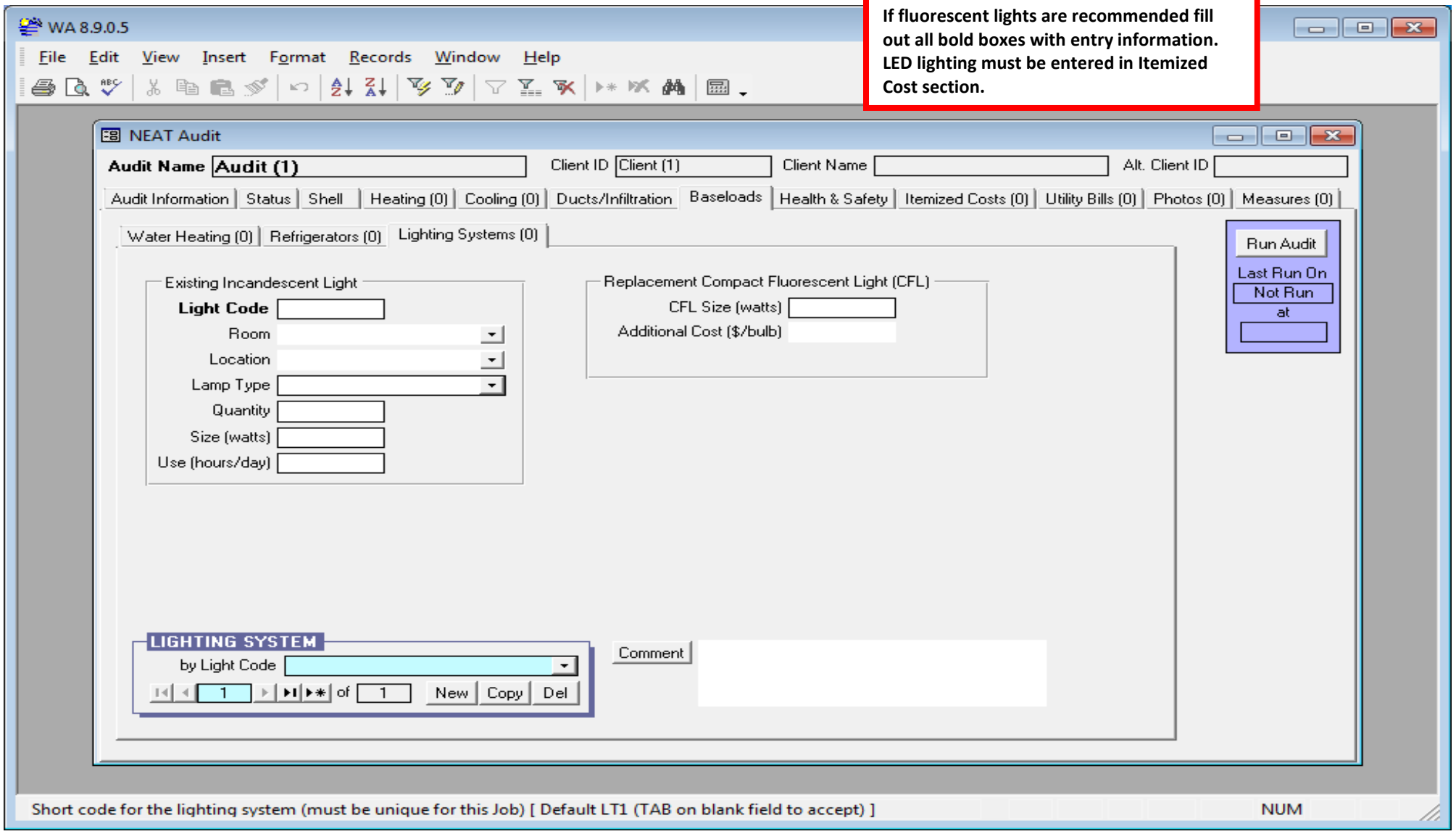

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages
Optional Blower Door and Zonal Pressures (0)
Optional Pressure Balance (0)
Optional Pressure Pans (0)
Run Audit
Last Run On
Not Run
at
Date 6/19/2014
Conducted During
Equipment Used
Blower Door Measurements
Air Leakage Rate (CFM)
Building Pressure Differential (Pa)
Calculate
Corrected CFM at 50 Pa
Entry is required of duct blaster results, Or if not feasible due to access issues, pressure pan results for additional diagnostic testing.
ZONAL Pressure Readings for:
This Blower Door Test (0)
Whole Audit (0)
Pressure PAN Readings for:
This Blower Door Test (0)
Whole Audit (0)
BLOWER DOOR TEST
by Date
1 of 1 New Copy Del
Comment
When were the blower door/zonal pressure readings taken
NUM

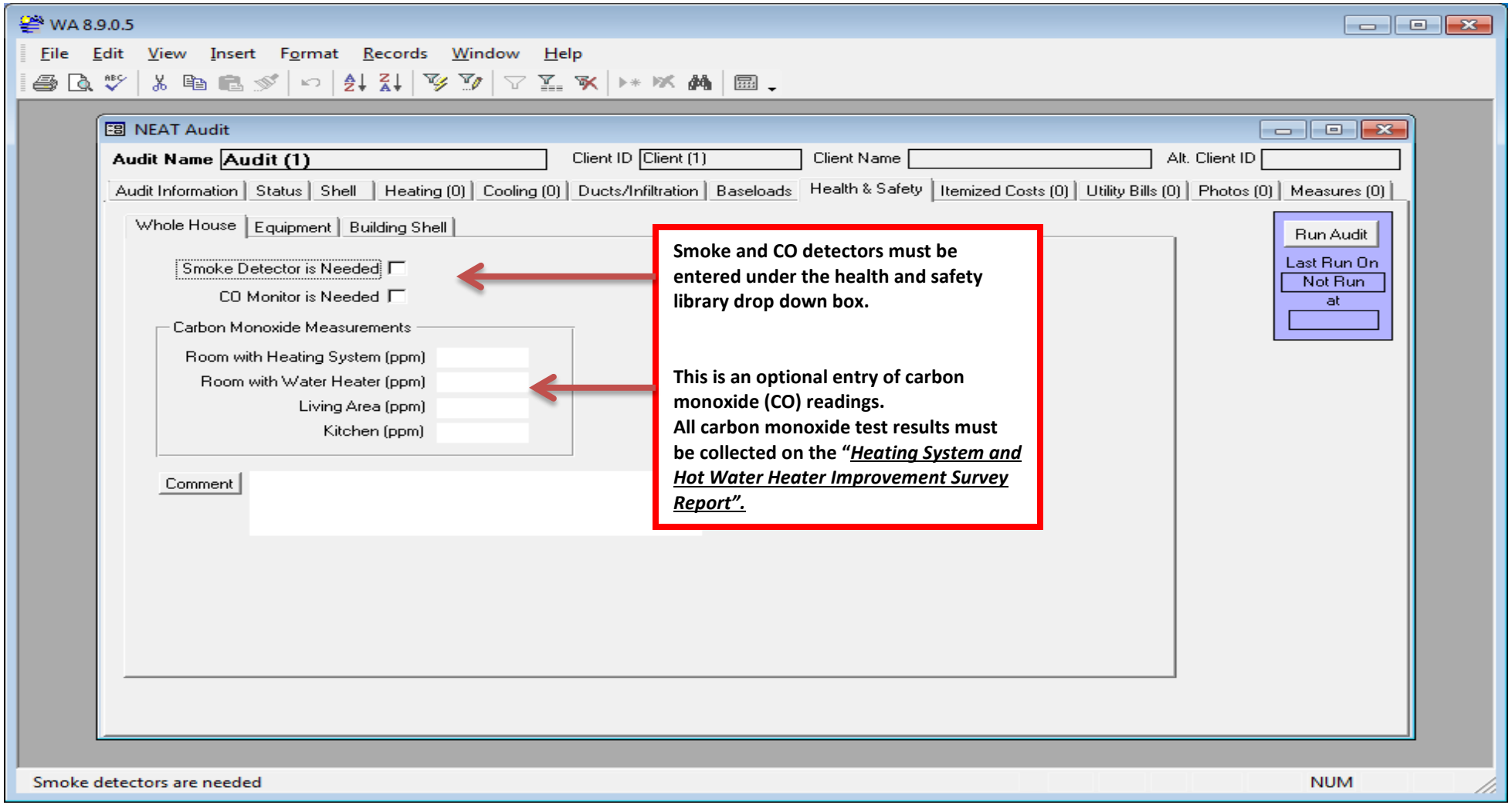

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Entry is optional for additional diagnostic testing.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages Optional Blower Door and Zonal Pressures (0) Optional Pressure Balance (0) Optional Pressure Pans (0)
Location+ Initial (Pa) Final (Pa) <Comment>
Record: 1 of 1
Run Audit
Last Run On
Not Run
at
A description of the zone where the pressure reading was taken
NUM

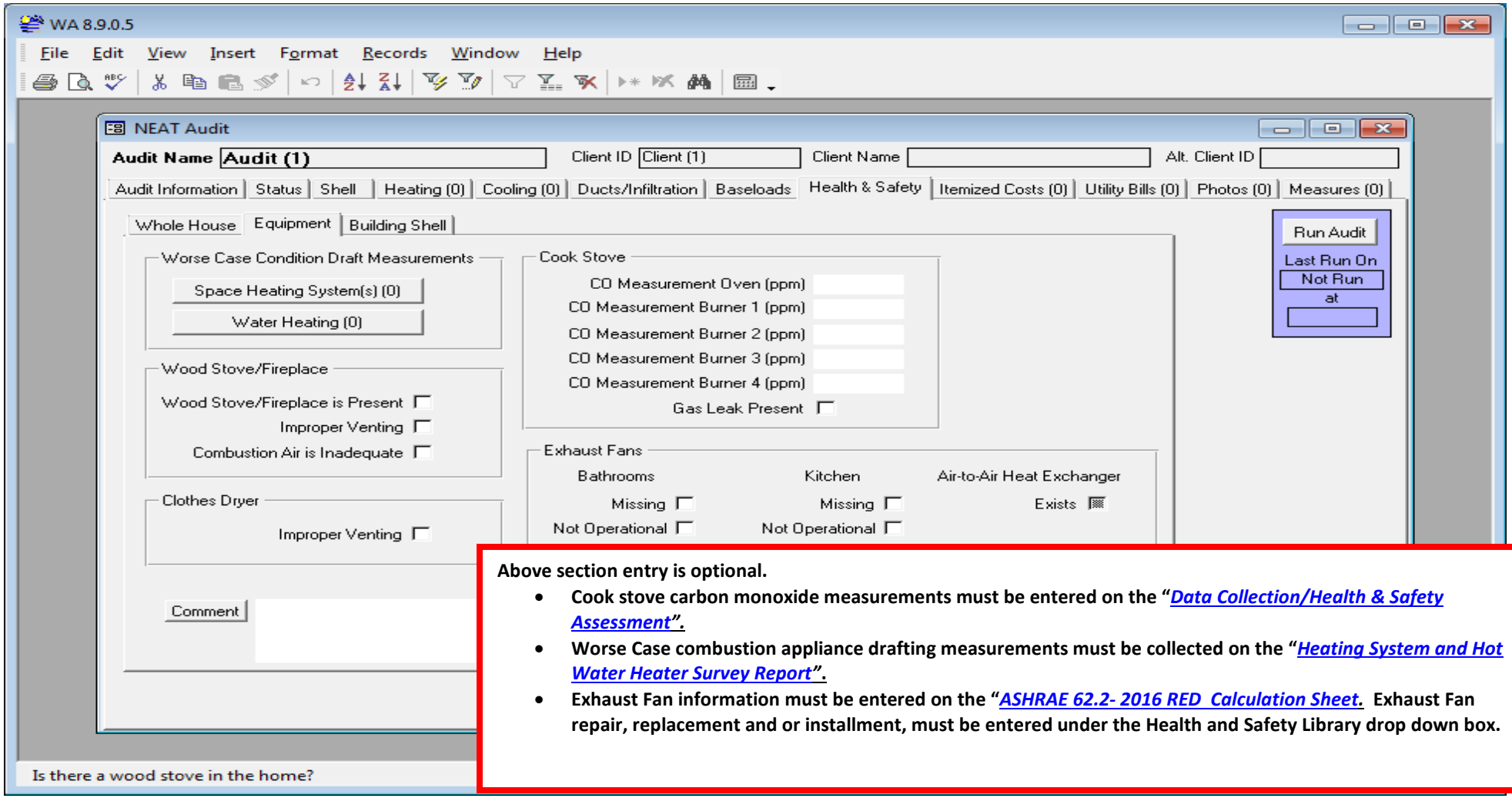

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Entry is optional for additional diagnostic testing.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages Optional Blower Door and Zonal Pressures (0) Optional Pressure Balance (0) Optional Pressure Pans (0)
Blower Door Test^ Register # Location+ Register Type^ Initial (Pa) Final (Pa) <Comment>
Record: 1 of 1
Run Audit
Last Run On
Not Run
at
Blower door test associated with the Pressure Pan reading (optional)
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Run Audit
Last Run On
Not Run
at
Existing Equipment
Manufacturer
Model
Fuel
Rated Input
Location
Input Units
Size (gal)
Energy Factor
Water Heater Wrap Present
Recovery Efficiency (%)
Water Heater Pipe Insulation Present
Original Tank Insulation
R Value
Thickness (in)
Type
Shower Heads
Number of ShowerHeads
Avg. GPM
Shower Use (min/day)
Comment
Replacement
Pick from Library
Manufacturer
Model
Fuel
Rated Input
Input Units
Size (gal)
Energy Factor
Recovery Efficiency (%)
Installation Cost ($)
Additional Cost ($)
New Del
Optional Water Heater Details
Operational Tests
Vent Tests
Inspections
Hot Water Equipment
If you consider replacing the water heater, this is where you enter information. Enter the indicated information. All data on the form is required if the unit is to be used in consideration of the water heater replacement measure in NEAT and MHEA.
Select the manufacturer, or enter a string
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Run Audit
Last Run On
Not Run
at
Existing Equipment
Manufacturer
Model
Style
Defrost
Size (cu ft)
Location Heated Space
Available Space Dimensions
Height (in)
Width (in)
Depth (in)
Consumption
Label/Database Annual Consumption
kWh/yr
Age
Door Seal Condition
OR
Metered Consumption
Metering Minutes
Meter Reading (kWh)
Temperature (°F)
Adjusted Consumption (kWh/yr)
Refresh
Manual Defrost
Includes Defrost Cycle
New
Del
Replacement
Pick from Library
Manufacturer
Model
Style
Defrost
kWh/yr
Size (cu ft)
Height (in)
Width (in)
Depth (in)
Installation Cost ($)
Additional Cost ($)
Adjusted Consumption (kWh/yr)
Annual Savings (kWh/yr)
Comment
Adjusted consumptions and savings reported on this form assume that the refrigerators are in heated spaces. Final calculations will be based on the actual location.
Use the most current vendor order form for new refrigerator pricing and the kwh/yr. based on the specific refrigerator to be replaced.
Testing is required on all refrigerators to be replaced in dwellings containing 1 -4 units.
Select the manufacturer, or enter a string
NUM

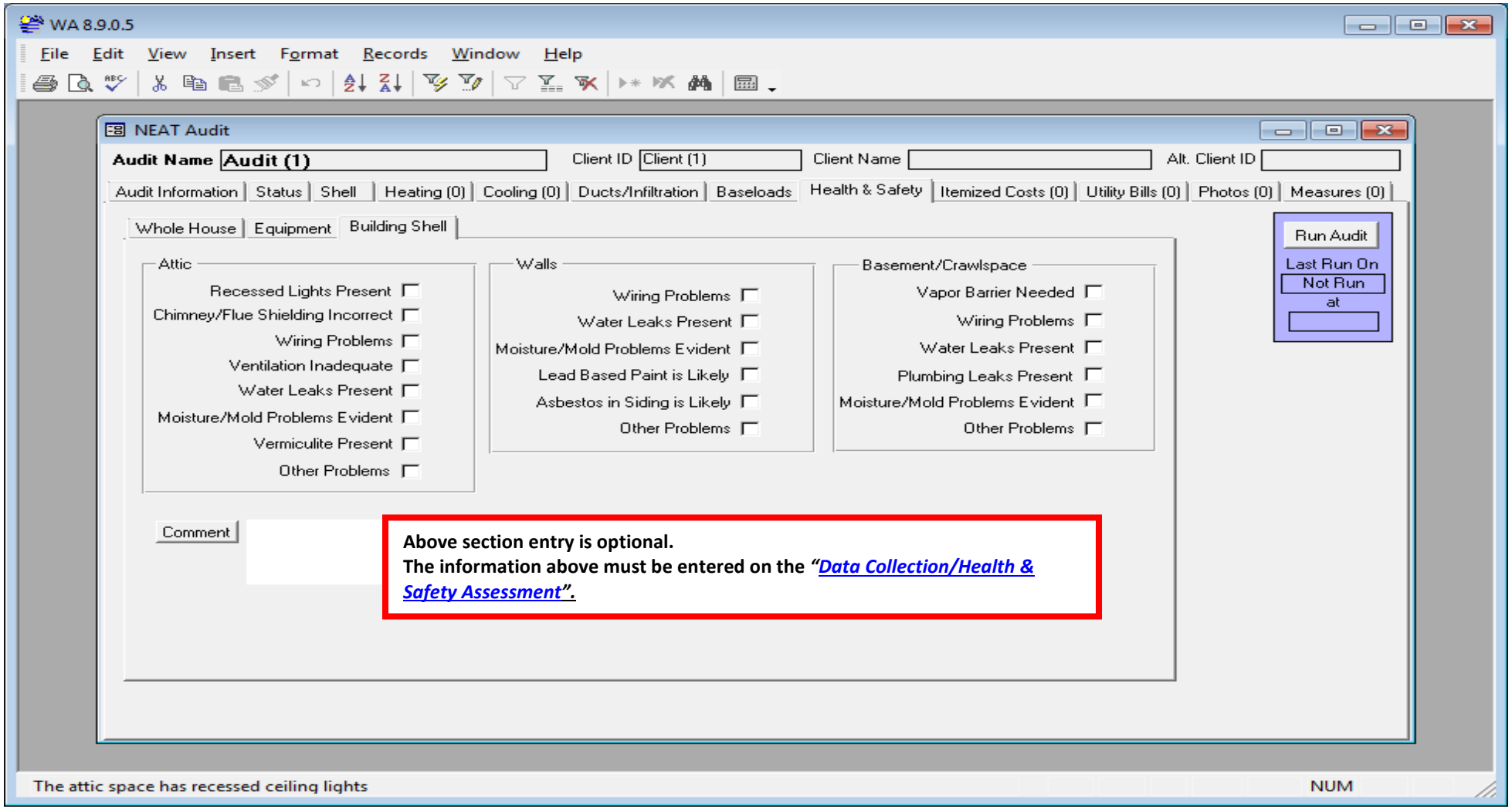

If fluorescent lights are recommended fill out all bold boxes with entry information. LED lighting must be entered in Itemized Cost section.
WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Run Audit
Last Run On
Not Run
at
Existing Incandescent Light
Light Code
Room
Location
Lamp Type
Quantity
Size (watts)
Use (hours/day)
Replacement Compact Fluorescent Light (CFL)
CFL Size (watts)
Additional Cost ($/bulb)
LIGHTING SYSTEM
by Light Code
1 of 1 New Copy Del
Comment
Short code for the lighting system (must be unique for this Job) [Default LT1 (TAB on blank field to accept)]
NUM

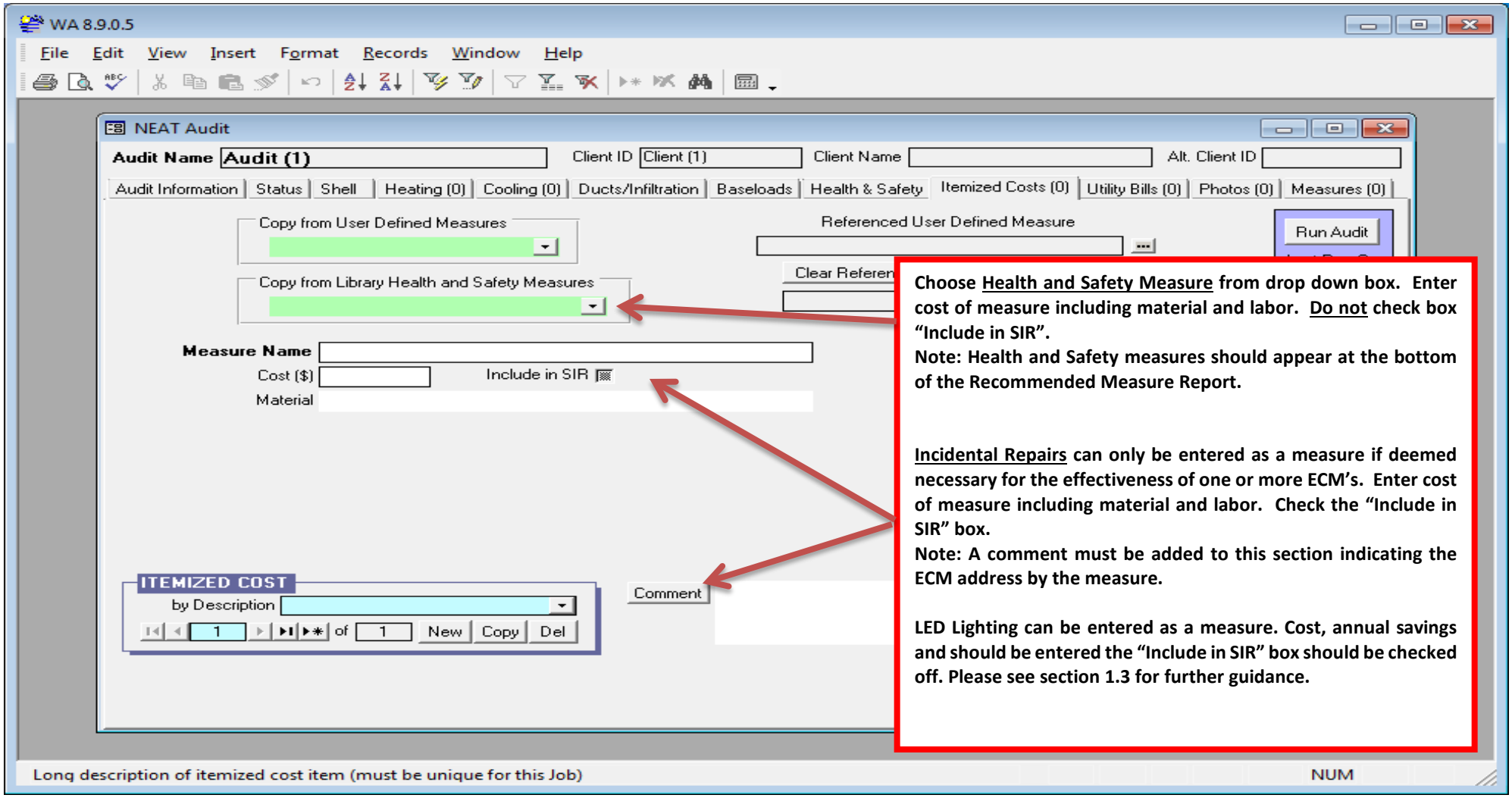

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Whole House Equipment Building Shell
Smoke Detector is Needed
CO Monitor is Needed
Carbon Monoxide Measurements
Room with Heating System (ppm)
Room with Water Heater (ppm)
Living Area (ppm)
Kitchen (ppm)
Comment
Run Audit
Last Run On
Not Run
at
Smoke and CO detectors must be entered under the health and safety library drop down box.
This is an optional entry of carbon monoxide (CO) readings.
All carbon monoxide test results must be collected on the "Heating System and Hot Water Heater Improvement Survey Report".
Smoke detectors are needed
NUM



Above section entry is optional.

- **Cook stove carbon monoxide measurements must be entered on the "*Data Collection/Health & Safety Assessment*".**
- **Worse Case combustion appliance drafting measurements must be collected on the "*Heating System and Hot Water Heater Survey Report*".**
- **Exhaust Fan information must be entered on the "*ASHRAE 62.2- 2016 RED Calculation Sheet*. Exhaust Fan repair, replacement and or installment, must be entered under the Health and Safety Library drop down box.**

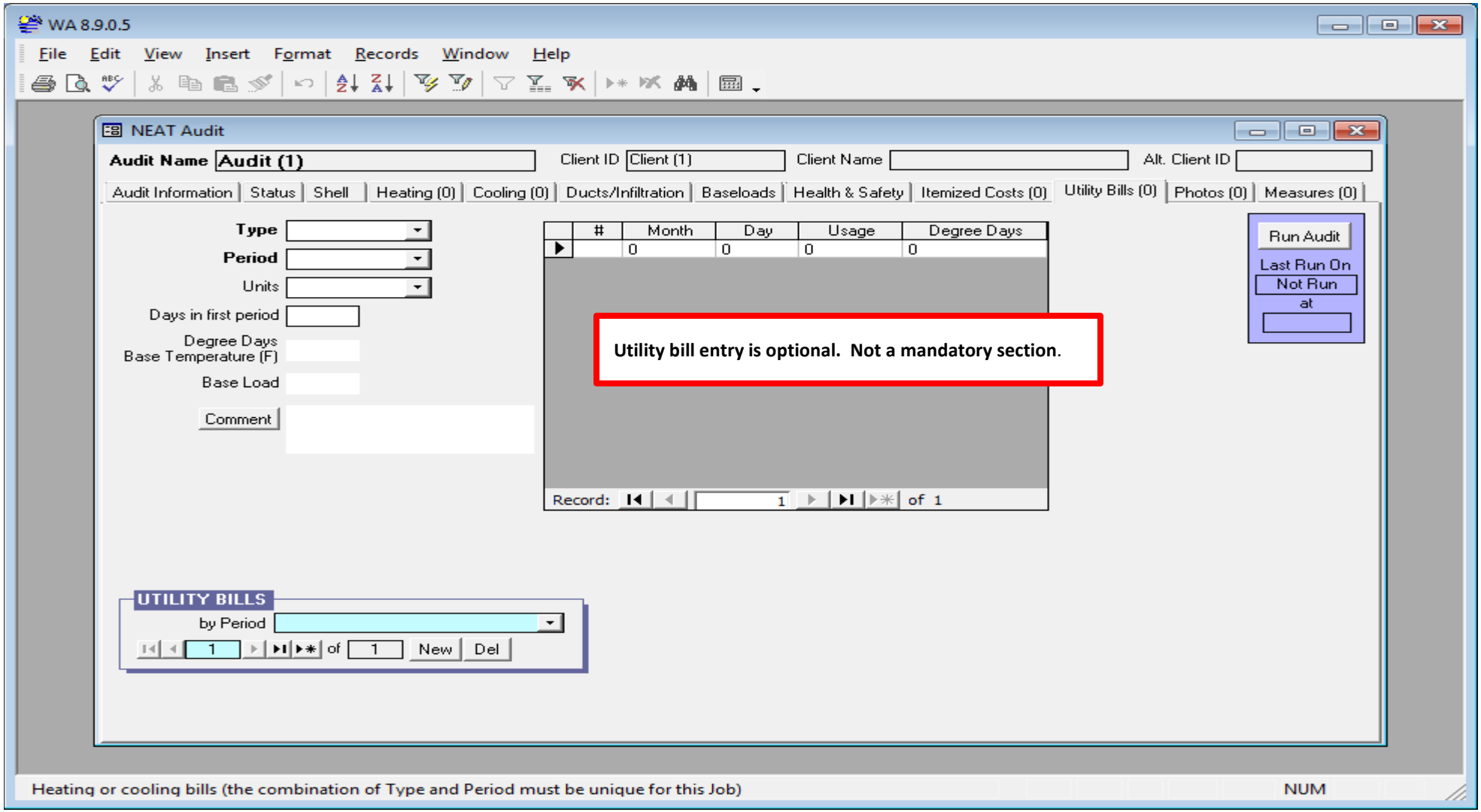

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Whole House Equipment Building Shell
Run Audit
Last Run On
Not Run
at
Attic
Recessed Lights Present
Chimney/Flue Shielding Incorrect
Wiring Problems
Ventilation Inadequate
Water Leaks Present
Moisture/Mold Problems Evident
Vermiculite Present
Other Problems
Walls
Wiring Problems
Water Leaks Present
Moisture/Mold Problems Evident
Lead Based Paint is Likely
Asbestos in Siding is Likely
Other Problems
Basement/Crawlspace
Vapor Barrier Needed
Wiring Problems
Water Leaks Present
Plumbing Leaks Present
Moisture/Mold Problems Evident
Other Problems
Comment
Above section entry is optional.
The information above must be entered on the "Data Collection/Health & Safety Assessment".
The attic space has recessed ceiling lights
NUM

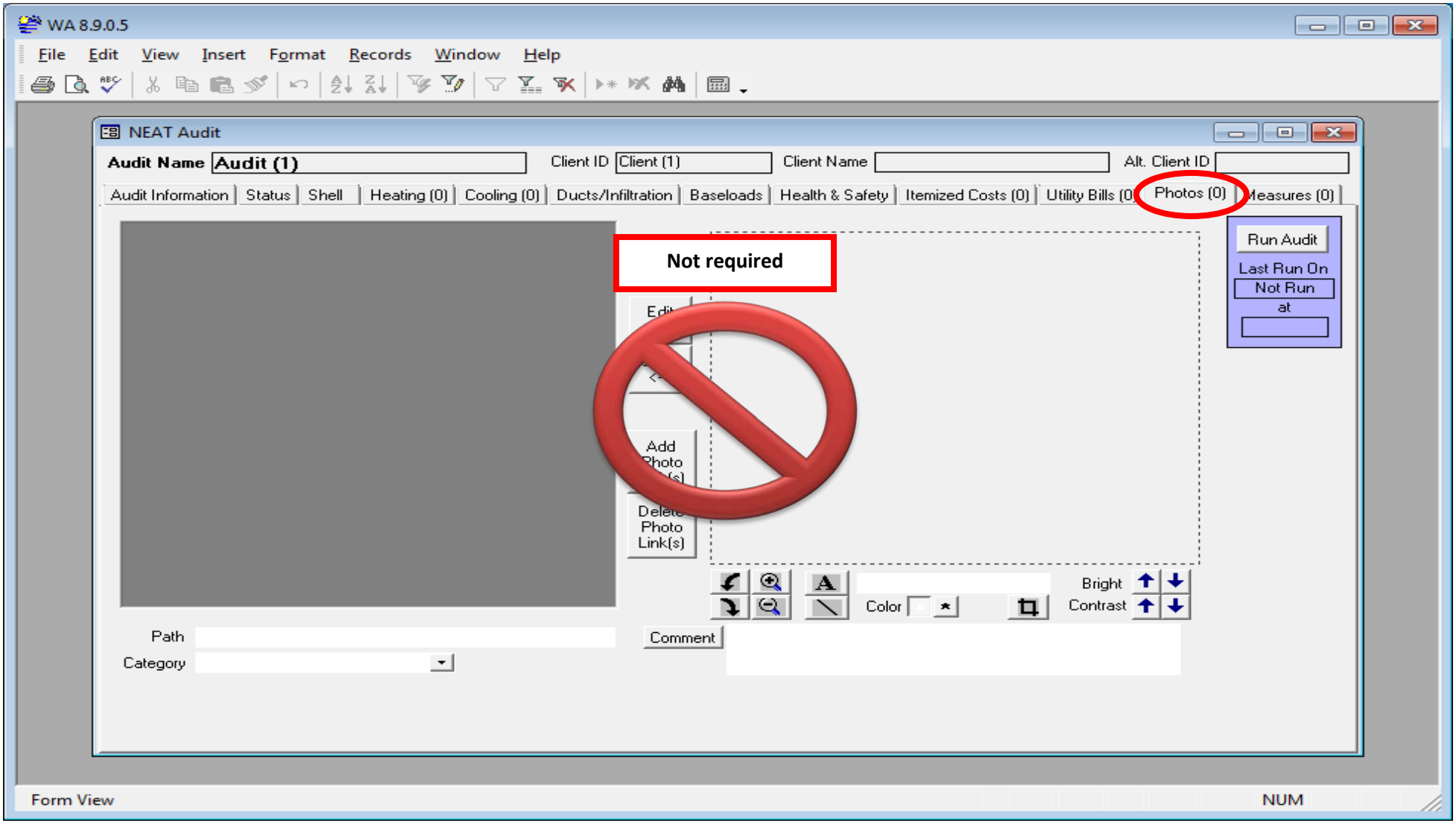


Choose <u>Health and Safety Measure</u> from drop down box. Enter cost of measure including material and labor. <u>Do not</u> check box "Include in SIR".
Note: Health and Safety measures should appear at the bottom of the Recommended Measure Report.

<u>Incidental Repairs</u> can only be entered as a measure if deemed necessary for the effectiveness of one or more ECM's. Enter cost of measure including material and labor. Check the "Include in SIR" box.
Note: A comment must be added to this section indicating the ECM address by the measure.

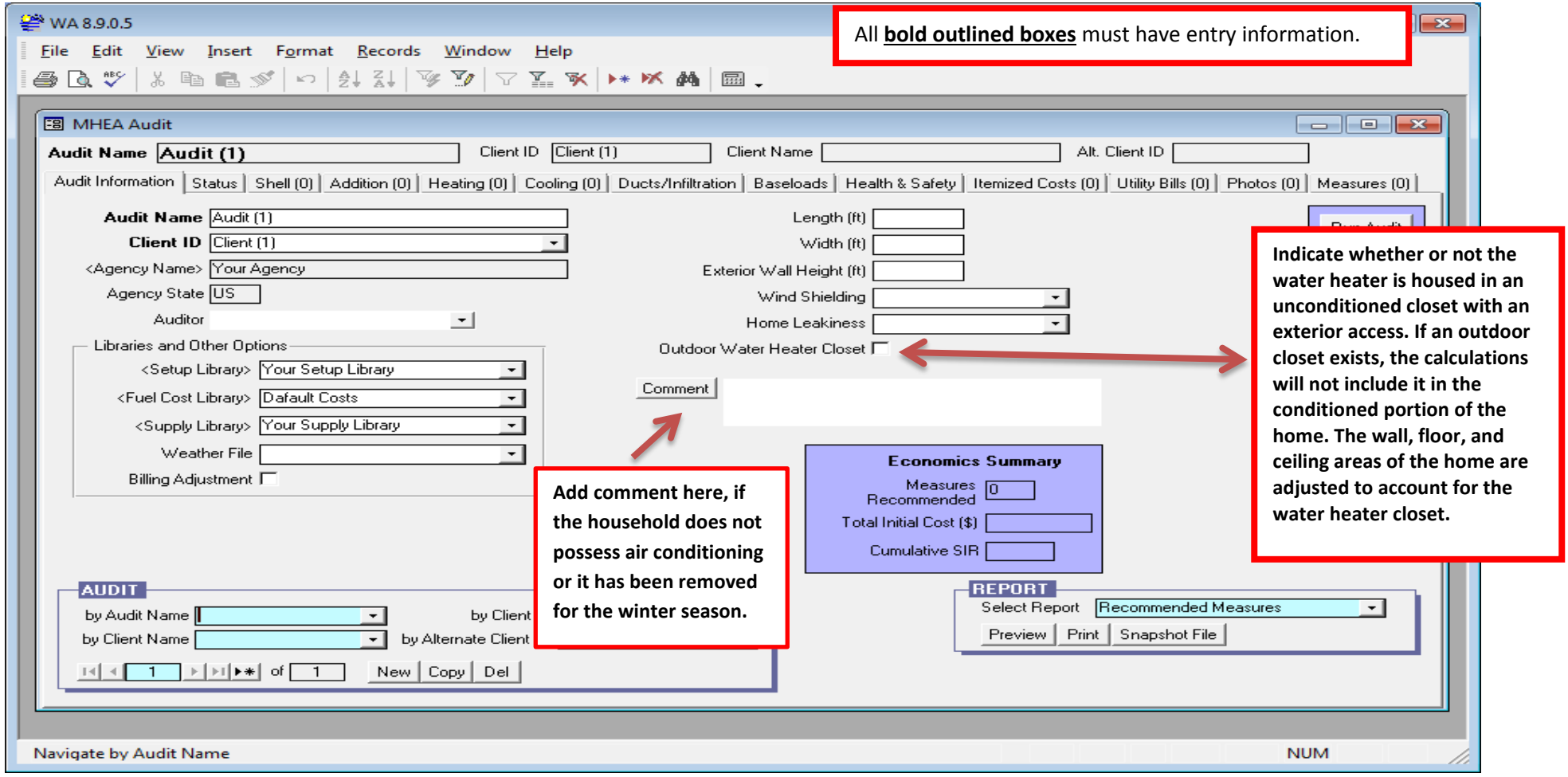
LED Lighting can be entered as a measure. Cost, annual savings and should be entered the "Include in SIR" box should be checked off. Please see section 1.3 for further guidance.

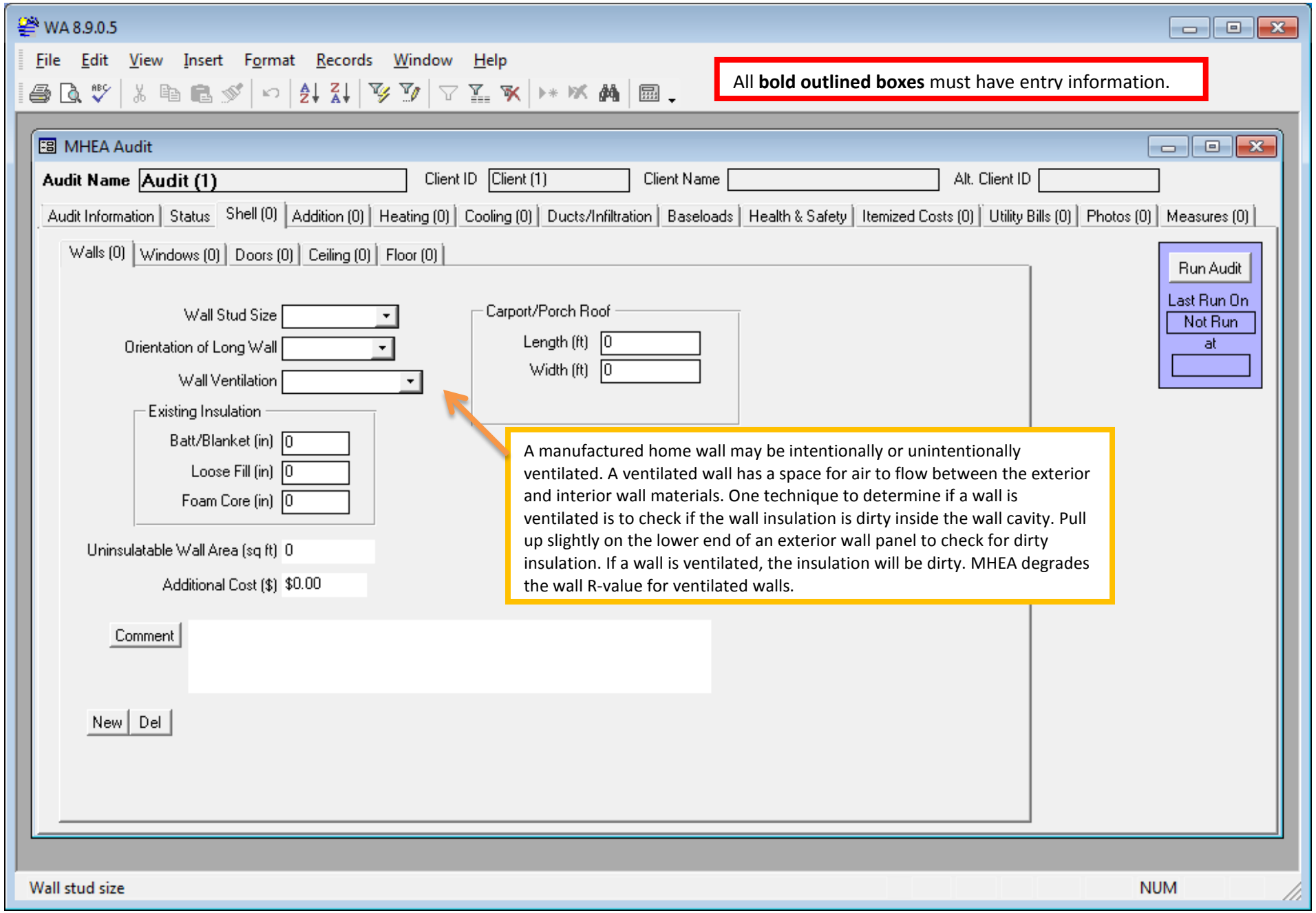

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Type
Period
Units
Days in first period
Degree Days Base Temperature (F)
Base Load
Comment
Month Day Usage Degree Days
0 0 0 0
Utility bill entry is optional. Not a mandatory section.
Run Audit
Last Run On
Not Run
at
Record: 1 of 1
UTILITY BILLS
by Period
1 of 1 New Del
Heating or cooling bills (the combination of Type and Period must be unique for this Job)
NUM

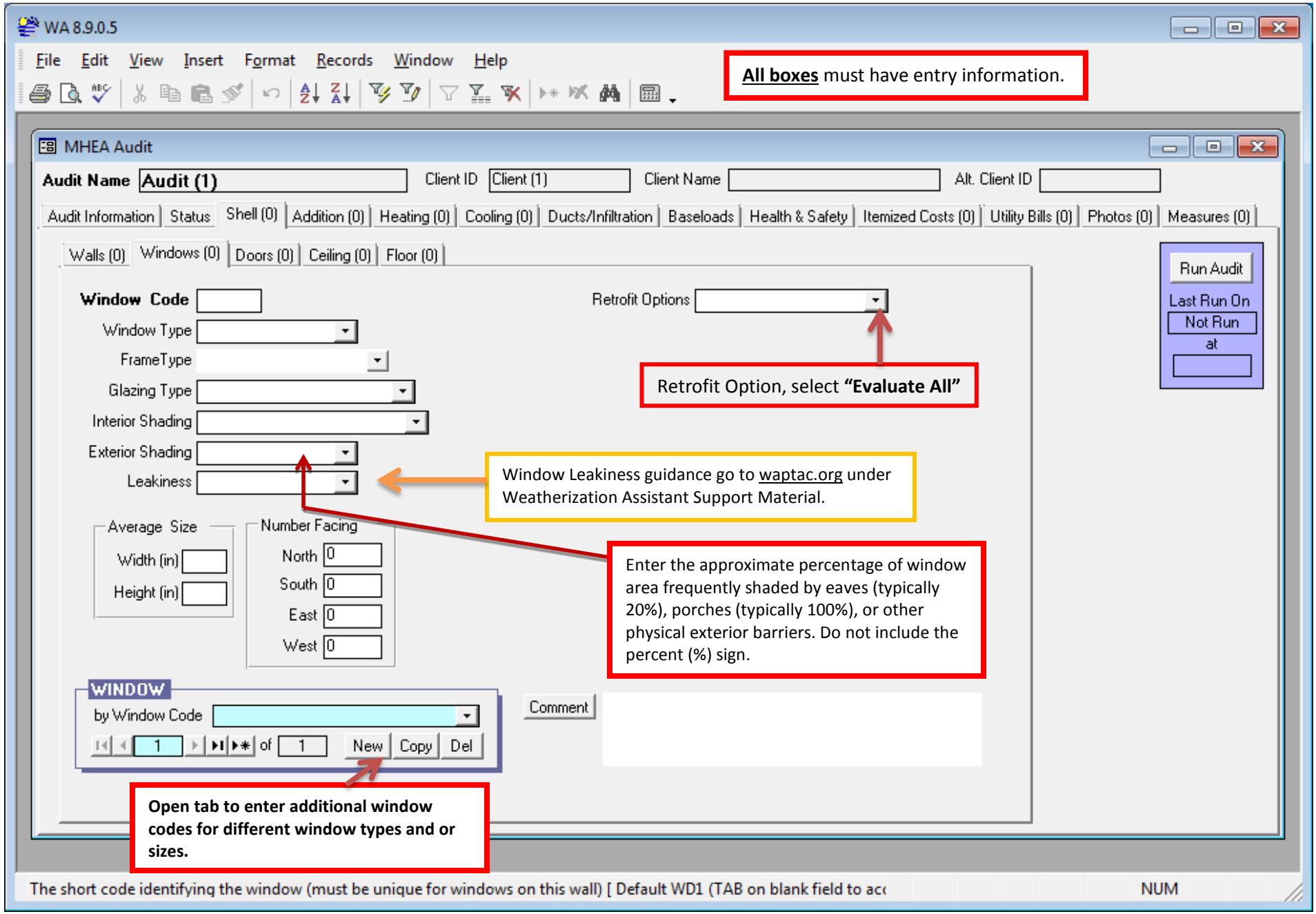

WA 8.9.0.5
File Edit View Insert Format Records Window Help
NEAT Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Not required
Run Audit
Last Run On
Not Run
at
Add Photo
Delete Photo Link(s)
Bright
Contrast
Color
Path
Category
Comment
Form View
NUM

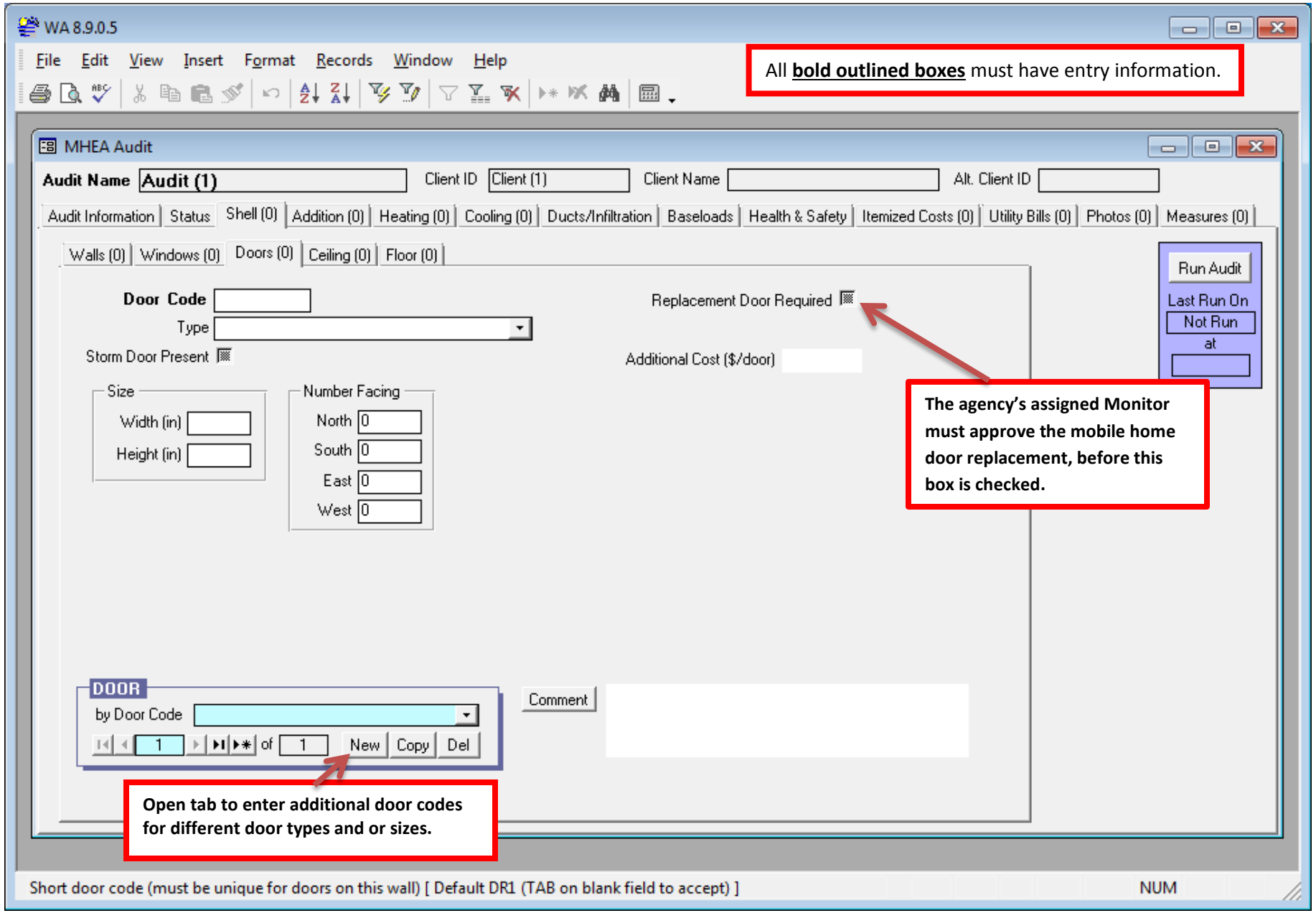
2.2.MHEA

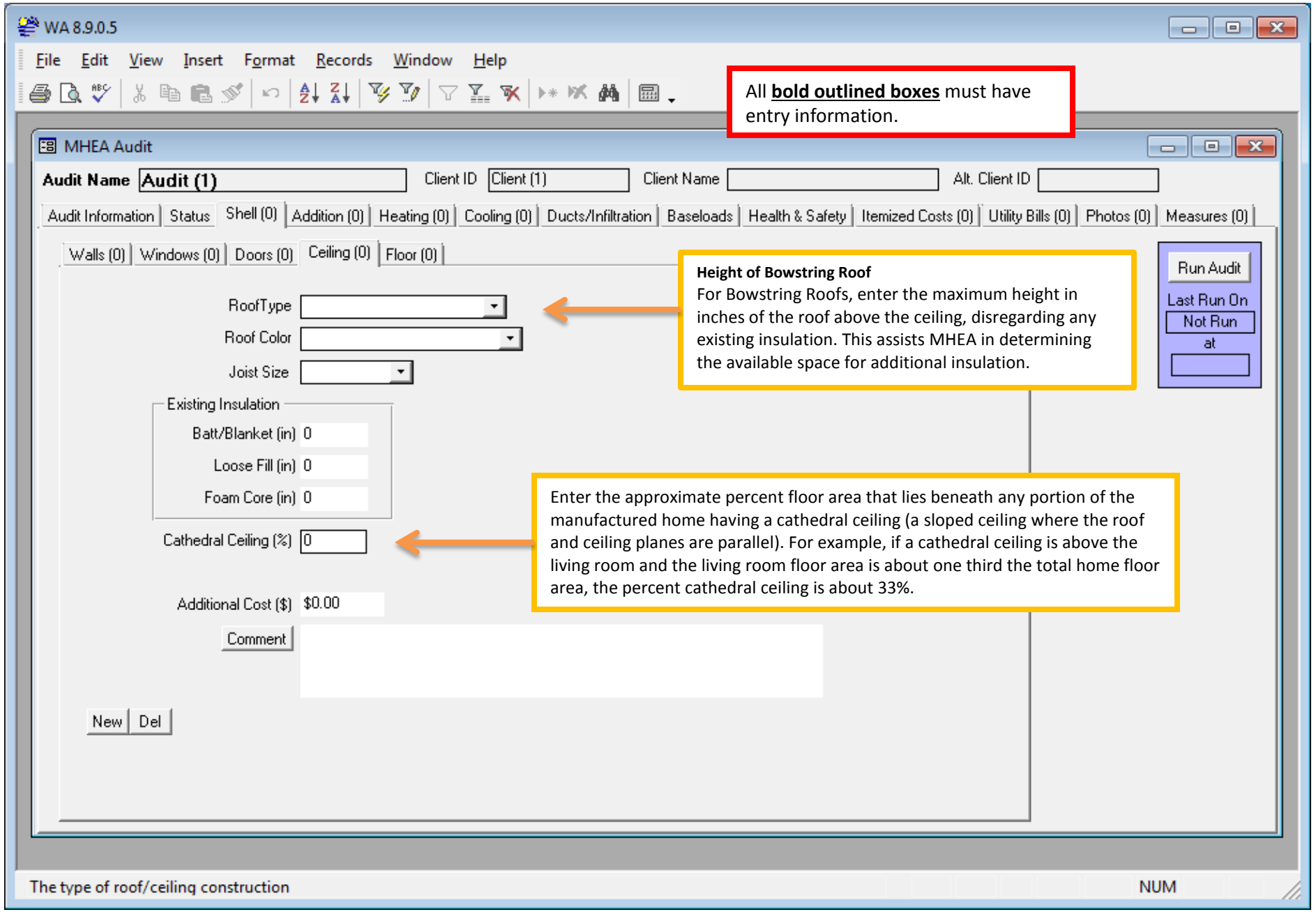
The Manufactured Home Energy Audit (MHEA) is a software tool that predicts manufactured home energy consumption and recommends weatherization retrofit measures. It was developed to assist local weatherization agencies working with the U.S. Department of Energy (DOE) Weatherization Assistance Program. Whether new or experienced, employed within or outside the weatherization assistance program, all users can benefit from incorporating MHEA into their manufactured home weatherization programs. DOE anticipates that the state weatherization assistance programs that incorporate MHEA into their programs will find significant growth in the energy and cost savings achieved from manufactured home weatherization.

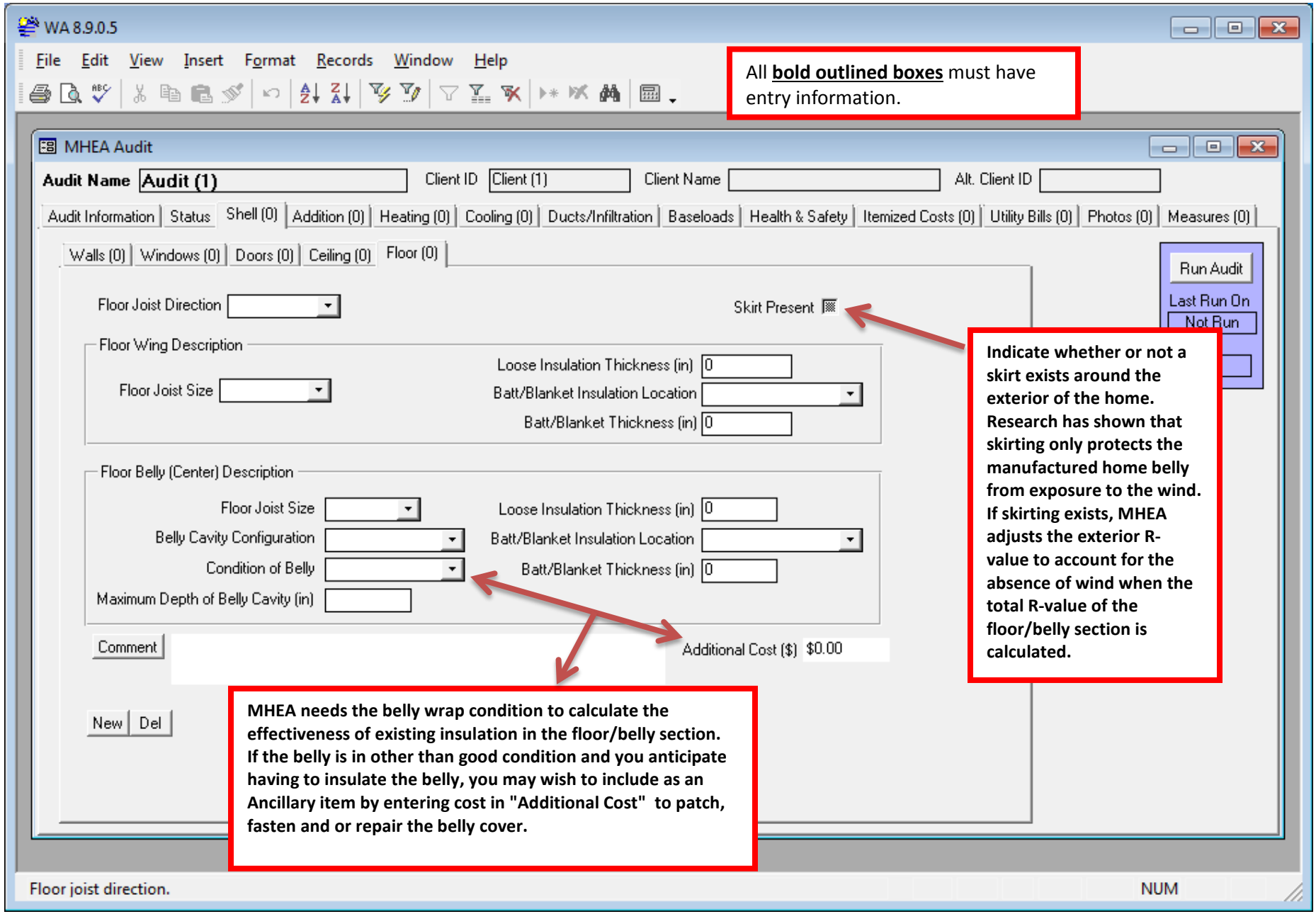

All **bold outlined boxes** must have entry information.
WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information | Status | Shell (0) | Addition (0) | Heating (0) | Cooling (0) | Ducts/Infiltration | Baseloads | Health & Safety | Itemized Costs (0) | Utility Bills (0) | Photos (0) | Measures (0)
Audit Name Audit (1)
Client ID Client (1)
<Agency Name> Your Agency
Agency State US
Auditor
Libraries and Other Options
<Setup Library> Your Setup Library
<Fuel Cost Library> Dafault Costs
<Supply Library> Your Supply Library
Weather File
Billing Adjustment
Length (ft)
Width (ft)
Exterior Wall Height (ft)
Wind Shielding
Home Leakiness
Outdoor Water Heater Closet
Comment
Economics Summary
Measures Recommended 0
Total Initial Cost ($)
Cumulative SIR
AUDIT
by Audit Name
by Client Name
by Client
by Alternate Client
1 of 1 New Copy Del
REPORT
Select Report Recommended Measures
Preview Print Snapshot File
Add comment here, if the household does not possess air conditioning or it has been removed for the winter season.
Indicate whether or not the water heater is housed in an unconditioned closet with an exterior access. If an outdoor closet exists, the calculations will not include it in the conditioned portion of the home. The wall, floor, and ceiling areas of the home are adjusted to account for the water heater closet.
Navigate by Audit Name
NUM

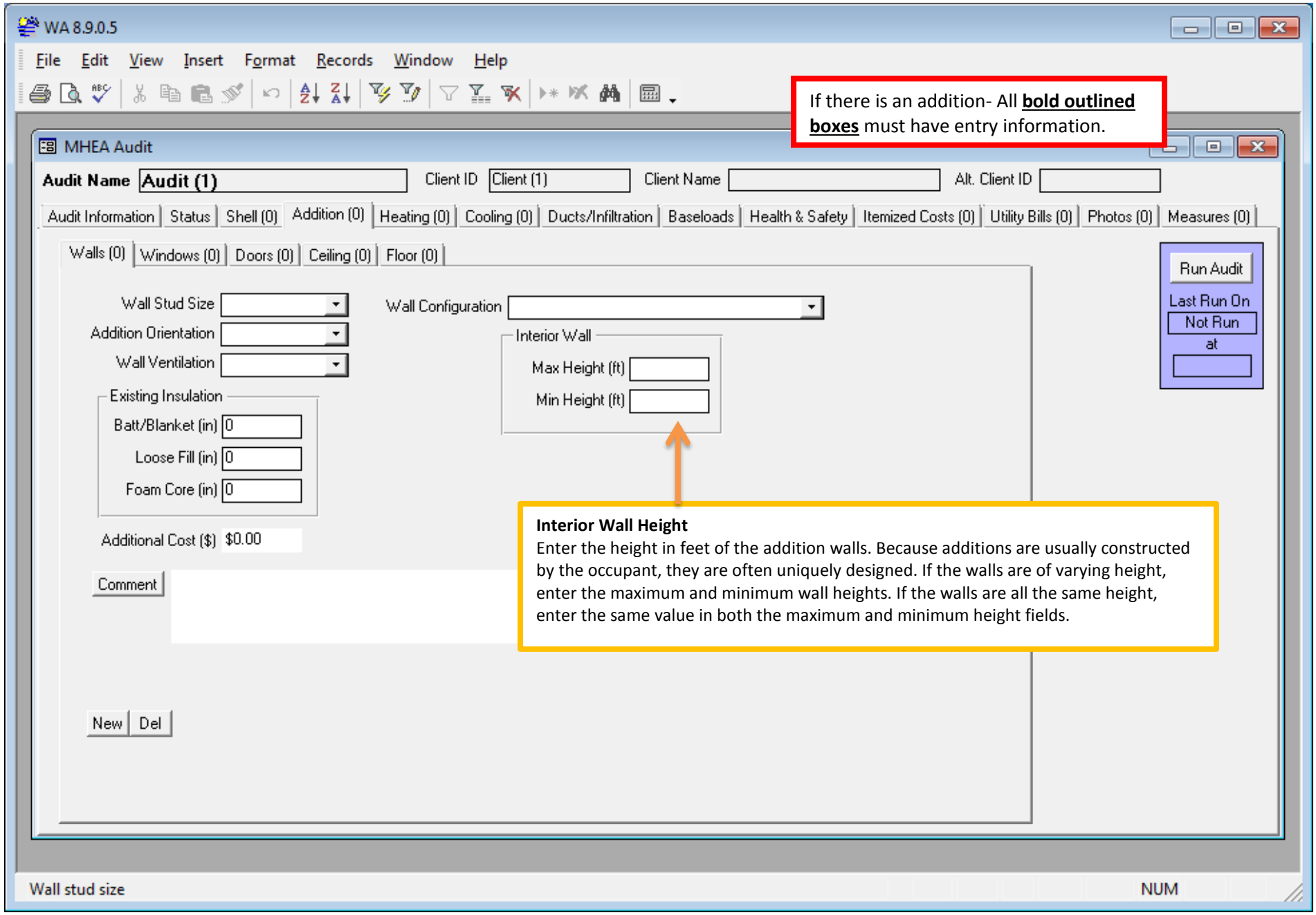

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
Wall Stud Size
Orientation of Long Wall
Wall Ventilation
Carport/Porch Roof
Length (ft) 0
Width (ft) 0
Existing Insulation
Batt/Blanket (in) 0
Loose Fill (in) 0
Foam Core (in) 0
Uninsulatable Wall Area (sq ft) 0
Additional Cost ($) $0.00
A manufactured home wall may be intentionally or unintentionally ventilated. A ventilated wall has a space for air to flow between the exterior and interior wall materials. One technique to determine if a wall is ventilated is to check if the wall insulation is dirty inside the wall cavity. Pull up slightly on the lower end of an exterior wall panel to check for dirty insulation. If a wall is ventilated, the insulation will be dirty. MHEA degrades the wall R-value for ventilated walls.
Comment
New Del
Wall stud size
NUM

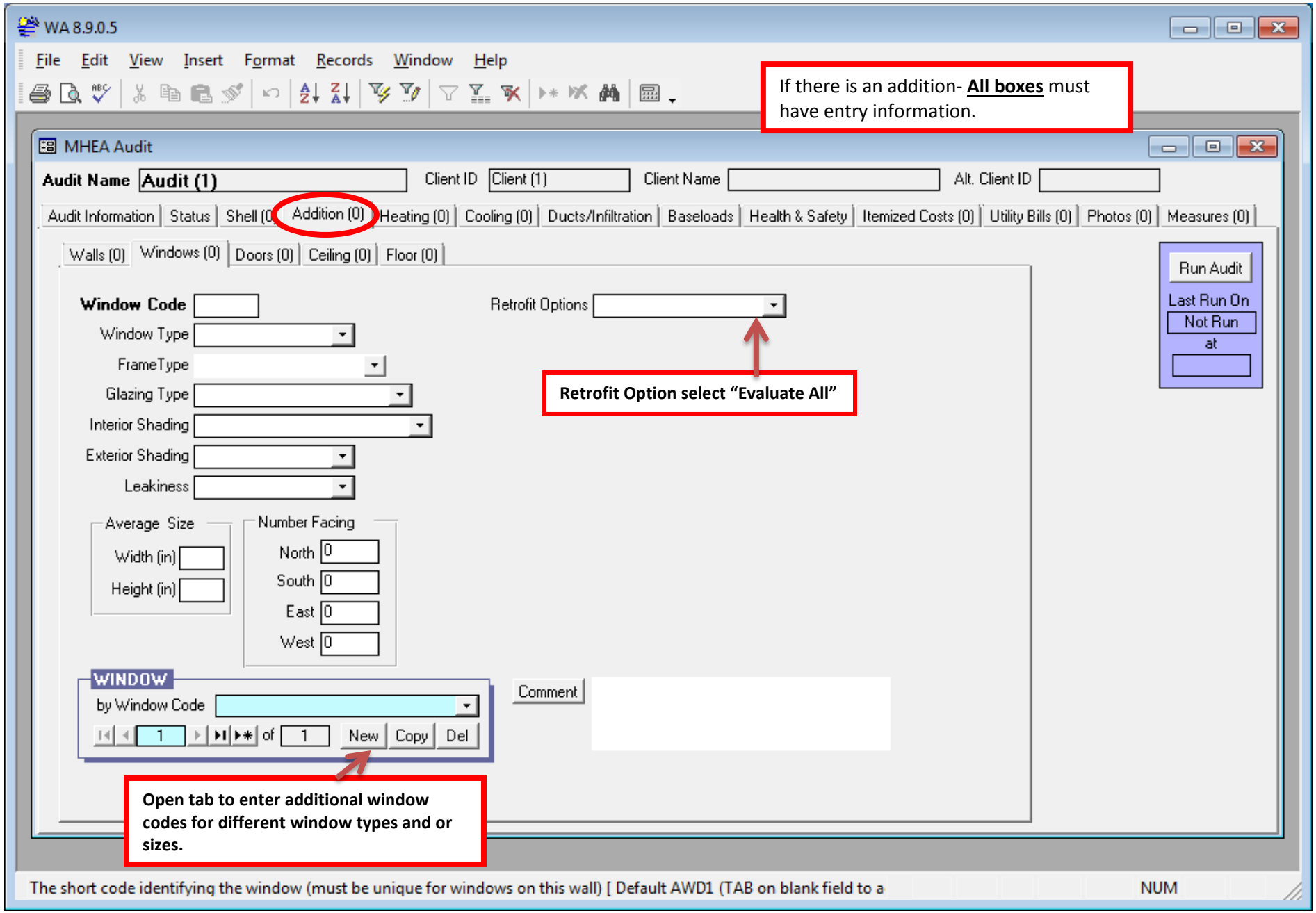

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
Window Code
Retrofit Options
Window Type
FrameType
Glazing Type
Interior Shading
Exterior Shading
Leakiness
Retrofit Option, select "Evaluate All"
Window Leakiness guidance go to waptac.org under Weatherization Assistant Support Material.
Average Size
Width (in)
Height (in)
Number Facing
North 0
South 0
East 0
West 0
Enter the approximate percentage of window area frequently shaded by eaves (typically 20%), porches (typically 100%), or other physical exterior barriers. Do not include the percent (%) sign.
WINDOW
by Window Code
1 of 1 New Copy Del
Comment
Open tab to enter additional window codes for different window types and or sizes.
The short code identifying the window (must be unique for windows on this wall) [Default WD1 (TAB on blank field to ac
NUM

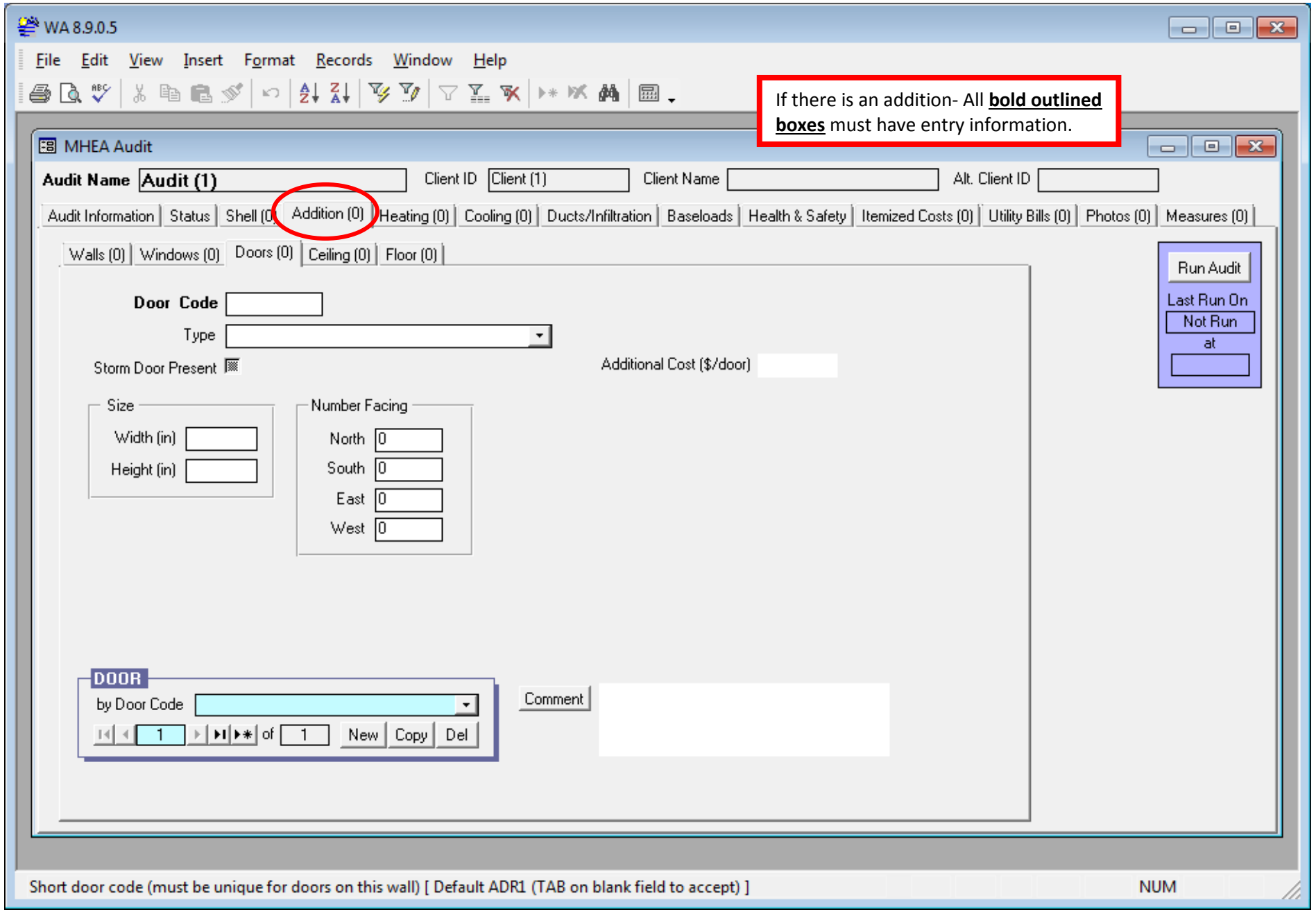

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Door Code
Type
Storm Door Present
Replacement Door Required
Additional Cost ($/door)
Size
Width (in)
Height (in)
Number Facing
North 0
South 0
East 0
West 0
Run Audit
Last Run On
Not Run
at
The agency's assigned Monitor must approve the mobile home door replacement, before this box is checked.
DOOR
by Door Code
1 of 1 New Copy Del
Comment
Open tab to enter additional door codes for different door types and or sizes.
Short door code (must be unique for doors on this wall) [Default DR1 (TAB on blank field to accept)]
NUM

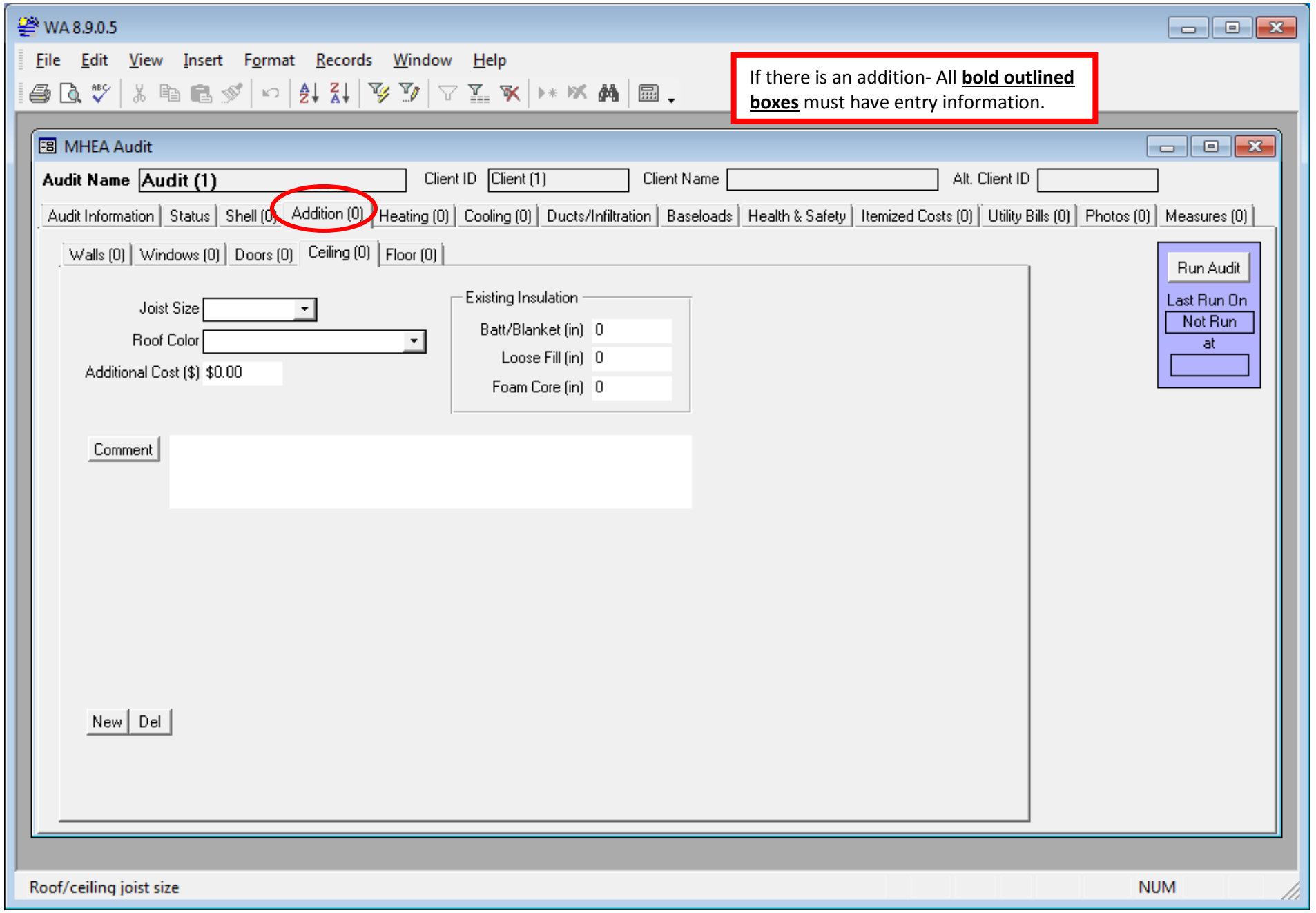

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
RoofType
Roof Color
Joist Size
Existing Insulation
Batt/Blanket (in) 0
Loose Fill (in) 0
Foam Core (in) 0
Cathedral Ceiling (%) 0
Additional Cost ($) $0.00
Comment
New Del
Height of Bowstring Roof
For Bowstring Roofs, enter the maximum height in inches of the roof above the ceiling, disregarding any existing insulation. This assists MHEA in determining the available space for additional insulation.
Enter the approximate percent floor area that lies beneath any portion of the manufactured home having a cathedral ceiling (a sloped ceiling where the roof and ceiling planes are parallel). For example, if a cathedral ceiling is above the living room and the living room floor area is about one third the total home floor area, the percent cathedral ceiling is about 33%.
Run Audit
Last Run On
Not Run
at
The type of roof/ceiling construction
NUM

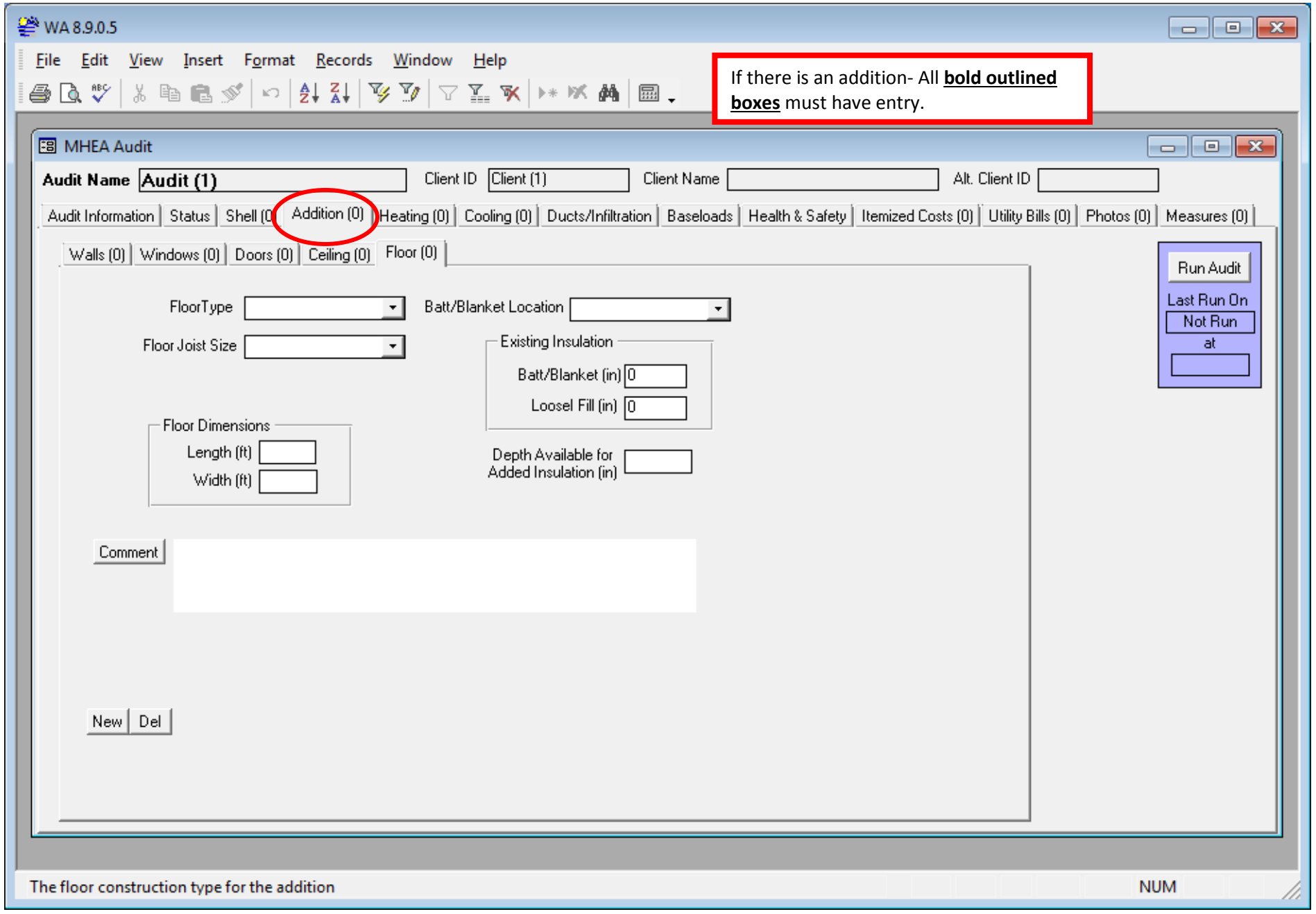

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
Floor Joist Direction
Skirt Present
Floor Wing Description
Floor Joist Size
Loose Insulation Thickness (in) 0
Batt/Blanket Insulation Location
Batt/Blanket Thickness (in) 0
Floor Belly (Center) Description
Floor Joist Size
Loose Insulation Thickness (in) 0
Belly Cavity Configuration
Batt/Blanket Insulation Location
Condition of Belly
Batt/Blanket Thickness (in) 0
Maximum Depth of Belly Cavity (in)
Comment
Additional Cost ($) $0.00
New Del
Indicate whether or not a skirt exists around the exterior of the home. Research has shown that skirting only protects the manufactured home belly from exposure to the wind. If skirting exists, MHEA adjusts the exterior R-value to account for the absence of wind when the total R-value of the floor/belly section is calculated.
MHEA needs the belly wrap condition to calculate the effectiveness of existing insulation in the floor/belly section. If the belly is in other than good condition and you anticipate having to insulate the belly, you may wish to include as an Ancillary item by entering cost in "Additional Cost" to patch, fasten and or repair the belly cover.
Floor joist direction.
NUM

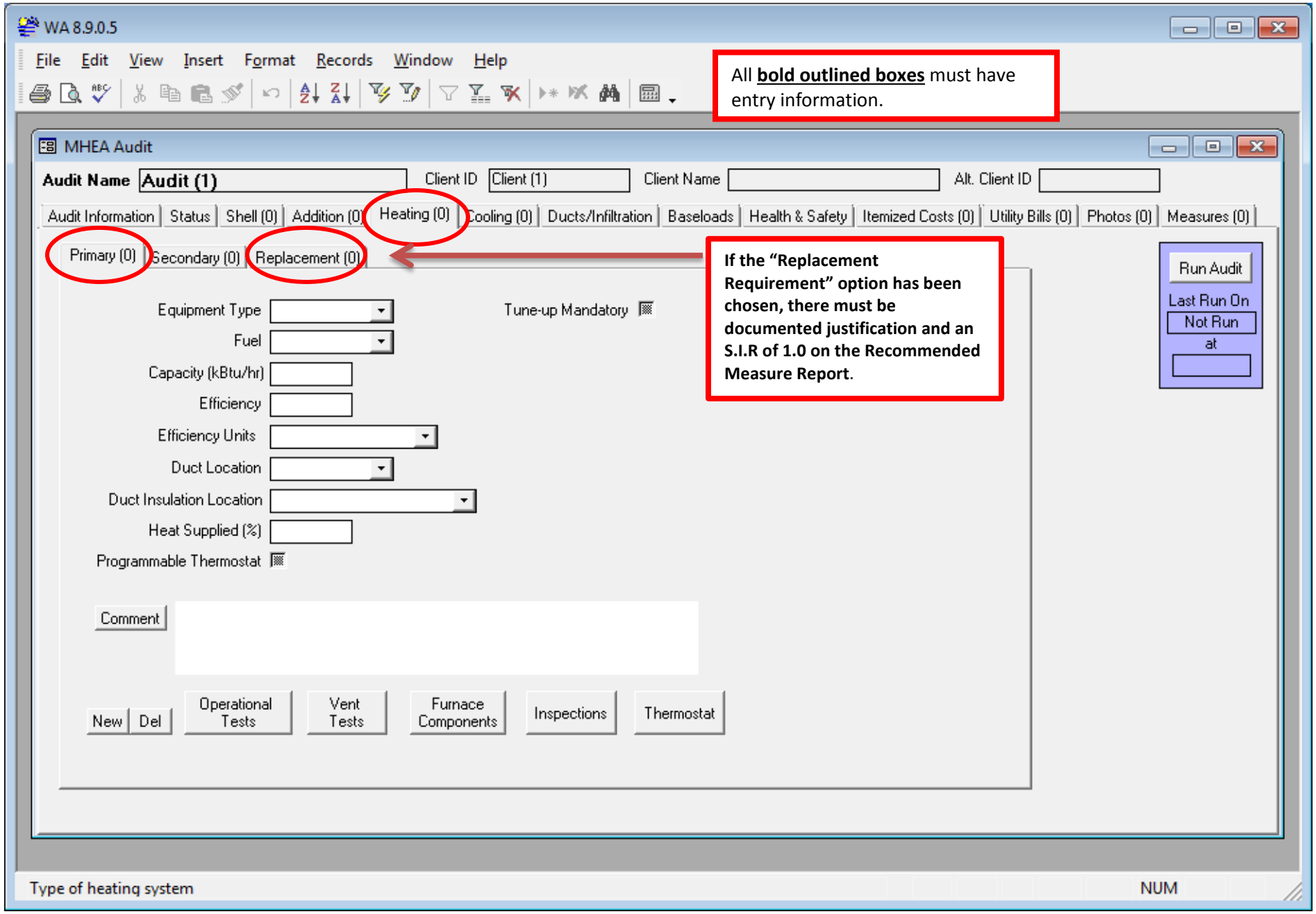

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is an addition- All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
Wall Stud Size
Addition Orientation
Wall Ventilation
Wall Configuration
Interior Wall
Max Height (ft)
Min Height (ft)
Existing Insulation
Batt/Blanket (in) 0
Loose Fill (in) 0
Foam Core (in) 0
Additional Cost ($) $0.00
Comment
New Del
Interior Wall Height
Enter the height in feet of the addition walls. Because additions are usually constructed by the occupant, they are often uniquely designed. If the walls are of varying height, enter the maximum and minimum wall heights. If the walls are all the same height, enter the same value in both the maximum and minimum height fields.
Wall stud size
NUM

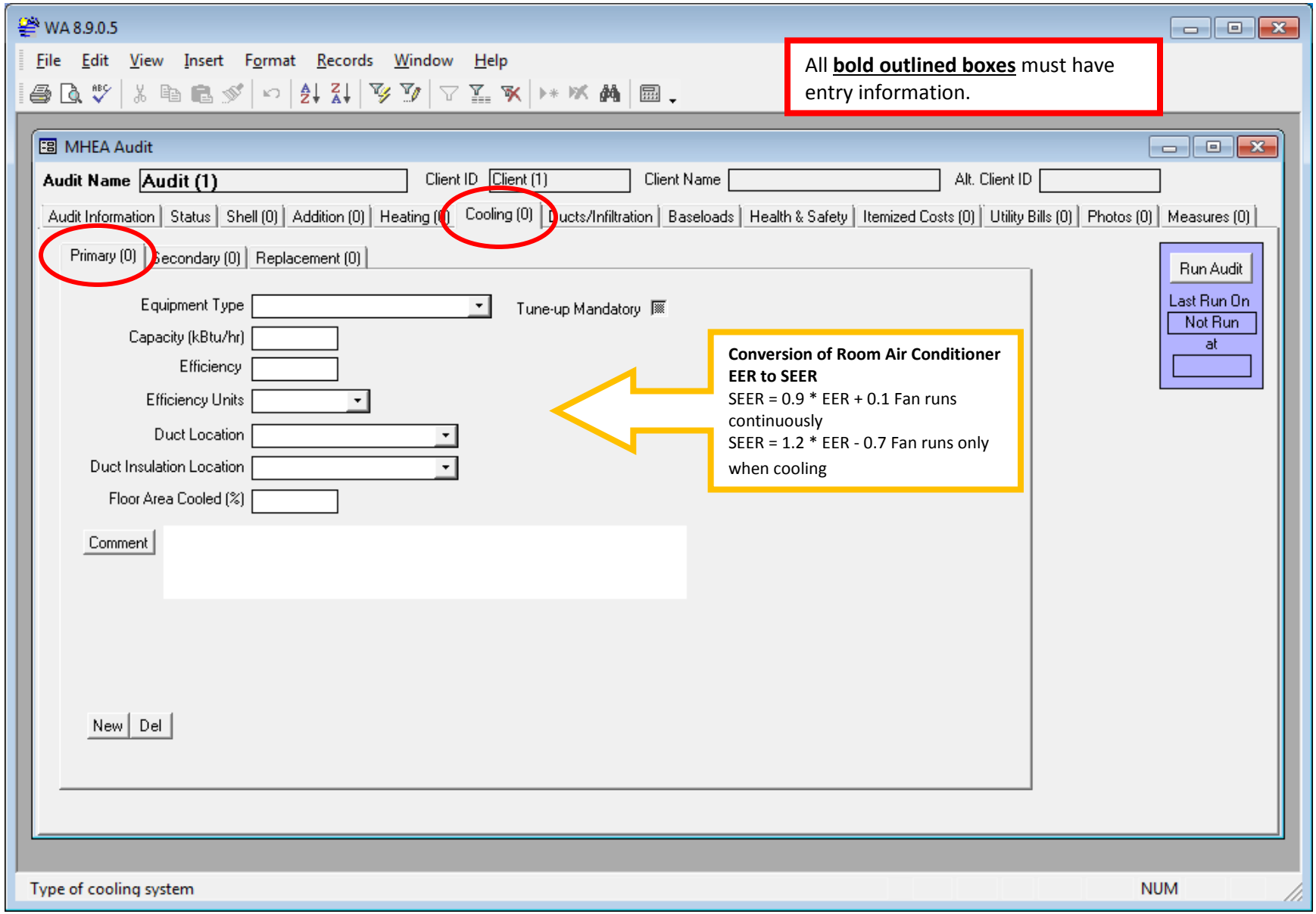

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is an addition- All boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
Window Code
Retrofit Options
Window Type
FrameType
Glazing Type
Interior Shading
Exterior Shading
Leakiness
Retrofit Option select "Evaluate All"
Average Size
Width (in)
Height (in)
Number Facing
North 0
South 0
East 0
West 0
WINDOW
by Window Code
1 of 1 New Copy Del
Comment
Open tab to enter additional window codes for different window types and or sizes.
The short code identifying the window (must be unique for windows on this wall) [Default AWD1 (TAB on blank field to a
NUM

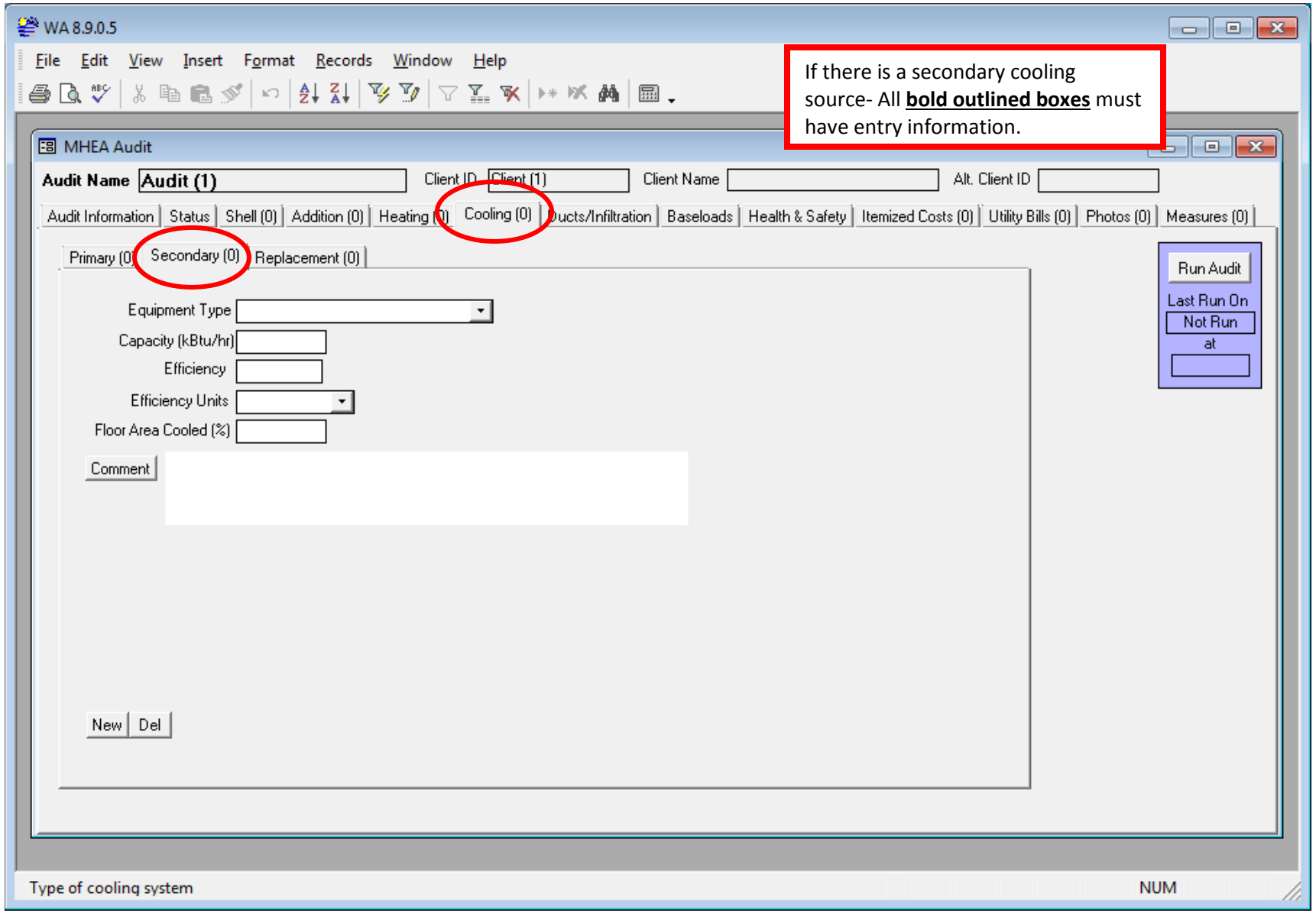

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is an addition- All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
Door Code
Type
Storm Door Present
Additional Cost ($/door)
Size
Width (in)
Height (in)
Number Facing
North 0
South 0
East 0
West 0
DOOR
by Door Code
1 of 1 New Copy Del
Comment
Short door code (must be unique for doors on this wall) [Default ADR1 (TAB on blank field to accept)]
NUM

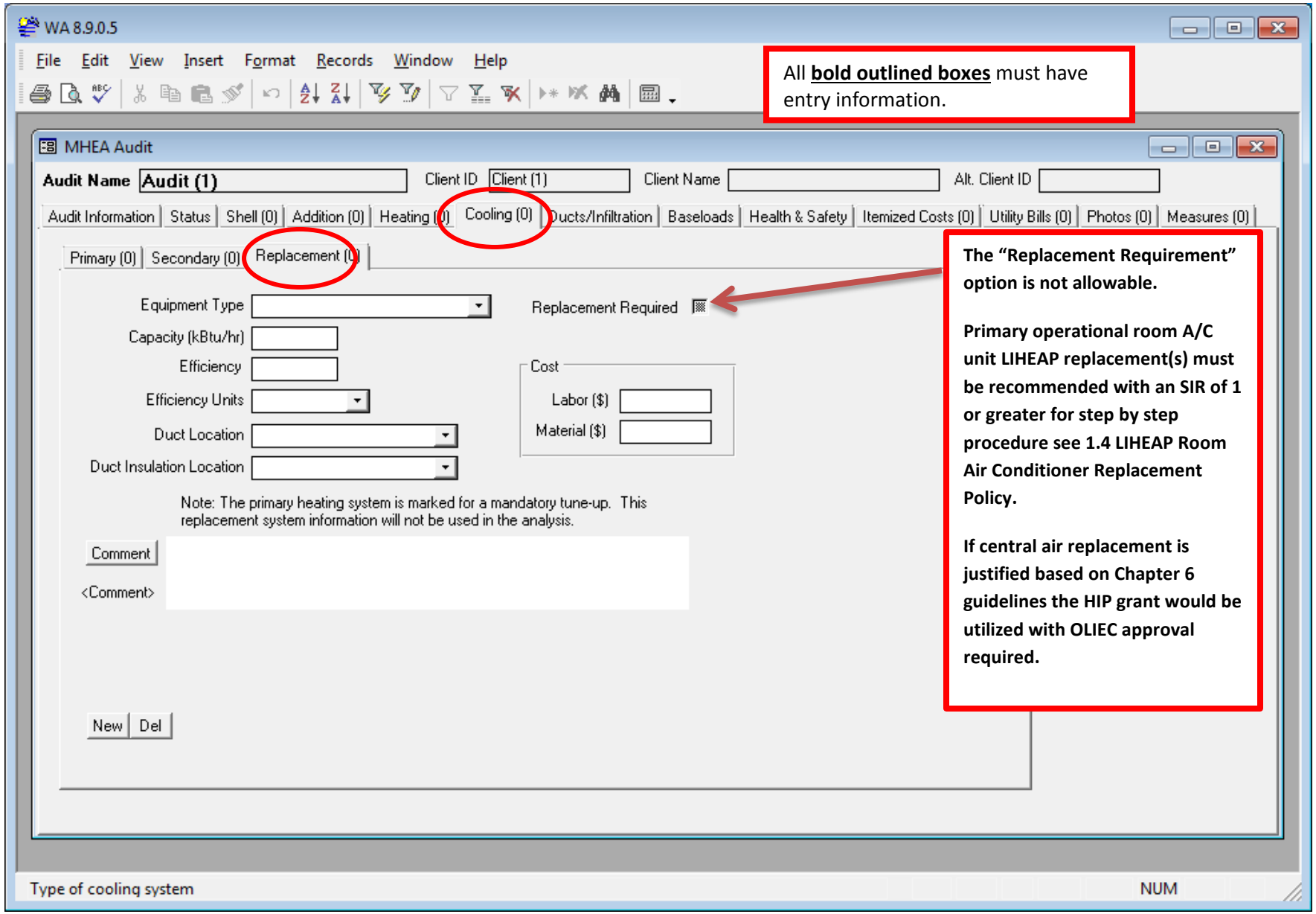

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is an addition- All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Joist Size
Roof Color
Additional Cost ($) $0.00
Existing Insulation
Batt/Blanket (in) 0
Loose Fill (in) 0
Foam Core (in) 0
Comment
New Del
Run Audit
Last Run On
Not Run
at
Roof/ceiling joist size
NUM

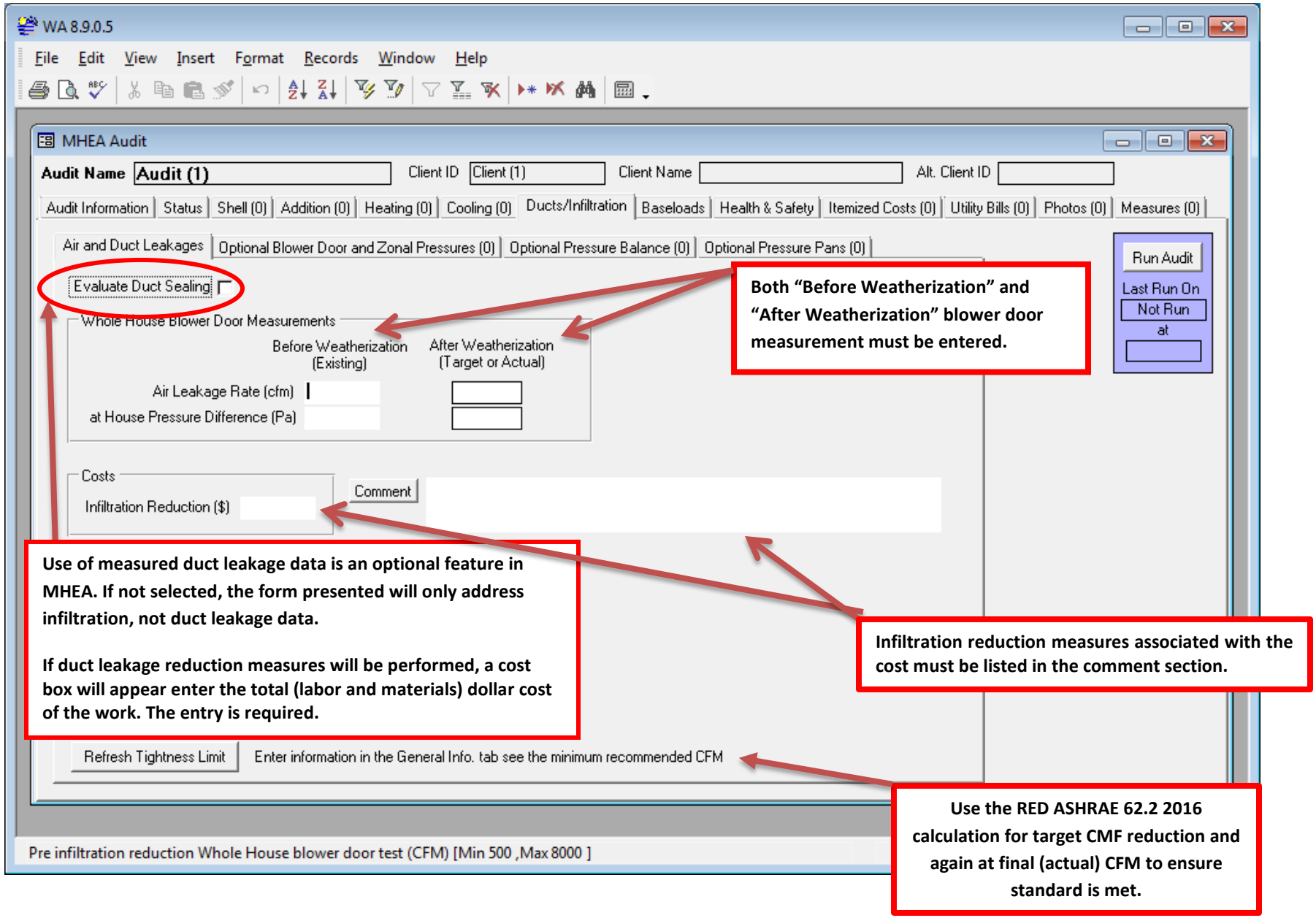

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is an addition- All bold outlined boxes must have entry.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Walls (0) Windows (0) Doors (0) Ceiling (0) Floor (0)
Run Audit
Last Run On
Not Run
at
FloorType
Batt/Blanket Location
Floor Joist Size
Existing Insulation
Batt/Blanket (in) 0
Loosel Fill (in) 0
Floor Dimensions
Length (ft)
Width (ft)
Depth Available for Added Insulation (in)
Comment
New Del
The floor construction type for the addition
NUM

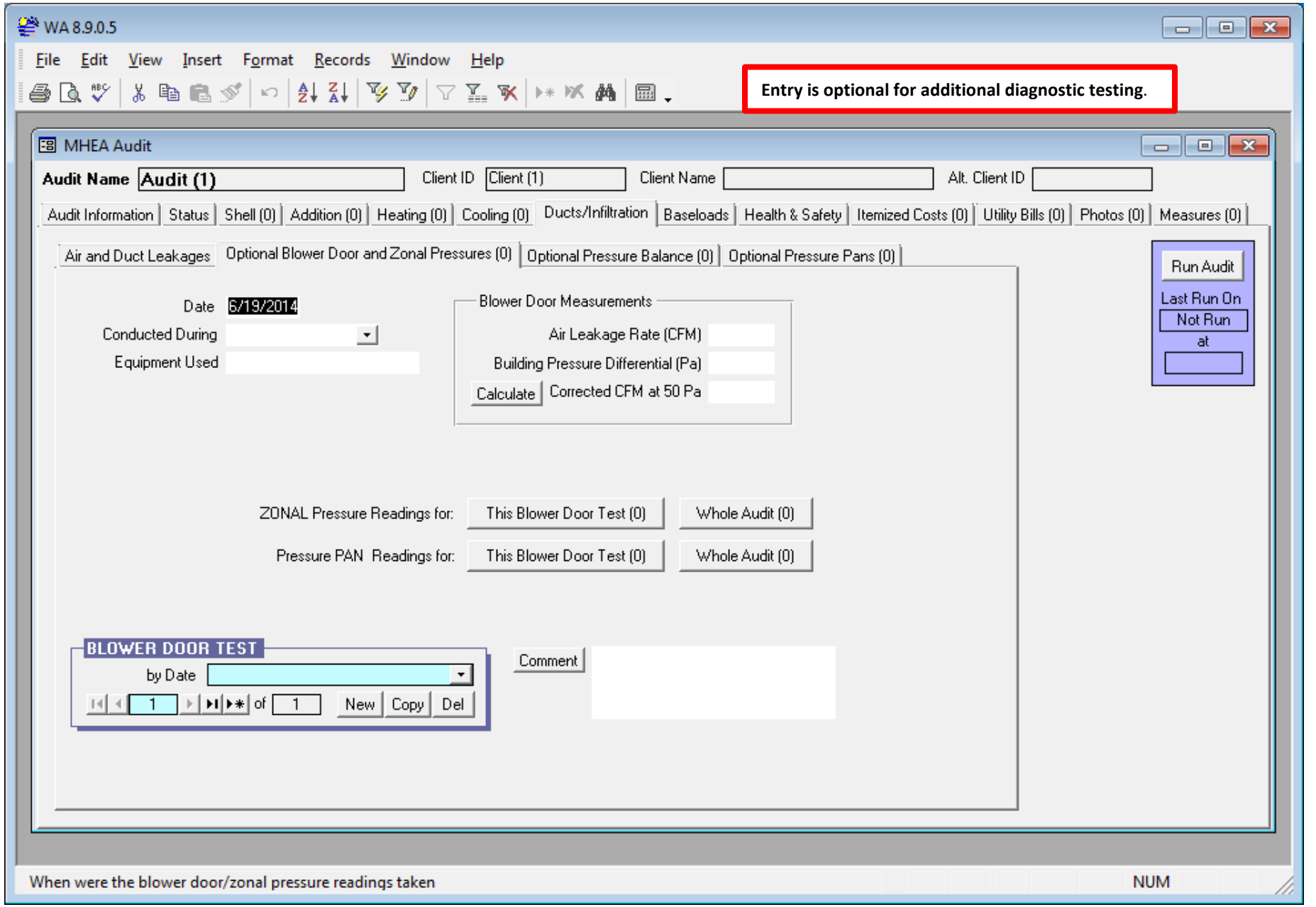

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Primary (0) Secondary (0) Replacement (0)
If the "Replacement Requirement" option has been chosen, there must be documented justification and an S.I.R of 1.0 on the Recommended Measure Report.
Run Audit
Last Run On
Not Run
at
Equipment Type
Tune-up Mandatory
Fuel
Capacity (kBtu/hr)
Efficiency
Efficiency Units
Duct Location
Duct Insulation Location
Heat Supplied (%)
Programmable Thermostat
Comment
New Del
Operational Tests
Vent Tests
Furnace Components
Inspections
Thermostat
Type of heating system
NUM

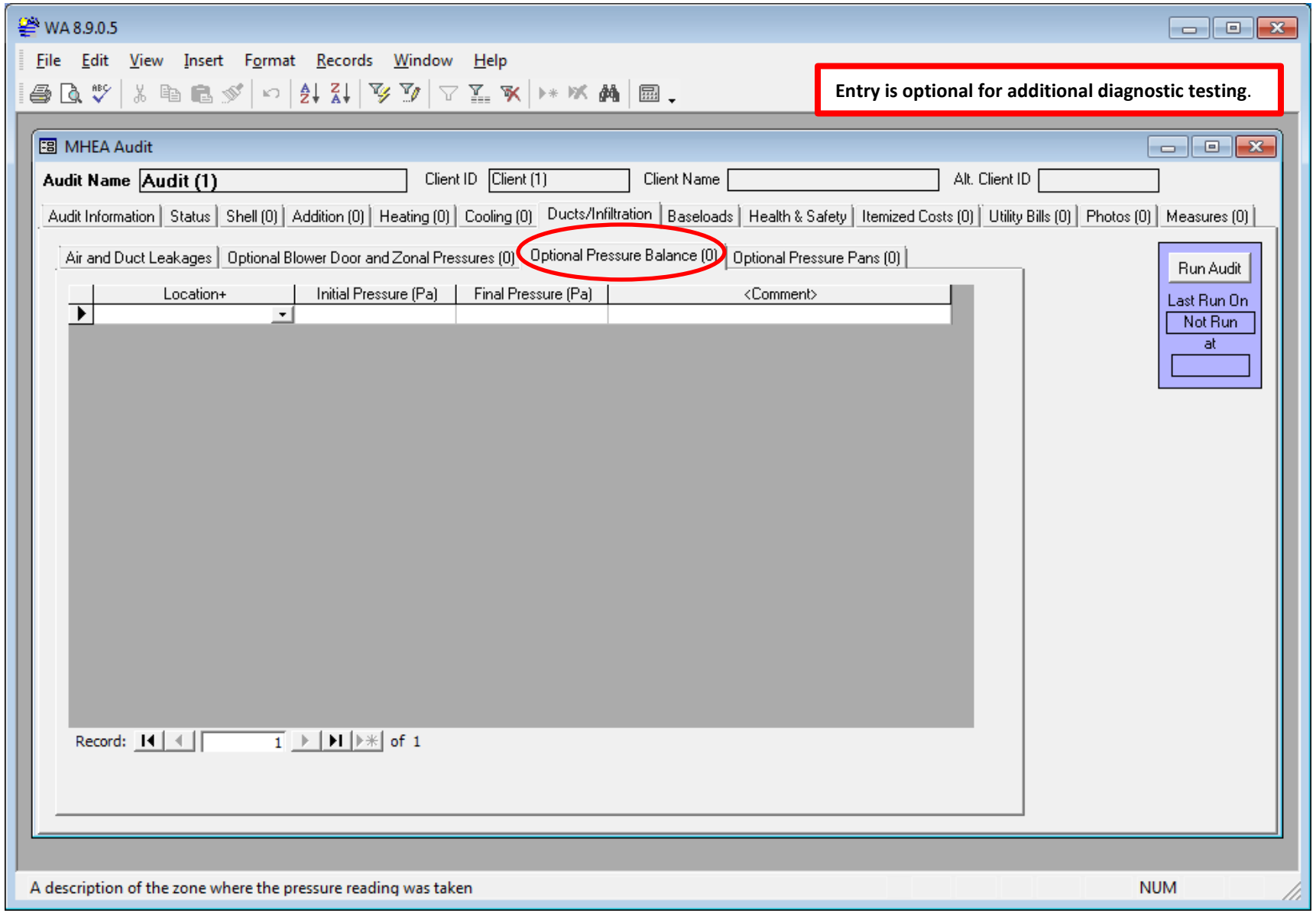

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Primary (0) Secondary (0) Replacement (0)
Run Audit
Last Run On
Not Run
at
Equipment Type
Tune-up Mandatory
Capacity (kBtu/hr)
Efficiency
Efficiency Units
Duct Location
Duct Insulation Location
Floor Area Cooled (%)
Conversion of Room Air Conditioner EER to SEER
SEER = 0.9 * EER + 0.1 Fan runs continuously
SEER = 1.2 * EER - 0.7 Fan runs only when cooling
Comment
New Del
Type of cooling system
NUM

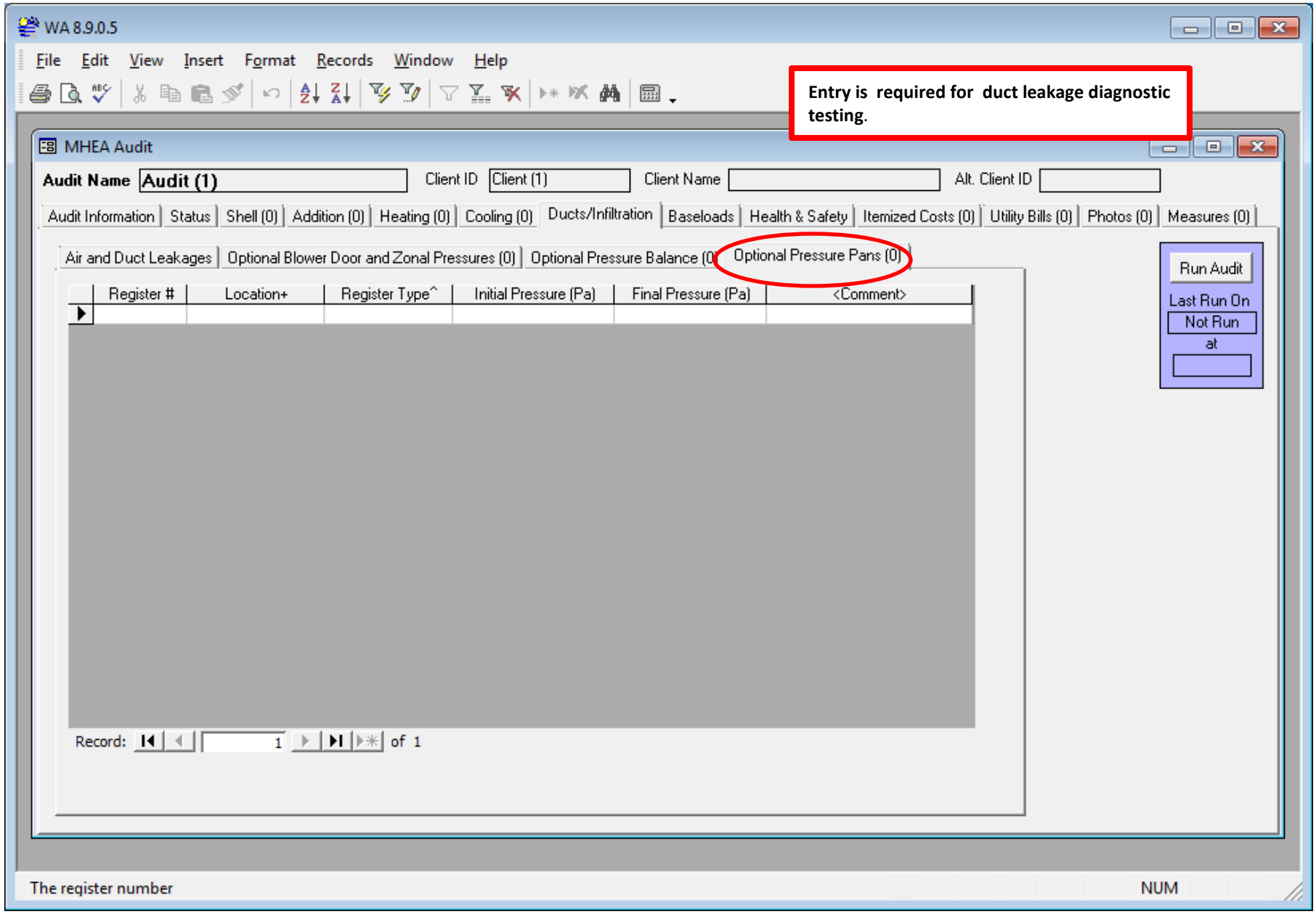

WA 8.9.0.5
File Edit View Insert Format Records Window Help
If there is a secondary cooling source- All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Primary (0) Secondary (0) Replacement (0)
Run Audit
Last Run On
Not Run
at
Equipment Type
Capacity (kBtu/hr)
Efficiency
Efficiency Units
Floor Area Cooled (%)
Comment
New Del
Type of cooling system
NUM

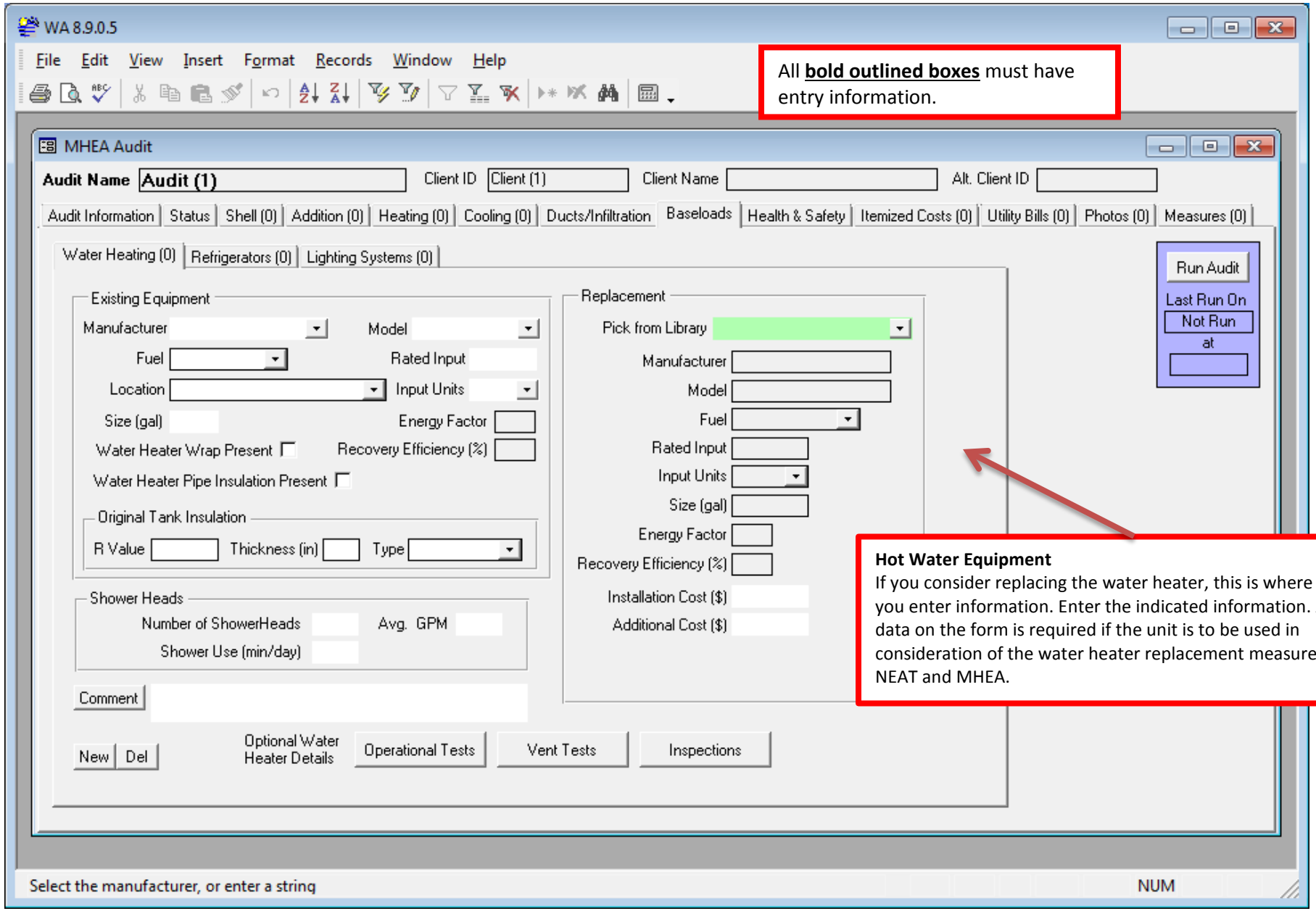

WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Primary (0) Secondary (0) Replacement (0)
Equipment Type
Replacement Required
Capacity (kBtu/hr)
Efficiency
Efficiency Units
Duct Location
Duct Insulation Location
Cost
Labor ($)
Material ($)
Note: The primary heating system is marked for a mandatory tune-up. This replacement system information will not be used in the analysis.
Comment
<Comment>
New Del
The "Replacement Requirement" option is not allowable.
Primary operational room A/C unit LIHEAP replacement(s) must be recommended with an SIR of 1 or greater for step by step procedure see 1.4 LIHEAP Room Air Conditioner Replacement Policy.
If central air replacement is justified based on Chapter 6 guidelines the HIP grant would be utilized with OLIEC approval required.
Type of cooling system
NUM

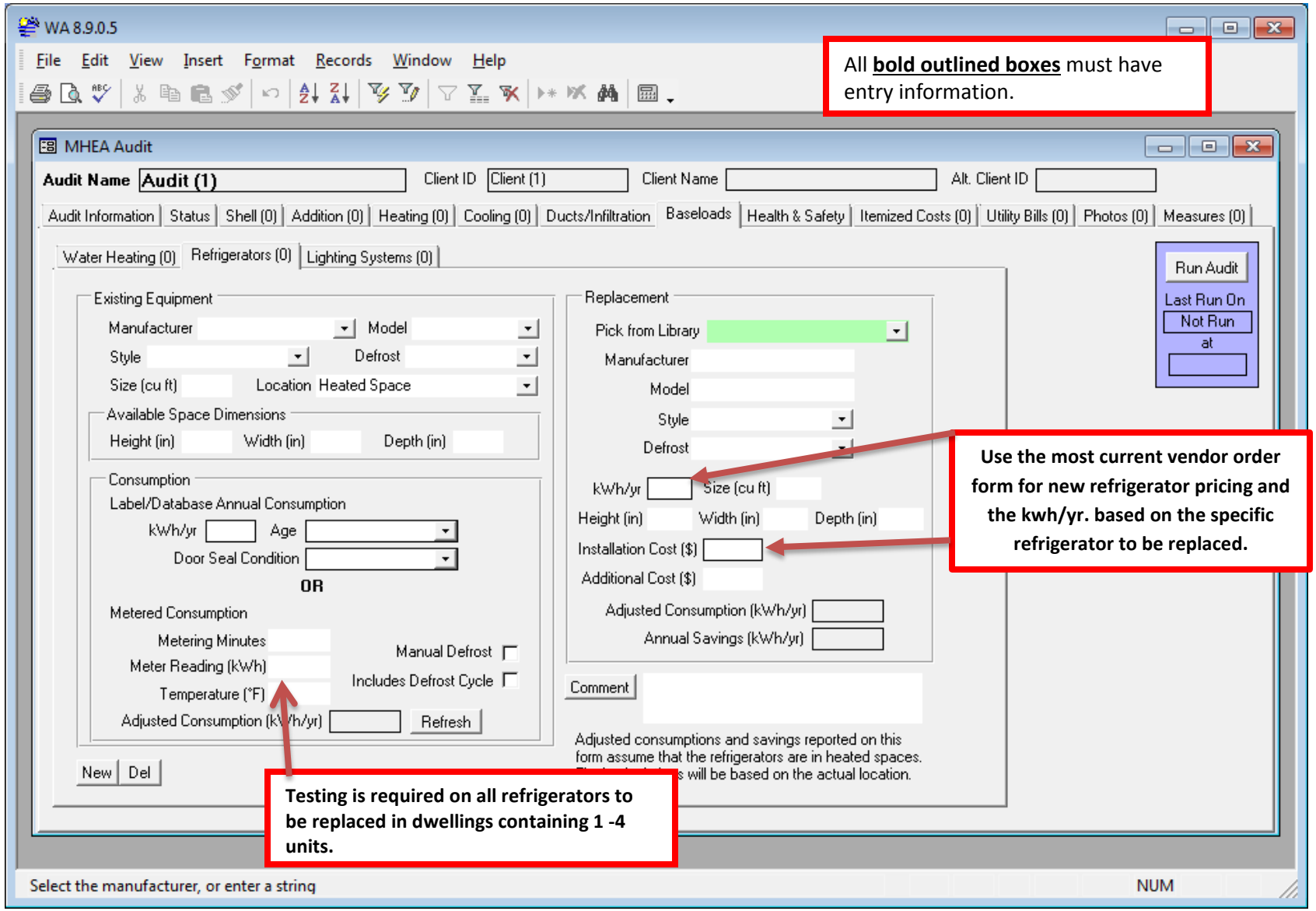

WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages Optional Blower Door and Zonal Pressures (0) Optional Pressure Balance (0) Optional Pressure Pans (0)
Evaluate Duct Sealing
Whole House Blower Door Measurements
Before Weatherization (Existing)
After Weatherization (Target or Actual)
Air Leakage Rate (cfm)
at House Pressure Difference (Pa)
Run Audit
Last Run On
Not Run
at
Costs
Infiltration Reduction ($)
Comment
Refresh Tightness Limit
Enter information in the General Info. tab see the minimum recommended CFM
Pre infiltration reduction Whole House blower door test (CFM) [Min 500 ,Max 8000]
Both "Before Weatherization" and "After Weatherization" blower door measurement must be entered.
Use of measured duct leakage data is an optional feature in MHEA. If not selected, the form presented will only address infiltration, not duct leakage data.
If duct leakage reduction measures will be performed, a cost box will appear enter the total (labor and materials) dollar cost of the work. The entry is required.
Infiltration reduction measures associated with the cost must be listed in the comment section.
Use the RED ASHRAE 62.2 2016 calculation for target CMF reduction and again at final (actual) CFM to ensure standard is met.

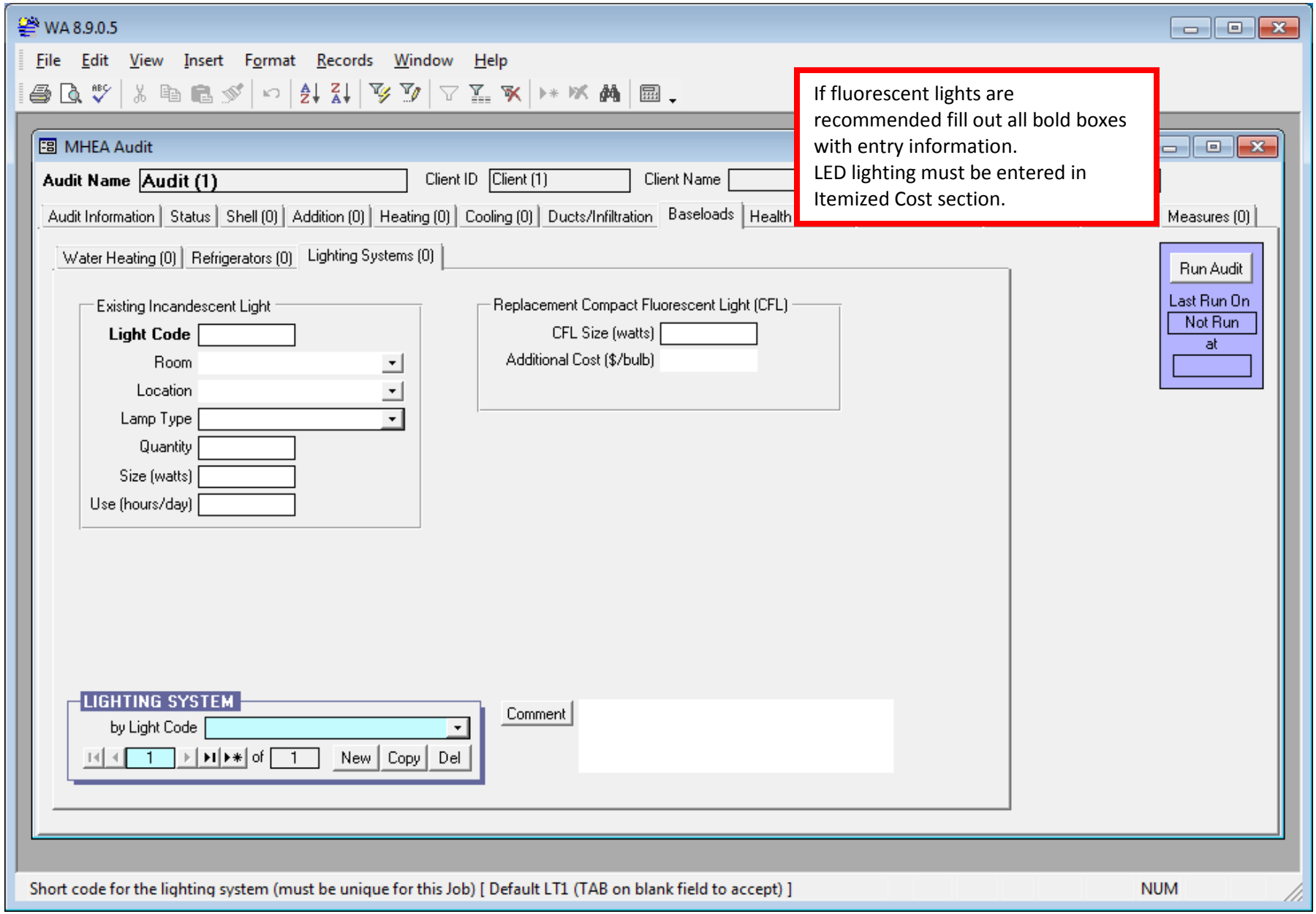

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Entry is optional for additional diagnostic testing.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages Optional Blower Door and Zonal Pressures (0) Optional Pressure Balance (0) Optional Pressure Pans (0)
Run Audit
Last Run On
Not Run
at
Date 6/19/2014
Conducted During
Equipment Used
Blower Door Measurements
Air Leakage Rate (CFM)
Building Pressure Differential (Pa)
Calculate
Corrected CFM at 50 Pa
ZONAL Pressure Readings for: This Blower Door Test (0) Whole Audit (0)
Pressure PAN Readings for: This Blower Door Test (0) Whole Audit (0)
BLOWER DOOR TEST
by Date
1 of 1 New Copy Del
Comment
When were the blower door/zonal pressure readings taken
NUM

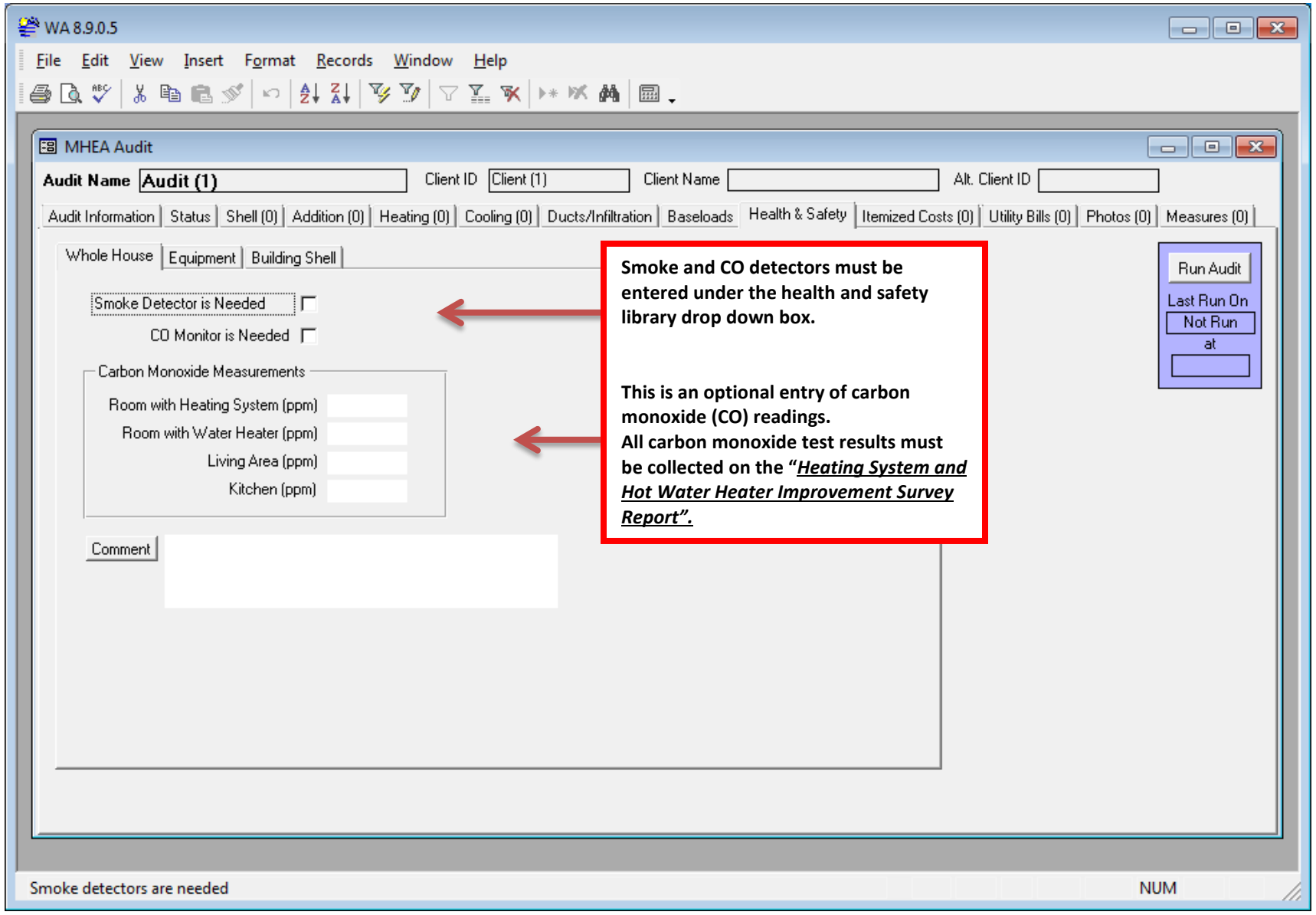

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Entry is optional for additional diagnostic testing.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information
Status
Shell (0)
Addition (0)
Heating (0)
Cooling (0)
Ducts/Infiltration
Baseloads
Health & Safety
Itemized Costs (0)
Utility Bills (0)
Photos (0)
Measures (0)
Air and Duct Leakages
Optional Blower Door and Zonal Pressures (0)
Optional Pressure Balance (0)
Optional Pressure Pans (0)
Location+
Initial Pressure (Pa)
Final Pressure (Pa)
<Comment>
Record: 1 of 1
Run Audit
Last Run On
Not Run
at
A description of the zone where the pressure reading was taken
NUM

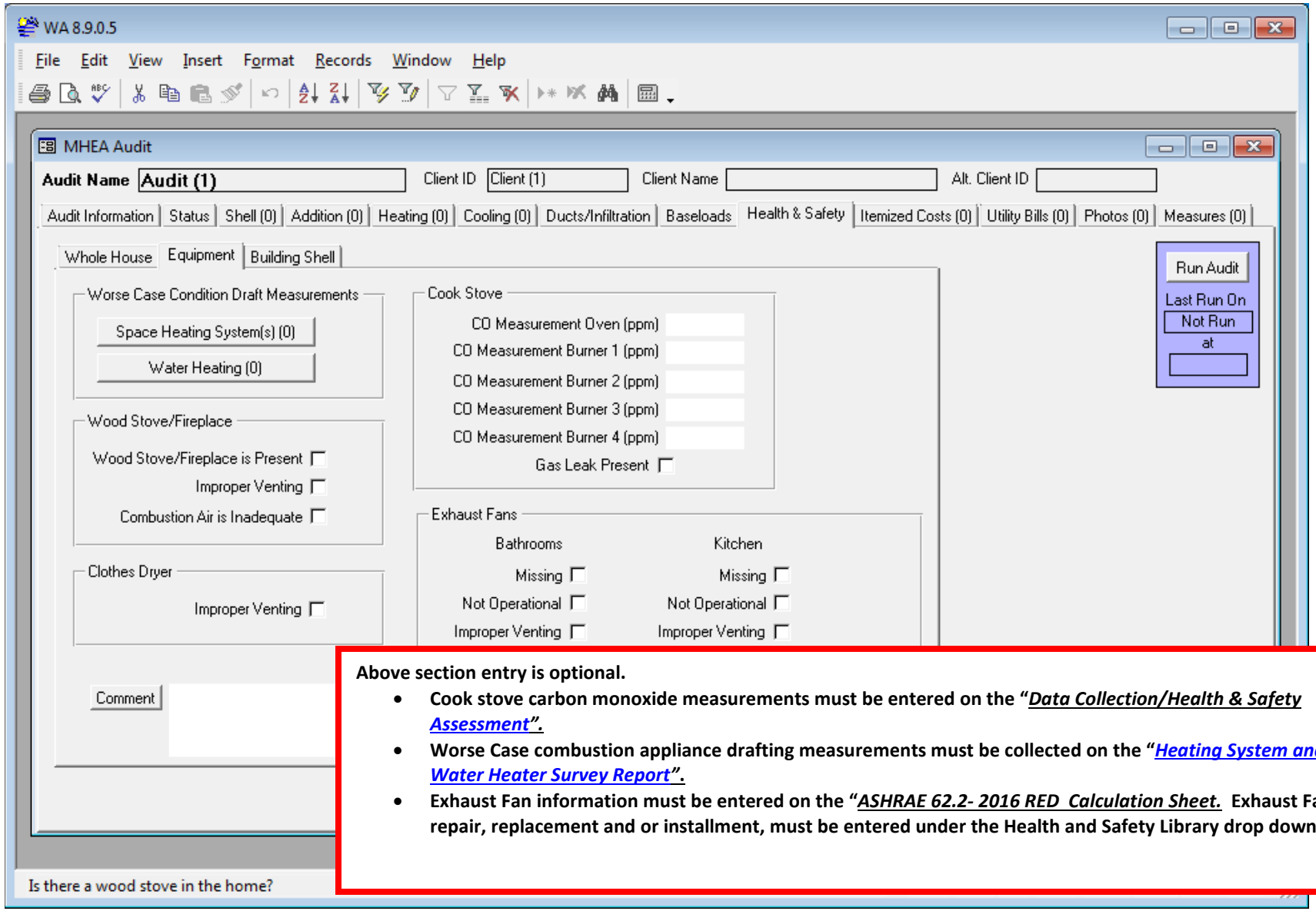

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Entry is required for duct leakage diagnostic testing.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Air and Duct Leakages Optional Blower Door and Zonal Pressures (0) Optional Pressure Balance (0 Optional Pressure Pans (0)
Register # Location+ Register Type^ Initial Pressure (Pa) Final Pressure (Pa) <Comment>
Record: 1 of 1
Run Audit
Last Run On
Not Run
at
The register number
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Run Audit
Last Run On
Not Run
at
Existing Equipment
Manufacturer
Model
Fuel
Rated Input
Location
Input Units
Size (gal)
Energy Factor
Water Heater Wrap Present
Recovery Efficiency (%)
Water Heater Pipe Insulation Present
Original Tank Insulation
R Value
Thickness (in)
Type
Replacement
Pick from Library
Manufacturer
Model
Fuel
Rated Input
Input Units
Size (gal)
Energy Factor
Recovery Efficiency (%)
Installation Cost ($)
Additional Cost ($)
Shower Heads
Number of ShowerHeads
Avg. GPM
Shower Use (min/day)
Comment
New
Del
Optional Water Heater Details
Operational Tests
Vent Tests
Inspections
Hot Water Equipment
If you consider replacing the water heater, this is where you enter information. Enter the indicated information. All data on the form is required if the unit is to be used in consideration of the water heater replacement measure in NEAT and MHEA.
Select the manufacturer, or enter a string
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
All bold outlined boxes must have entry information.
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Run Audit
Last Run On
Not Run
at
Existing Equipment
Manufacturer
Model
Style
Defrost
Size (cu ft)
Location Heated Space
Available Space Dimensions
Height (in) Width (in) Depth (in)
Consumption
Label/Database Annual Consumption
kWh/yr Age
Door Seal Condition
OR
Metered Consumption
Metering Minutes
Meter Reading (kWh)
Temperature (°F)
Adjusted Consumption (kWh/yr)
Refresh
Manual Defrost
Includes Defrost Cycle
Replacement
Pick from Library
Manufacturer
Model
Style
Defrost
kWh/yr Size (cu ft)
Height (in) Width (in) Depth (in)
Installation Cost ($)
Additional Cost ($)
Adjusted Consumption (kWh/yr)
Annual Savings (kWh/yr)
Comment
Adjusted consumptions and savings reported on this form assume that the refrigerators are in heated spaces.
s will be based on the actual location.
New Del
Use the most current vendor order form for new refrigerator pricing and the kwh/yr. based on the specific refrigerator to be replaced.
Testing is required on all refrigerators to be replaced in dwellings containing 1 -4 units.
Select the manufacturer, or enter a string
NUM

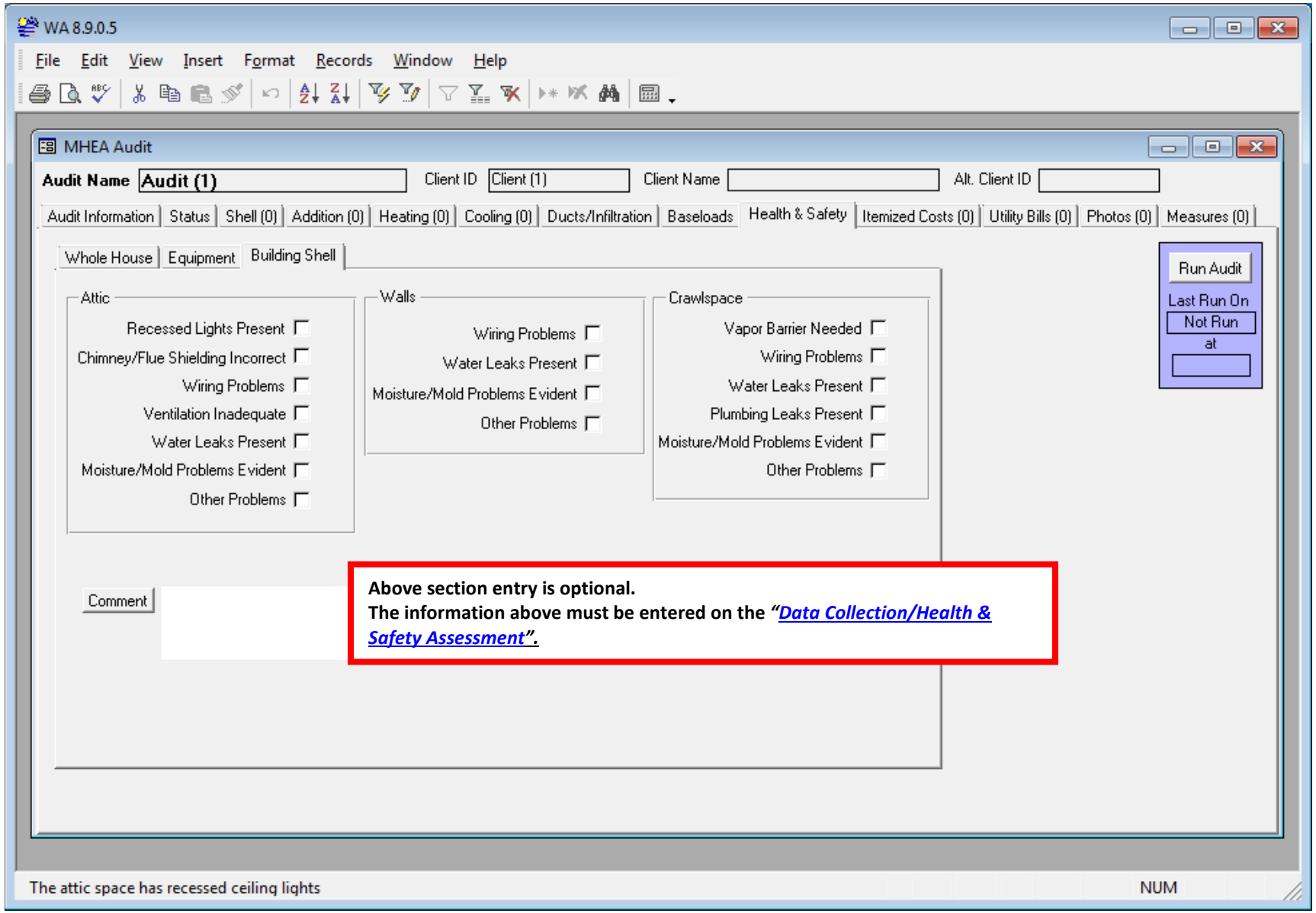

WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health
Measures (0)
Water Heating (0) Refrigerators (0) Lighting Systems (0)
Existing Incandescent Light
Light Code
Room
Location
Lamp Type
Quantity
Size (watts)
Use (hours/day)
Replacement Compact Fluorescent Light (CFL)
CFL Size (watts)
Additional Cost ($/bulb)
Run Audit
Last Run On
Not Run
at
LIGHTING SYSTEM
by Light Code
1 of 1 New Copy Del
Comment
If fluorescent lights are recommended fill out all bold boxes with entry information.
LED lighting must be entered in Itemized Cost section.
Short code for the lighting system (must be unique for this Job) [Default LT1 (TAB on blank field to accept)]
NUM

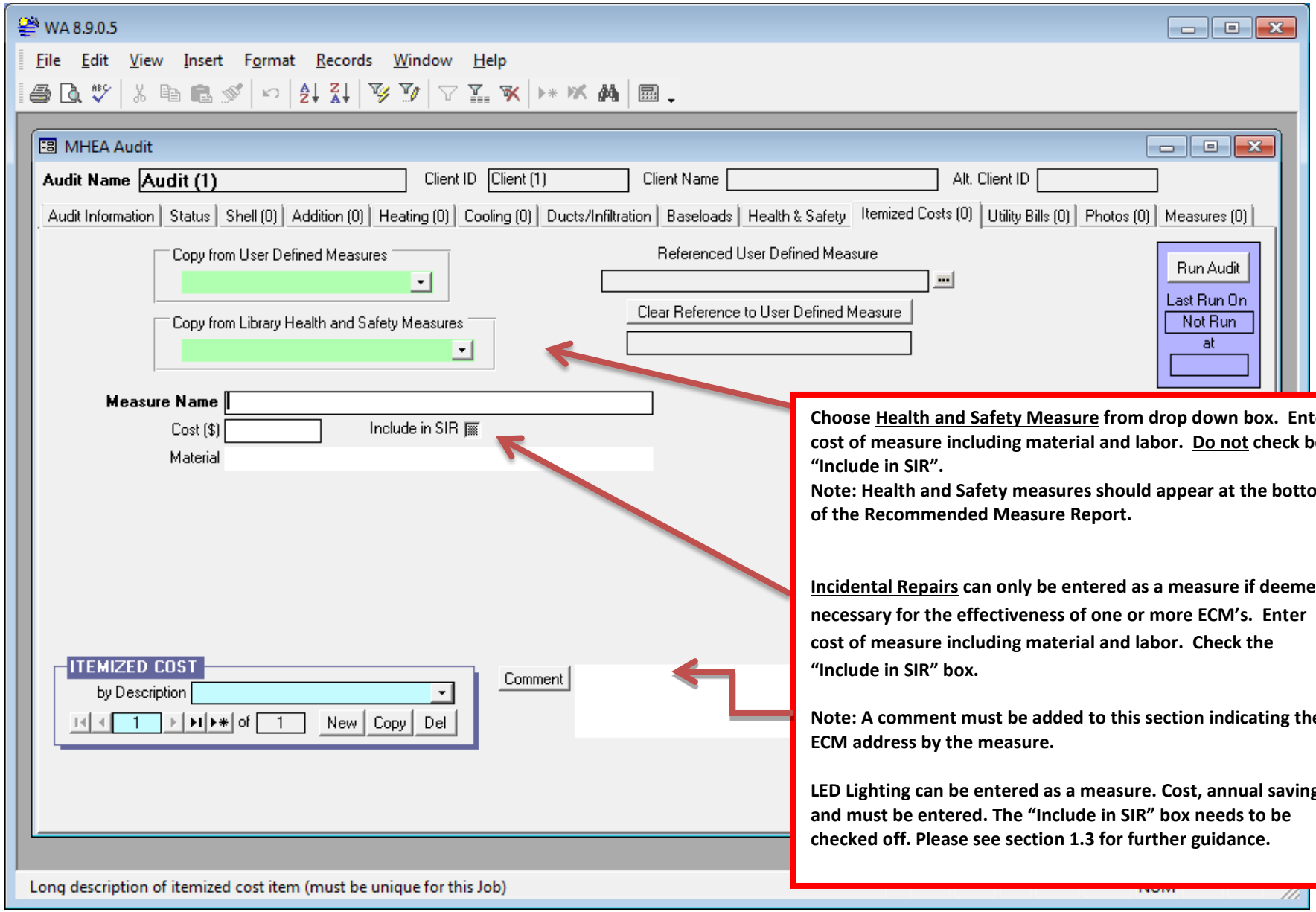

WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Whole House Equipment Building Shell
Smoke Detector is Needed
CO Monitor is Needed
Carbon Monoxide Measurements
Room with Heating System (ppm)
Room with Water Heater (ppm)
Living Area (ppm)
Kitchen (ppm)
Comment
Run Audit
Last Run On
Not Run
at
Smoke and CO detectors must be entered under the health and safety library drop down box.
This is an optional entry of carbon monoxide (CO) readings.
All carbon monoxide test results must be collected on the "Heating System and Hot Water Heater Improvement Survey Report".
Smoke detectors are needed
NUM



Above section entry is optional.

- **Cook stove carbon monoxide measurements must be entered on the "*Data Collection/Health & Safety Assessment*".**
- **Worse Case combustion appliance drafting measurements must be collected on the "*Heating System and Hot Water Heater Survey Report*".**
- **Exhaust Fan information must be entered on the "*ASHRAE 62.2- 2016 RED Calculation Sheet.* Exhaust Fan repair, replacement and or installment, must be entered under the Health and Safety Library drop down box.**


WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Whole House Equipment Building Shell
Attic
Recessed Lights Present
Chimney/Flue Shielding Incorrect
Wiring Problems
Ventilation Inadequate
Water Leaks Present
Moisture/Mold Problems Evident
Other Problems
Walls
Wiring Problems
Water Leaks Present
Moisture/Mold Problems Evident
Other Problems
Crawlspace
Vapor Barrier Needed
Wiring Problems
Water Leaks Present
Plumbing Leaks Present
Moisture/Mold Problems Evident
Other Problems
Run Audit
Last Run On
Not Run
at
Comment
Above section entry is optional.
The information above must be entered on the "Data Collection/Health & Safety Assessment".
The attic space has recessed ceiling lights
NUM

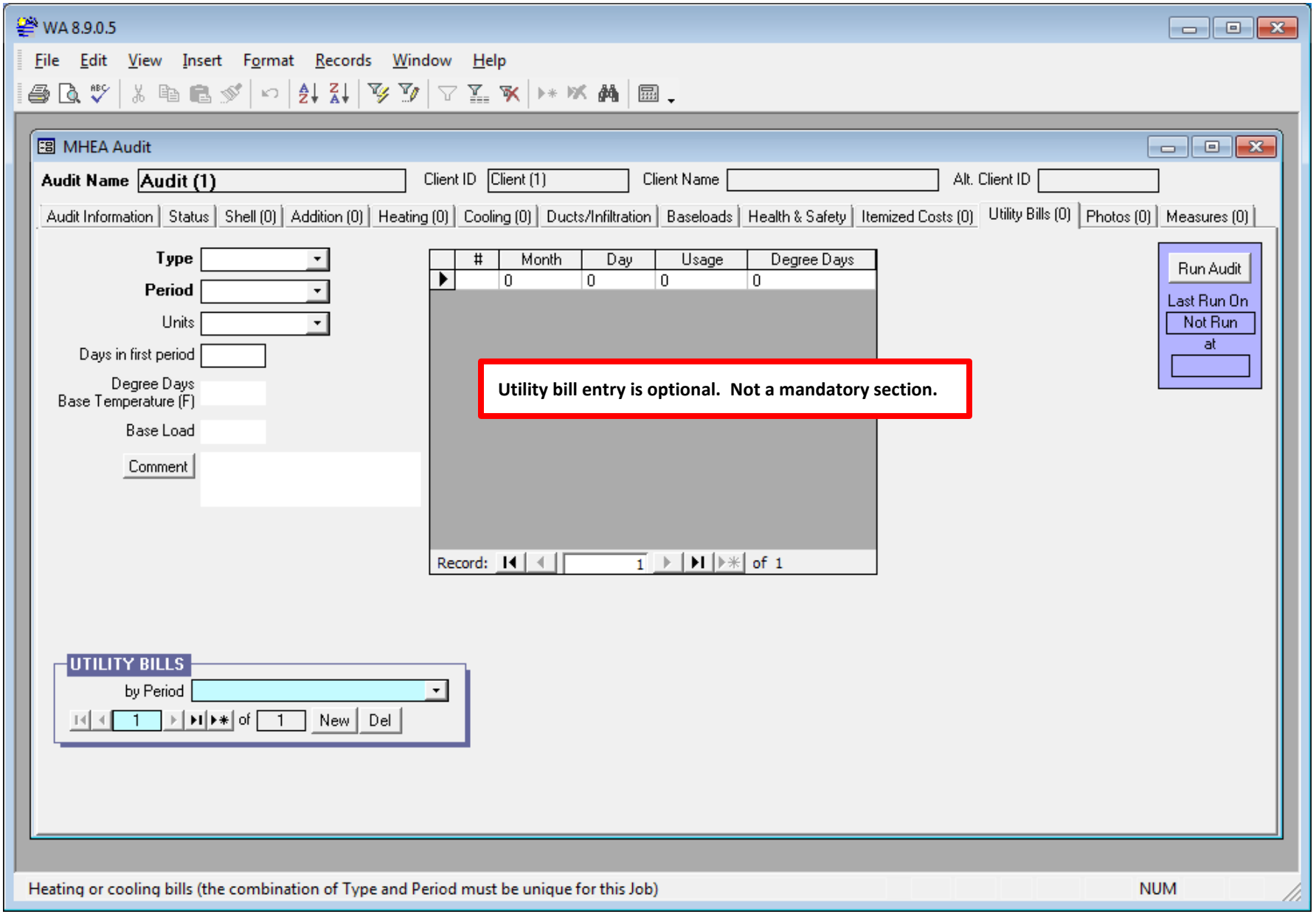


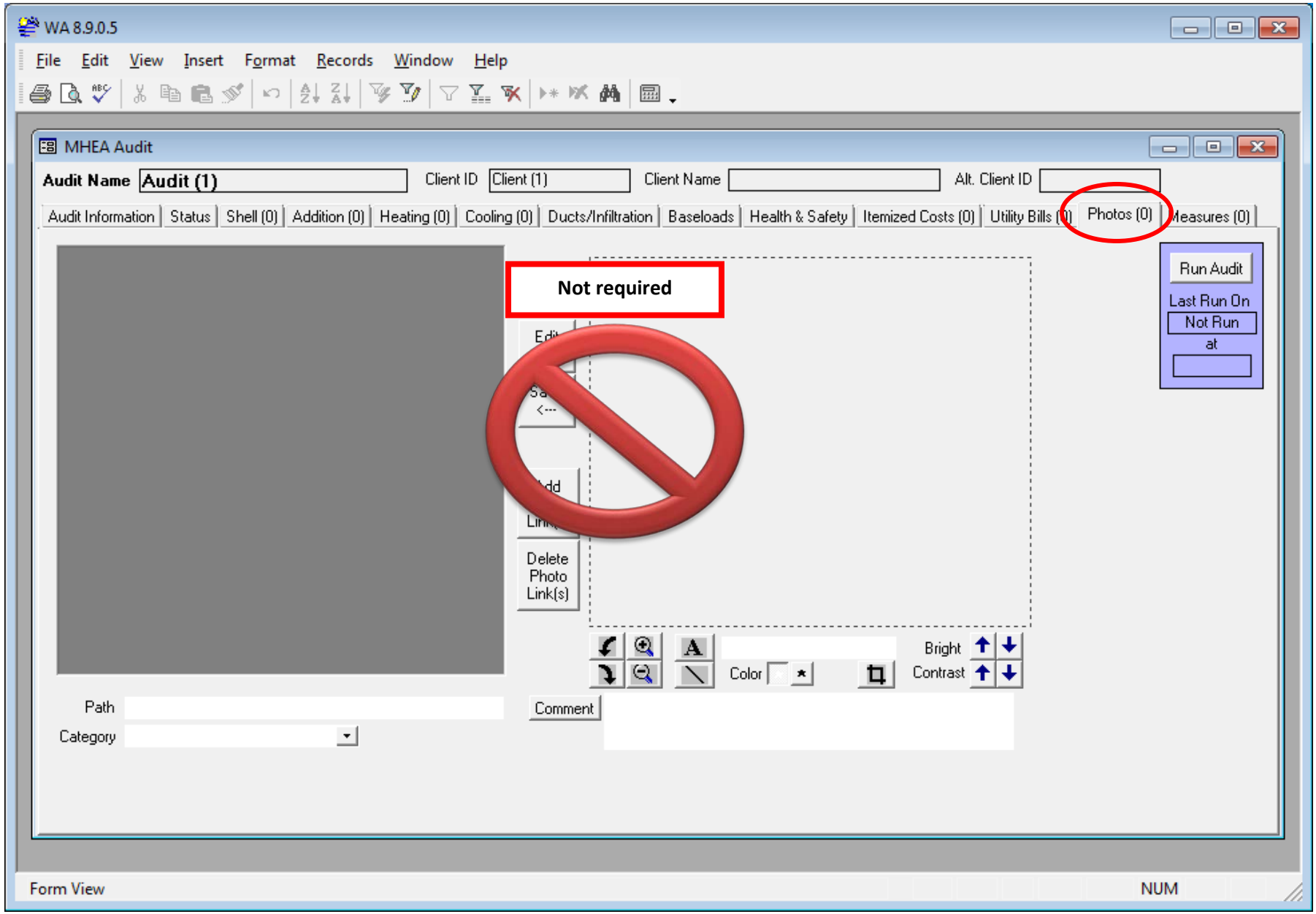
Choose <u>Health and Safety Measure</u> from drop down box. Enter cost of measure including material and labor. <u>Do not</u> check box "Include in SIR".
Note: Health and Safety measures should appear at the bottom of the Recommended Measure Report.

<u>Incidental Repairs</u> can only be entered as a measure if deemed necessary for the effectiveness of one or more ECM's. Enter cost of measure including material and labor. Check the "Include in SIR" box.

Note: A comment must be added to this section indicating the ECM address by the measure.

LED Lighting can be entered as a measure. Cost, annual savings and must be entered. The "Include in SIR" box needs to be checked off. Please see section 1.3 for further guidance.


WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Type
Period
Units
Days in first period
Degree Days Base Temperature (F)
Base Load
Comment
Month Day Usage Degree Days
0 0 0 0
Record: 1 of 1
Utility bill entry is optional. Not a mandatory section.
Run Audit
Last Run On
Not Run
at
UTILITY BILLS
by Period
1 of 1 New Del
Heating or cooling bills (the combination of Type and Period must be unique for this Job)
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
MHEA Audit
Audit Name Audit (1)
Client ID Client (1)
Client Name
Alt. Client ID
Audit Information Status Shell (0) Addition (0) Heating (0) Cooling (0) Ducts/Infiltration Baseloads Health & Safety Itemized Costs (0) Utility Bills (0) Photos (0) Measures (0)
Not required
Run Audit
Last Run On
Not Run
at
Delete Photo Link(s)
Bright
Contrast
Color
Path
Category
Comment
Form View
NUM

When developing your audit library, please note that the following measures can be turned off:

NEAT

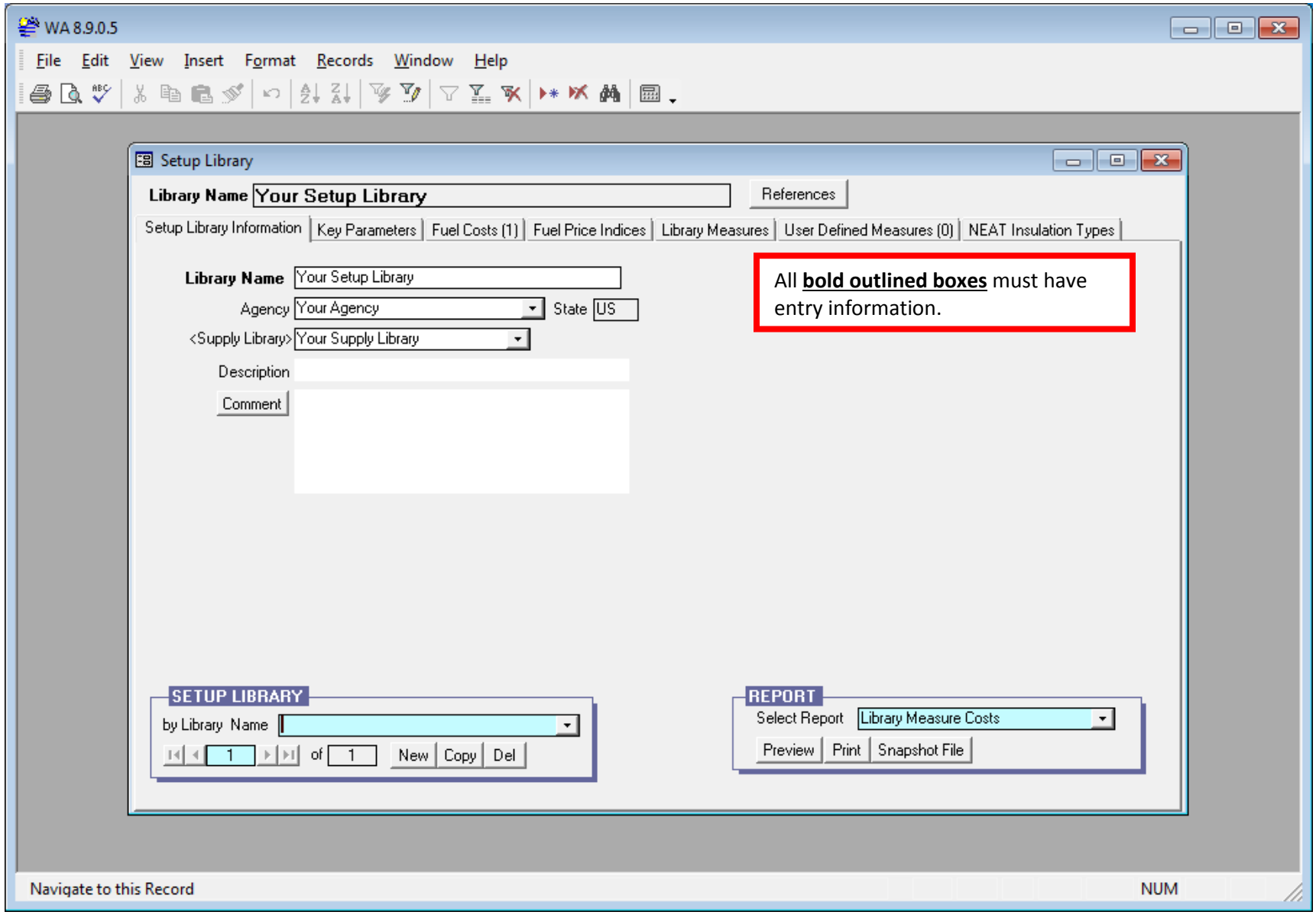
- R49 Insulation Measures- turn off.
- Window sealing – turn off so that caulking, weather-stripping, and sealing windows that aren't receiving any other window treatment (replacement) are just air sealed as part of general infiltration work.
- Storm windows – turn off
- Window replacement – turn off. Turn on Low-e window.
- Window shading (awning) – turn off. Primarily used in southern climates.
- Heating system measures (thermal vent damper, electric vent damper, IID, electric vent damper with IID, flame retention burner, furnace tune up, high efficiency furnace, and high efficiency boiler) - turn off. Use Home Energy and or Heating Improvement Program funds.
- Smart thermostat - turn off only if handled under Home Energy and or HIP.
- Cooling system measures (tune AC, replace AC, evaporative cooler, and install/replace heat pumps) – turn off. Use HIP funding with OLIEC approval only. **Turn on only for LIHEAP funding room A/C unit replacement**.
- Water heater replacement – turn off. Use Home Energy and or HIP funding.

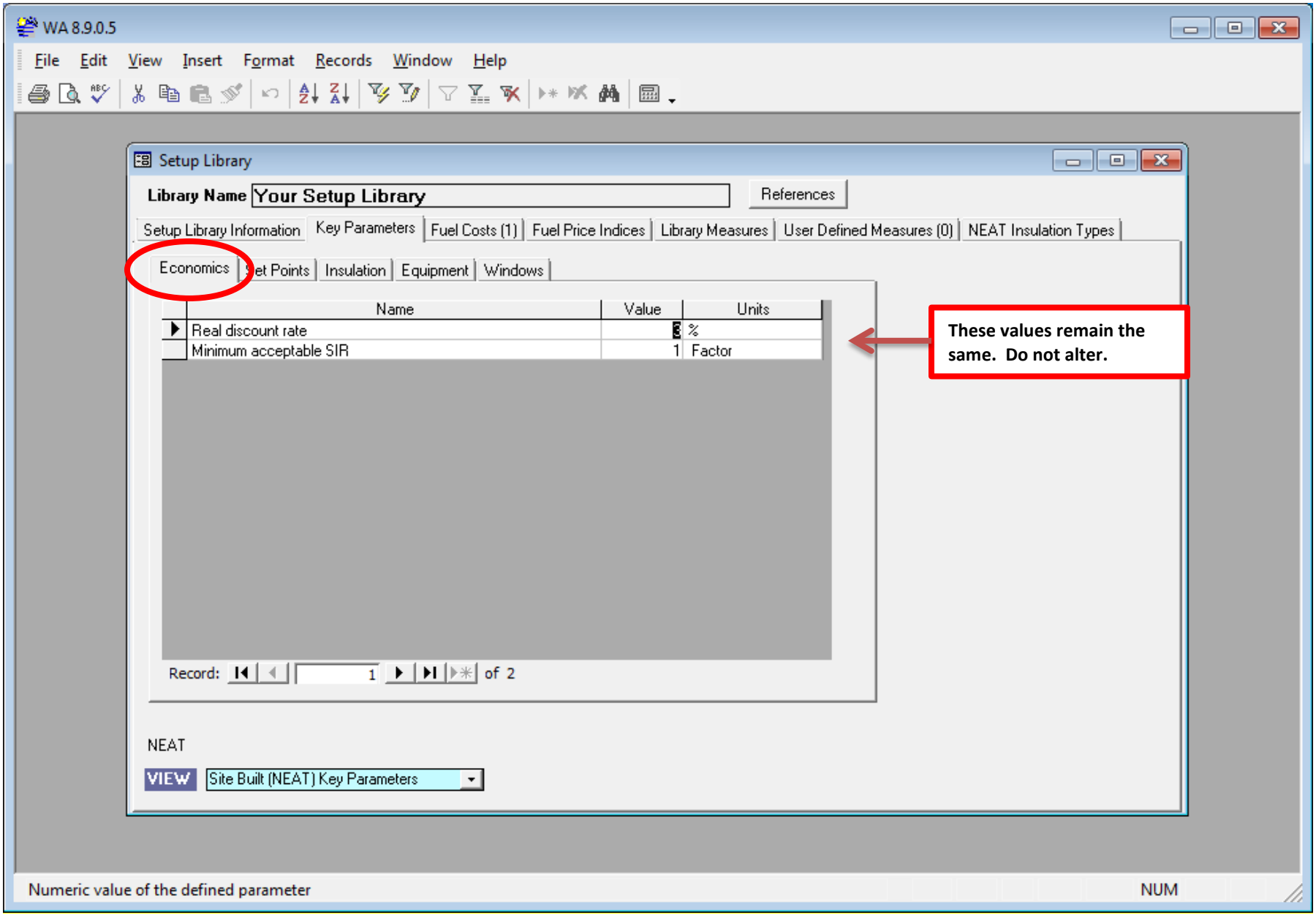
If HIP funding is not available, turn on "Heating system and or Water heater measures". If replacement/repair is recommended under a shell grant (LIHEAP/DOE). The measure must have a Savings to Investment Ratio (SIR) of 1 or greater to proceed. If the measure is considered a health and safety measure attached to a LIHEAP/DOE job, it must be justified under Chapter 3 policy protocols.

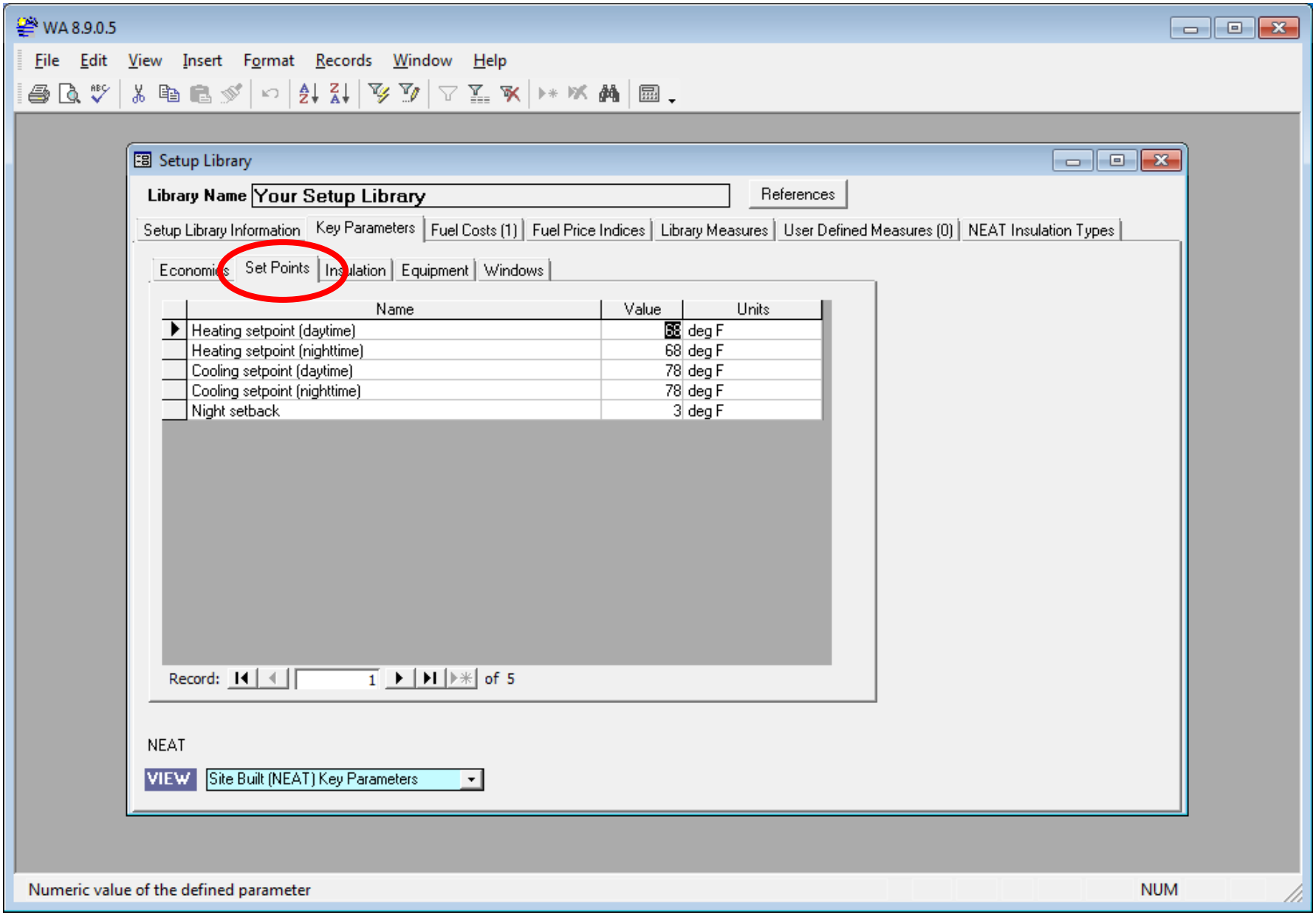
MHEA

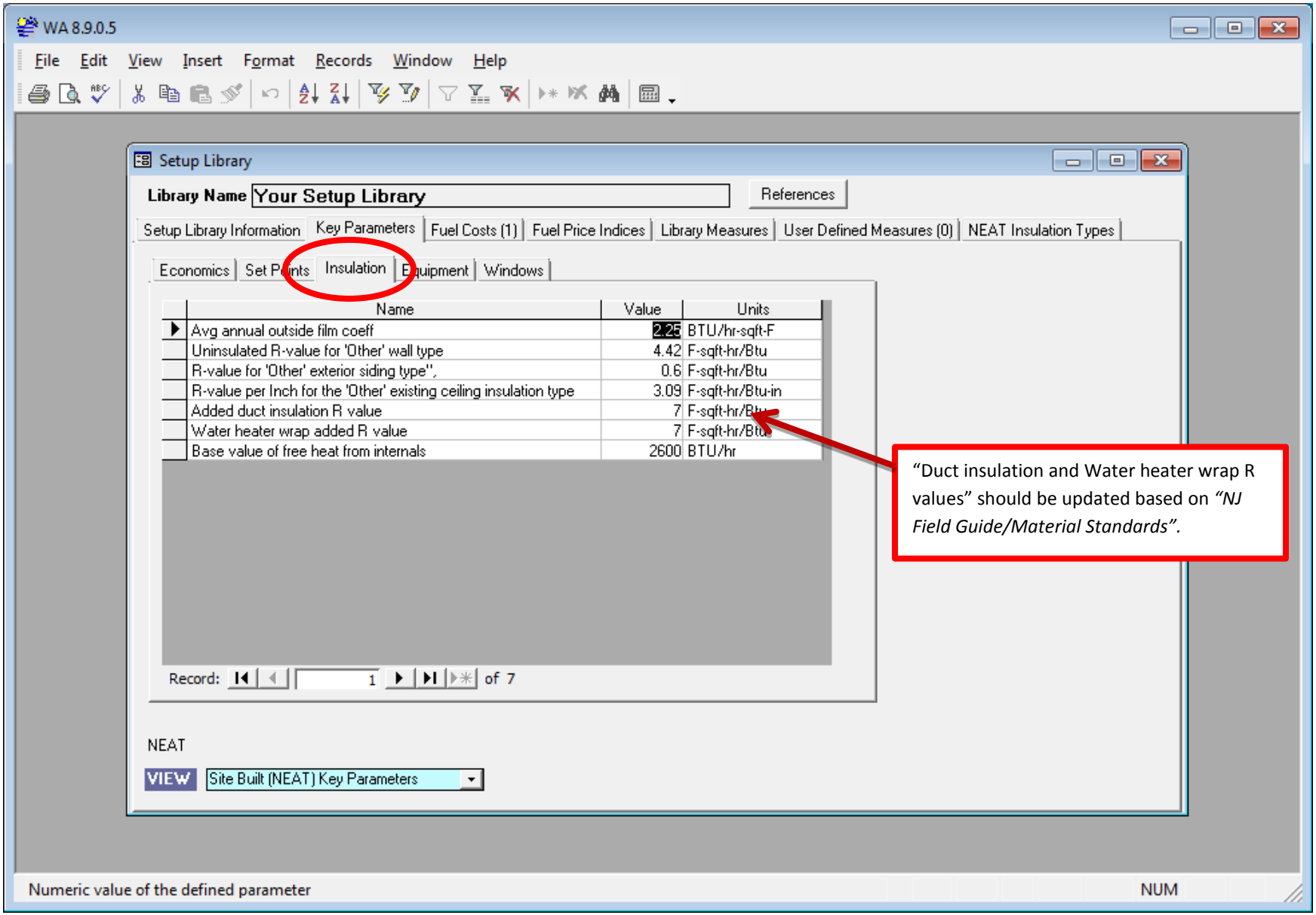
- Wall/Floor/Roof insulation measures – Turn off cellulose insulation. Leave fiberglass insulation on.
- Replace marked door mandatory – if not cost effective as a retrofit measure, can be done as general air sealing if air leakage around the door is excessive (must be justified with photo documentation of pre-condition).
- Window sealing – turn off so that caulking, weather-stripping, and sealing windows that aren't receiving any other window treatment (replacement) are just air sealed as part of general infiltration work.
- Plastic storm windows – turn off.
- Glass storm windows – turn off.
- Awnings and shade screens – turn off. Primarily used in southern climates.
- White roof coating – turn off. Primarily used in southern climates.
- Heating system measures (thermal vent damper, electric vent damper, IID, electric vent damper with IID, flame retention burner, furnace tune up, high efficiency furnace, and high efficiency boiler) - turn off. Use Home Energy and or Heating Improvement Program funds.
- Smart thermostat - turn off only if handled under Home Energy and or HIP.
- Cooling system measures (tune AC, replace AC, evaporative cooler, and install/replace heat pumps) – turn off. Use HIP funding with OLIEC approval only. **Turn on only for LIHEAP funding room A/C unit replacement.**
- Water heater replacement – turn off. Use Home Energy and or HIP funding.

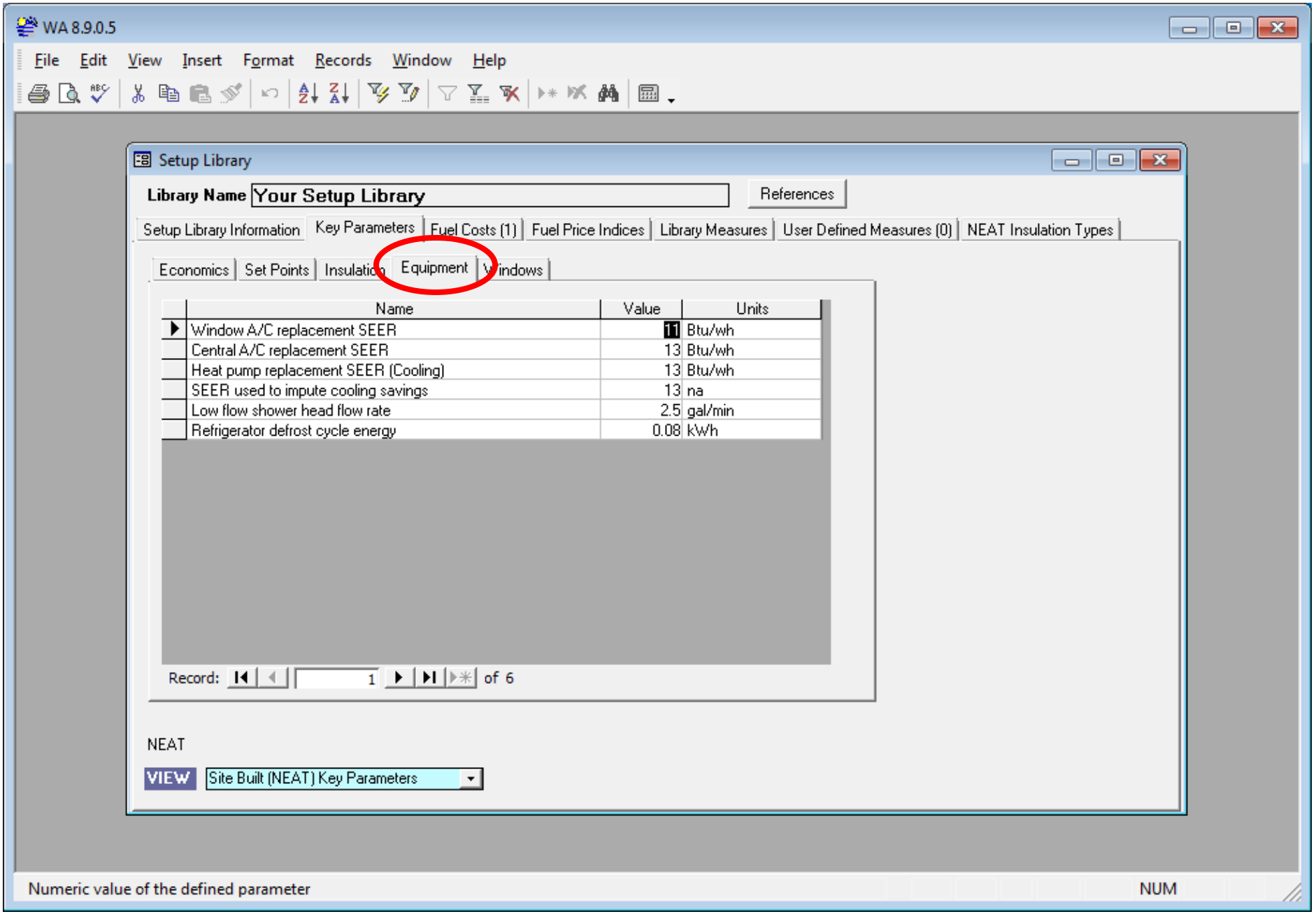
If HIP funding is not available, turn on "Heating system and or Water heater measures". If replacement/repair is recommended under a shell grant (LIHEAP/DOE). The measure must have a Savings to Investment Ratio (SIR) of 1 or greater to proceed. If the measure is considered a health and safety measure attached to a LIHEAP/DOE job, it must be justified under Chapter 3 policy protocols.

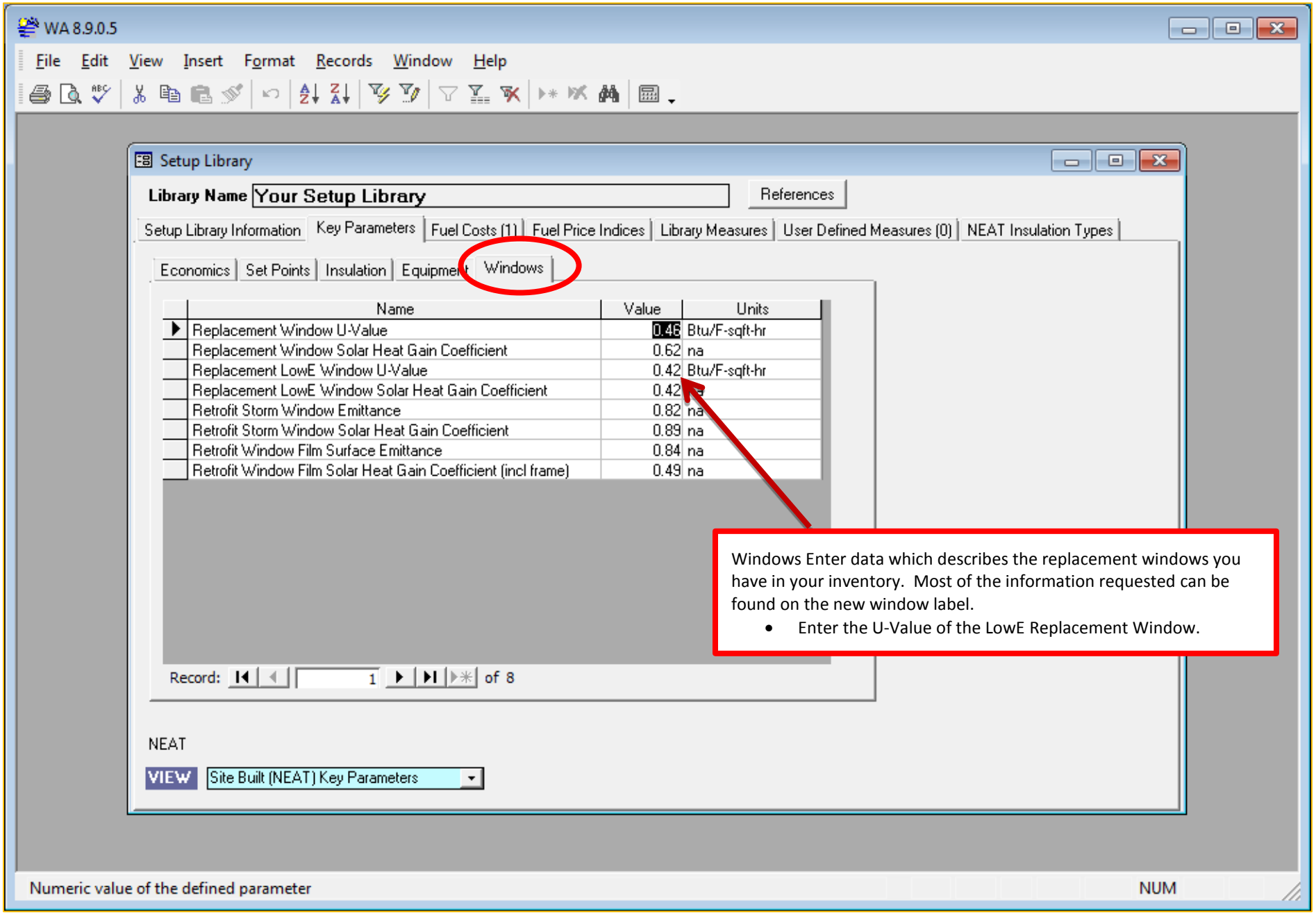

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Library Name Your Setup Library
Agency Your Agency
State US
<Supply Library> Your Supply Library
Description
Comment
All bold outlined boxes must have entry information.
SETUP LIBRARY
by Library Name
1
of 1
New
Copy
Del
REPORT
Select Report Library Measure Costs
Preview
Print
Snapshot File
Navigate to this Record
NUM

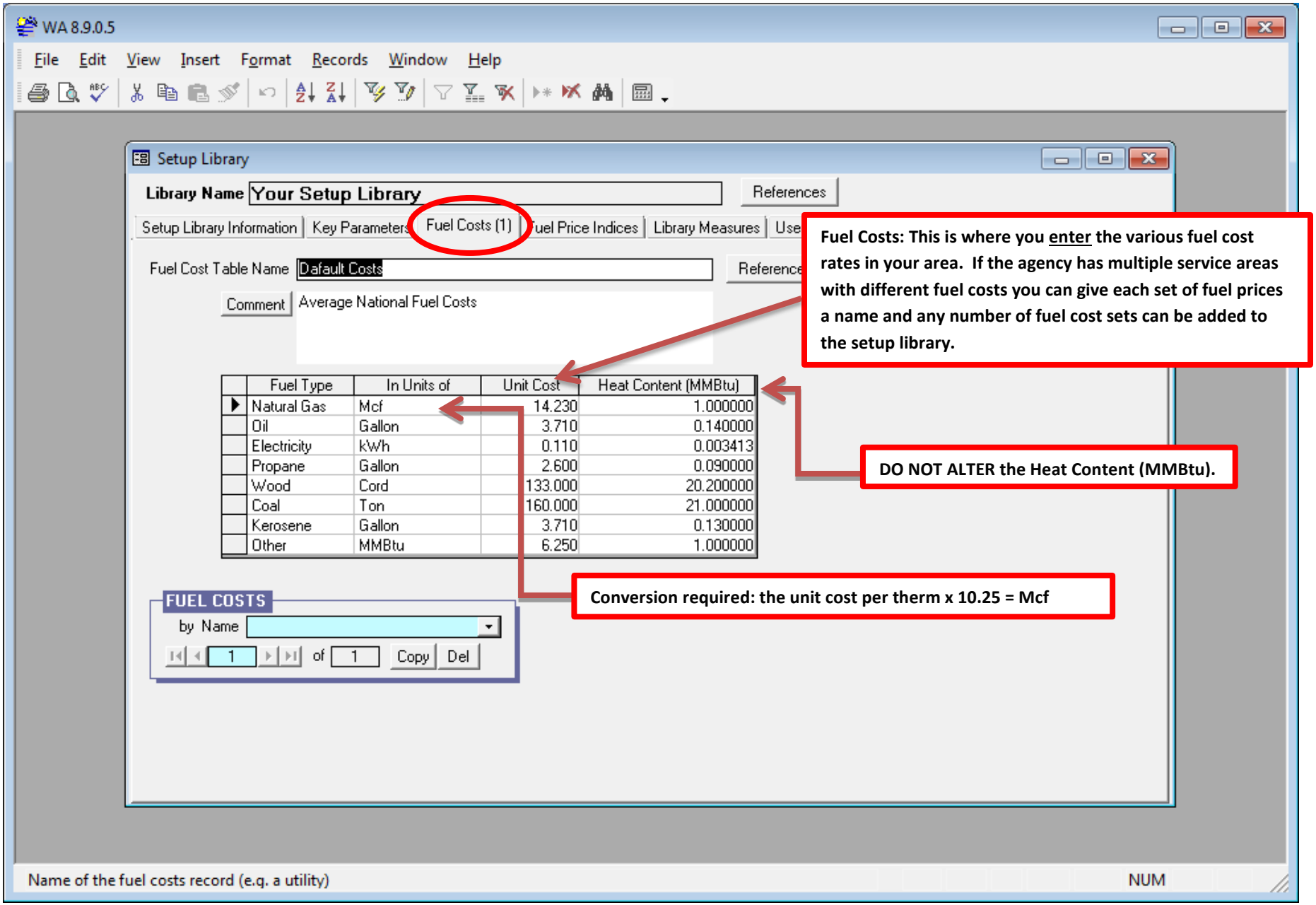

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Economics
Set Points
Insulation
Equipment
Windows
Name
Value
Units
Real discount rate
3
%
Minimum acceptable SIR
1
Factor
Record: 1 of 2
These values remain the same. Do not alter.
NEAT
VIEW
Site Built (NEAT) Key Parameters
Numeric value of the defined parameter
NUM

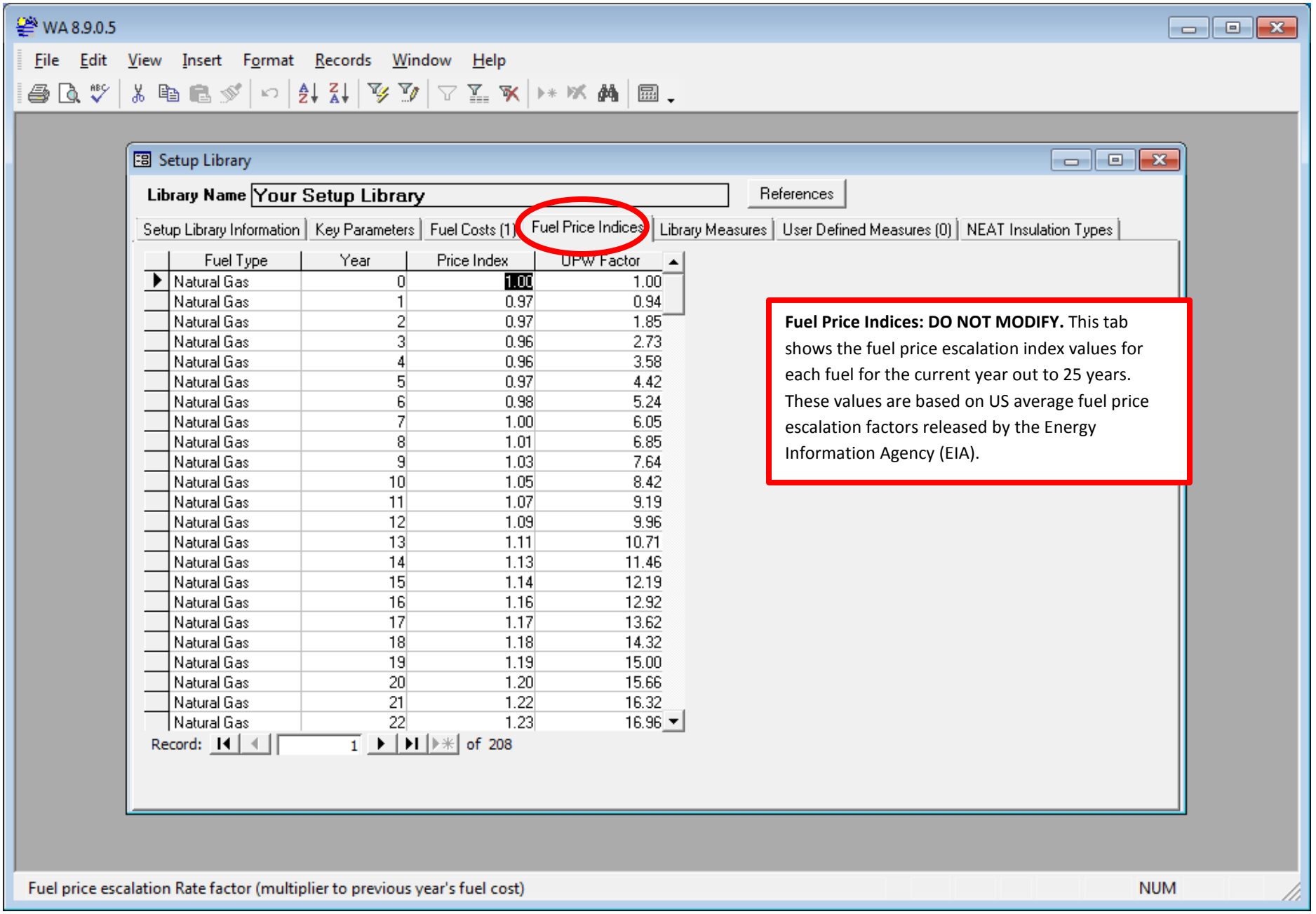

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Economics
Set Points
Insulation
Equipment
Windows
Name
Value
Units
Heating setpoint (daytime) 68 deg F
Heating setpoint (nighttime) 68 deg F
Cooling setpoint (daytime) 78 deg F
Cooling setpoint (nighttime) 78 deg F
Night setback 3 deg F
Record: 1 of 5
NEAT
VIEW
Site Built (NEAT) Key Parameters
Numeric value of the defined parameter
NUM

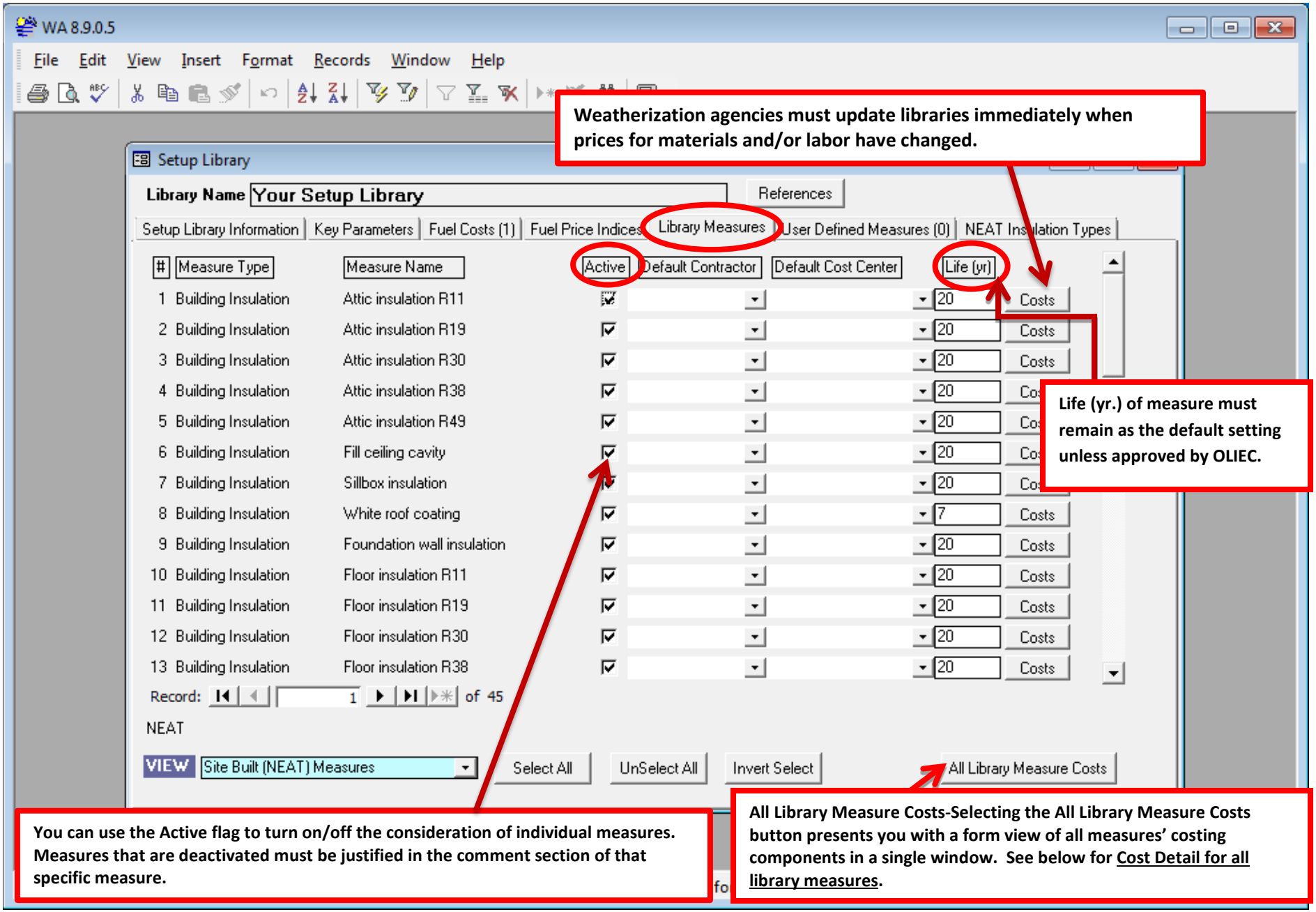

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Economics
Set Points
Insulation
Equipment
Windows
Name
Value
Units
Avg annual outside film coeff 2.25 BTU/hr-sqft-F
Uninsulated R-value for 'Other' wall type 4.42 F-sqft-hr/Btu
R-value for 'Other' exterior siding type'', 0.6 F-sqft-hr/Btu
R-value per Inch for the 'Other' existing ceiling insulation type 3.09 F-sqft-hr/Btu-in
Added duct insulation R value 7 F-sqft-hr/Btu
Water heater wrap added R value 7 F-sqft-hr/Btu
Base value of free heat from internals 2600 BTU/hr
Record: 1 of 7
NEAT
VIEW
Site Built (NEAT) Key Parameters
"Duct insulation and Water heater wrap R values" should be updated based on "NJ Field Guide/Material Standards".
Numeric value of the defined parameter
NUM

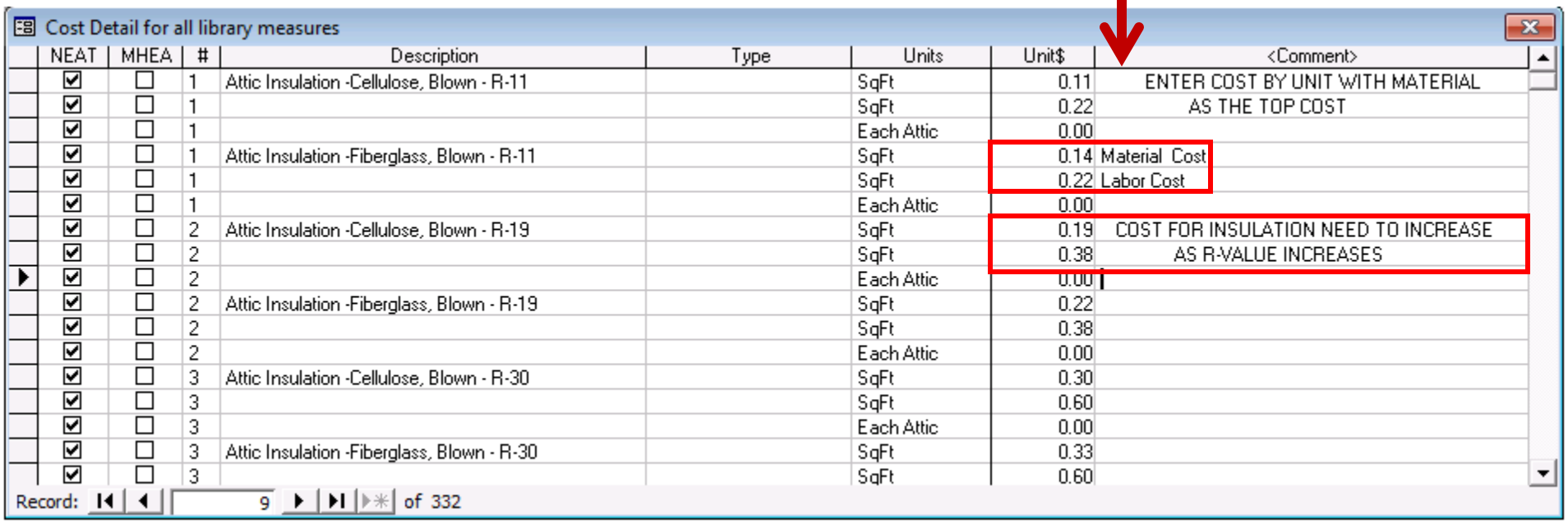

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Economics
Set Points
Insulation
Equipment
Windows
Name
Value
Units
Window A/C replacement SEER 11 Btu/wh
Central A/C replacement SEER 13 Btu/wh
Heat pump replacement SEER (Cooling) 13 Btu/wh
SEER used to impute cooling savings 13 na
Low flow shower head flow rate 2.5 gal/min
Refrigerator defrost cycle energy 0.08 kWh
Record: 1 of 6
NEAT
VIEW
Site Built (NEAT) Key Parameters
Numeric value of the defined parameter
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Economics
Set Points
Insulation
Equipment
Windows
Name
Value
Units
Replacement Window U-Value 0.46 Btu/F-sqft-hr
Replacement Window Solar Heat Gain Coefficient 0.62 na
Replacement LowE Window U-Value 0.42 Btu/F-sqft-hr
Replacement LowE Window Solar Heat Gain Coefficient 0.42 na
Retrofit Storm Window Emittance 0.82 na
Retrofit Storm Window Solar Heat Gain Coefficient 0.89 na
Retrofit Window Film Surface Emittance 0.84 na
Retrofit Window Film Solar Heat Gain Coefficient (incl frame) 0.49 na
Record: 1 of 8
NEAT
VIEW
Site Built (NEAT) Key Parameters
Windows Enter data which describes the replacement windows you have in your inventory. Most of the information requested can be found on the new window label.
• Enter the U-Value of the LowE Replacement Window.
Numeric value of the defined parameter
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
Fuel Cost Table Name Default Costs
Comment
Average National Fuel Costs
Fuel Costs: This is where you enter the various fuel cost rates in your area. If the agency has multiple service areas with different fuel costs you can give each set of fuel prices a name and any number of fuel cost sets can be added to the setup library.
Fuel Type | In Units of | Unit Cost | Heat Content (MMBtu)
Natural Gas | Mcf | 14.230 | 1.000000
Oil | Gallon | 3.710 | 0.140000
Electricity | kWh | 0.110 | 0.003413
Propane | Gallon | 2.600 | 0.090000
Wood | Cord | 133.000 | 20.200000
Coal | Ton | 160.000 | 21.000000
Kerosene | Gallon | 3.710 | 0.130000
Other | MMBtu | 6.250 | 1.000000
DO NOT ALTER the Heat Content (MMBtu).
Conversion required: the unit cost per therm x 10.25 = Mcf
FUEL COSTS
by Name
1 of 1 Copy Del
Name of the fuel costs record (e.g. a utility)
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information
Key Parameters
Fuel Costs (1)
Fuel Price Indices
Library Measures
User Defined Measures (0)
NEAT Insulation Types
Fuel Type | Year | Price Index | UPW Factor
Natural Gas 0 1.00 1.00
Natural Gas 1 0.97 0.94
Natural Gas 2 0.97 1.85
Natural Gas 3 0.96 2.73
Natural Gas 4 0.96 3.58
Natural Gas 5 0.97 4.42
Natural Gas 6 0.98 5.24
Natural Gas 7 1.00 6.05
Natural Gas 8 1.01 6.85
Natural Gas 9 1.03 7.64
Natural Gas 10 1.05 8.42
Natural Gas 11 1.07 9.19
Natural Gas 12 1.09 9.96
Natural Gas 13 1.11 10.71
Natural Gas 14 1.13 11.46
Natural Gas 15 1.14 12.19
Natural Gas 16 1.16 12.92
Natural Gas 17 1.17 13.62
Natural Gas 18 1.18 14.32
Natural Gas 19 1.19 15.00
Natural Gas 20 1.20 15.66
Natural Gas 21 1.22 16.32
Natural Gas 22 1.23 16.96
Record: 1 of 208
Fuel Price Indices: DO NOT MODIFY. This tab shows the fuel price escalation index values for each fuel for the current year out to 25 years. These values are based on US average fuel price escalation factors released by the Energy Information Agency (EIA).
Fuel price escalation Rate factor (multiplier to previous year's fuel cost)
NUM

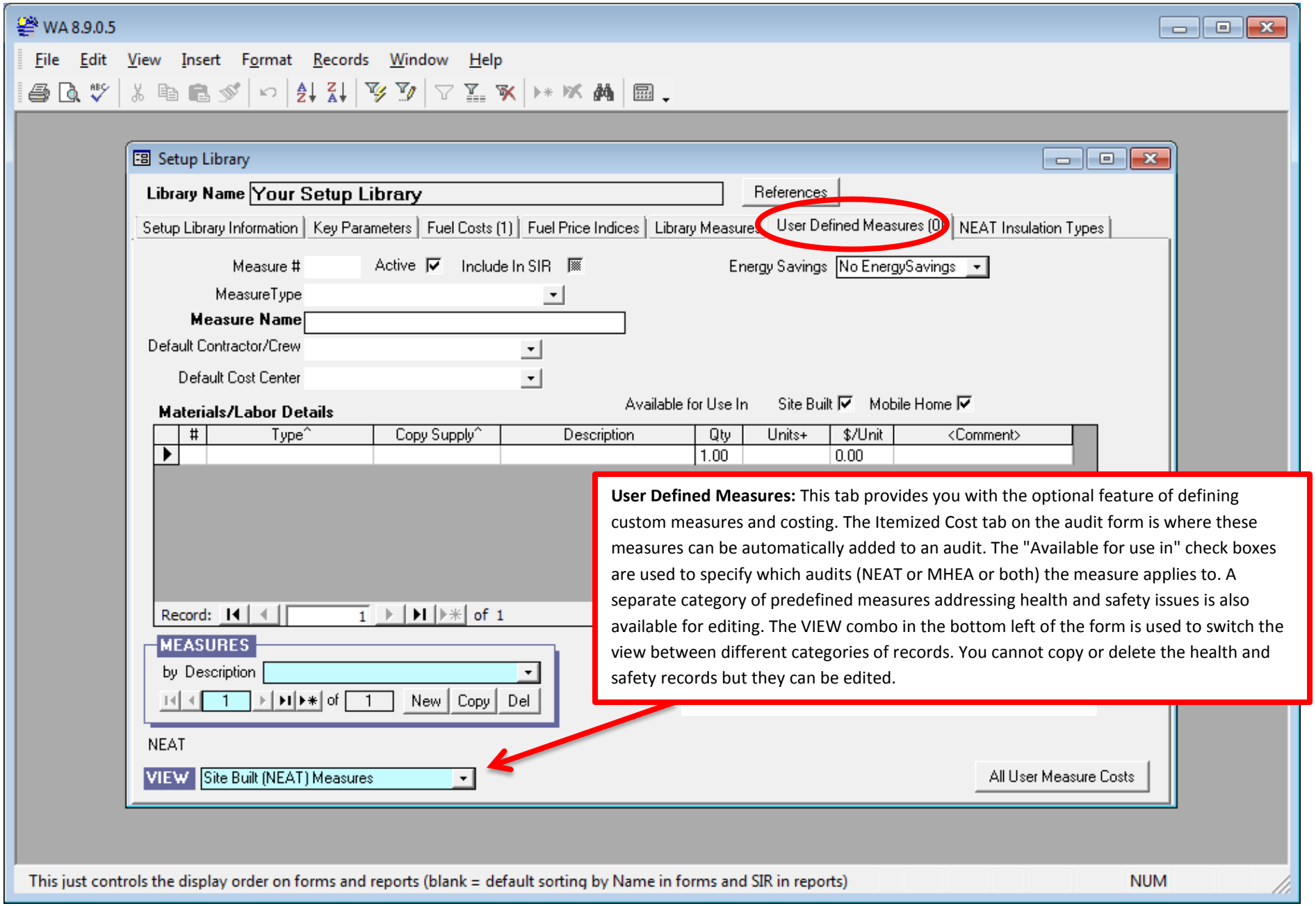

WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information | Key Parameters | Fuel Costs (1) | Fuel Price Indices | Library Measures | User Defined Measures (0) | NEAT Insulation Types
| Measure Type | Measure Name | Active | Default Contractor | Default Cost Center | Life (yr)
1 Building Insulation Attic insulation R11 20 Costs
2 Building Insulation Attic insulation R19 20 Costs
3 Building Insulation Attic insulation R30 20 Costs
4 Building Insulation Attic insulation R38 20 Costs
5 Building Insulation Attic insulation R49 20 Costs
6 Building Insulation Fill ceiling cavity 20 Costs
7 Building Insulation Sillbox insulation 20 Costs
8 Building Insulation White roof coating 7 Costs
9 Building Insulation Foundation wall insulation 20 Costs
10 Building Insulation Floor insulation R11 20 Costs
11 Building Insulation Floor insulation R19 20 Costs
12 Building Insulation Floor insulation R30 20 Costs
13 Building Insulation Floor insulation R38 20 Costs
Record: 1 of 45
NEAT
VIEW Site Built (NEAT) Measures
Select All
UnSelect All
Invert Select
All Library Measure Costs
Weatherization agencies must update libraries immediately when prices for materials and/or labor have changed.
Life (yr.) of measure must remain as the default setting unless approved by OLIEC.
You can use the Active flag to turn on/off the consideration of individual measures. Measures that are deactivated must be justified in the comment section of that specific measure.
All Library Measure Costs-Selecting the All Library Measure Costs button presents you with a form view of all measures' costing components in a single window. See below for Cost Detail for all library measures.

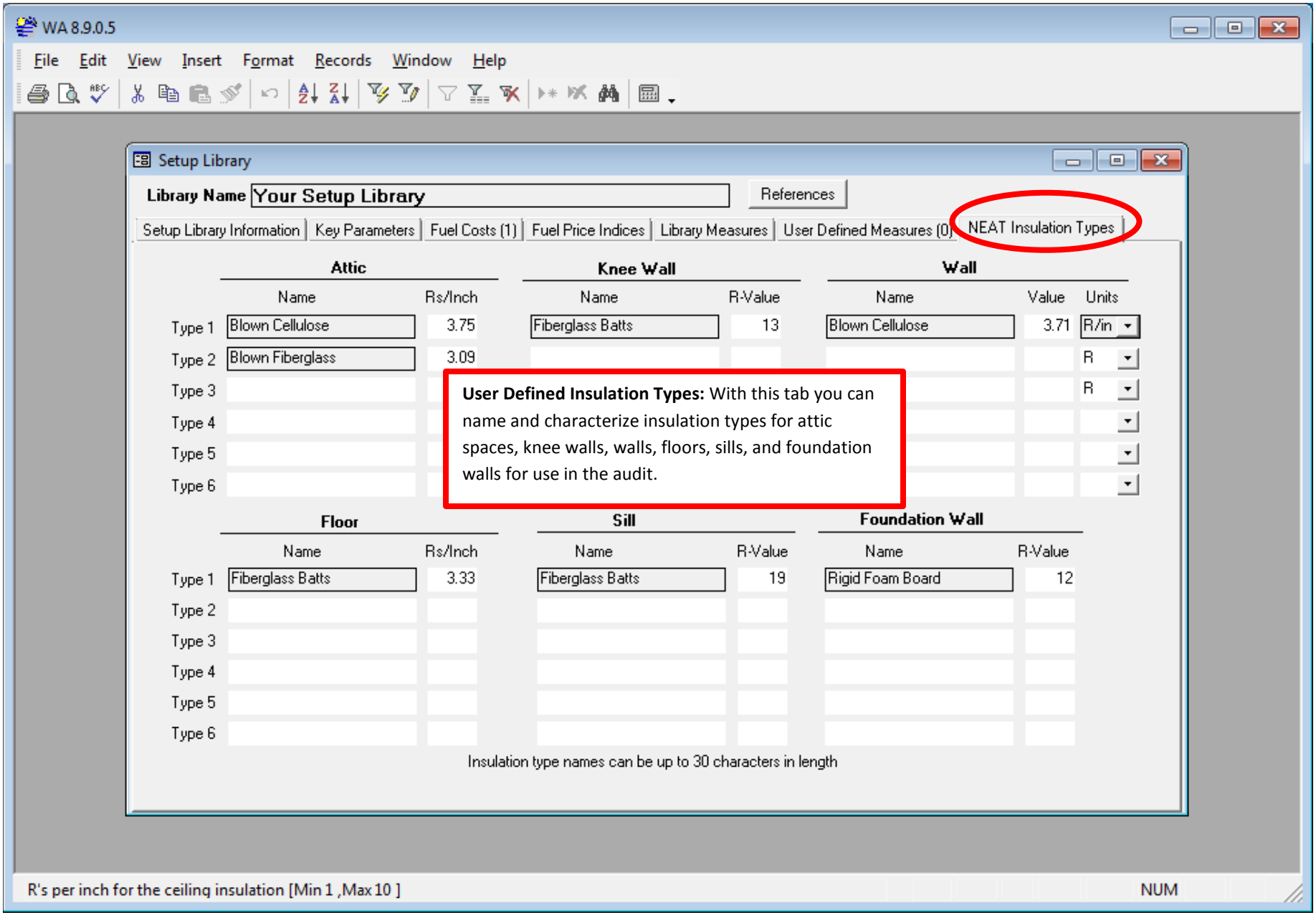


Cost Detail for all library measures

NEAT	MHEA	#	Description	Type	Units	Unit$	<Comment>
☑	☐	1	Attic Insulation -Cellulose, Blown - R-11		SqFt	0.11	ENTER COST BY UNIT WITH MATERIAL
☑	☐	1			SqFt	0.22	AS THE TOP COST
☑	☐	1			Each Attic	0.00	
☑	☐	1	Attic Insulation -Fiberglass, Blown - R-11		SqFt	0.14	Material Cost
☑	☐	1			SqFt	0.22	Labor Cost
☑	☐	1			Each Attic	0.00	
☑	☐	2	Attic Insulation -Cellulose, Blown - R-19		SqFt	0.19	COST FOR INSULATION NEED TO INCREASE
☑	☐	2			SqFt	0.38	AS R-VALUE INCREASES
☑	☐	2			Each Attic	0.00	
☑	☐	2	Attic Insulation -Fiberglass, Blown - R-19		SqFt	0.22	
☑	☐	2			SqFt	0.38	
☑	☐	2			Each Attic	0.00	
☑	☐	3	Attic Insulation -Cellulose, Blown - R-30		SqFt	0.30	
☑	☐	3			SqFt	0.60	
☑	☐	3			Each Attic	0.00	
☑	☐	3	Attic Insulation -Fiberglass, Blown - R-30		SqFt	0.33	
☑	☐	3			SqFt	0.60	

Record: 9 of 332


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information | Key Parameters | Fuel Costs (1) | Fuel Price Indices | Library Measures | User Defined Measures (0) | NEAT Insulation Types
Measure # Active Include In SIR
Energy Savings No EnergySavings
MeasureType
Measure Name
Default Contractor/Crew
Default Cost Center
Materials/Labor Details
Available for Use In Site Built Mobile Home
Type^ Copy Supply^ Description Qty Units+ $/Unit <Comment>
1.00 0.00
Record: 1 of 1
MEASURES
by Description
1 of 1 New Copy Del
NEAT
VIEW Site Built (NEAT) Measures
All User Measure Costs
User Defined Measures: This tab provides you with the optional feature of defining custom measures and costing. The Itemized Cost tab on the audit form is where these measures can be automatically added to an audit. The "Available for use in" check boxes are used to specify which audits (NEAT or MHEA or both) the measure applies to. A separate category of predefined measures addressing health and safety issues is also available for editing. The VIEW combo in the bottom left of the form is used to switch the view between different categories of records. You cannot copy or delete the health and safety records but they can be edited.
This just controls the display order on forms and reports (blank = default sorting by Name in forms and SIR in reports)
NUM


WA 8.9.0.5
File Edit View Insert Format Records Window Help
Setup Library
Library Name Your Setup Library
References
Setup Library Information | Key Parameters | Fuel Costs (1) | Fuel Price Indices | Library Measures | User Defined Measures (0) | NEAT Insulation Types
Attic
Name Rs/Inch
Type 1 Blown Cellulose 3.75
Type 2 Blown Fiberglass 3.09
Type 3
Type 4
Type 5
Type 6
Knee Wall
Name R-Value
Type 1 Fiberglass Batts 13
Wall
Name Value Units
Type 1 Blown Cellulose 3.71 R/in
Type 2 R
Type 3 R
Type 4
Type 5
Type 6
User Defined Insulation Types: With this tab you can name and characterize insulation types for attic spaces, knee walls, walls, floors, sills, and foundation walls for use in the audit.
Floor
Name Rs/Inch
Type 1 Fiberglass Batts 3.33
Type 2
Type 3
Type 4
Type 5
Type 6
Sill
Name R-Value
Type 1 Fiberglass Batts 19
Foundation Wall
Name R-Value
Type 1 Rigid Foam Board 12
Insulation type names can be up to 30 characters in length
R's per inch for the ceiling insulation [Min 1 ,Max 10]
NUM

2.3.EA-QUIP

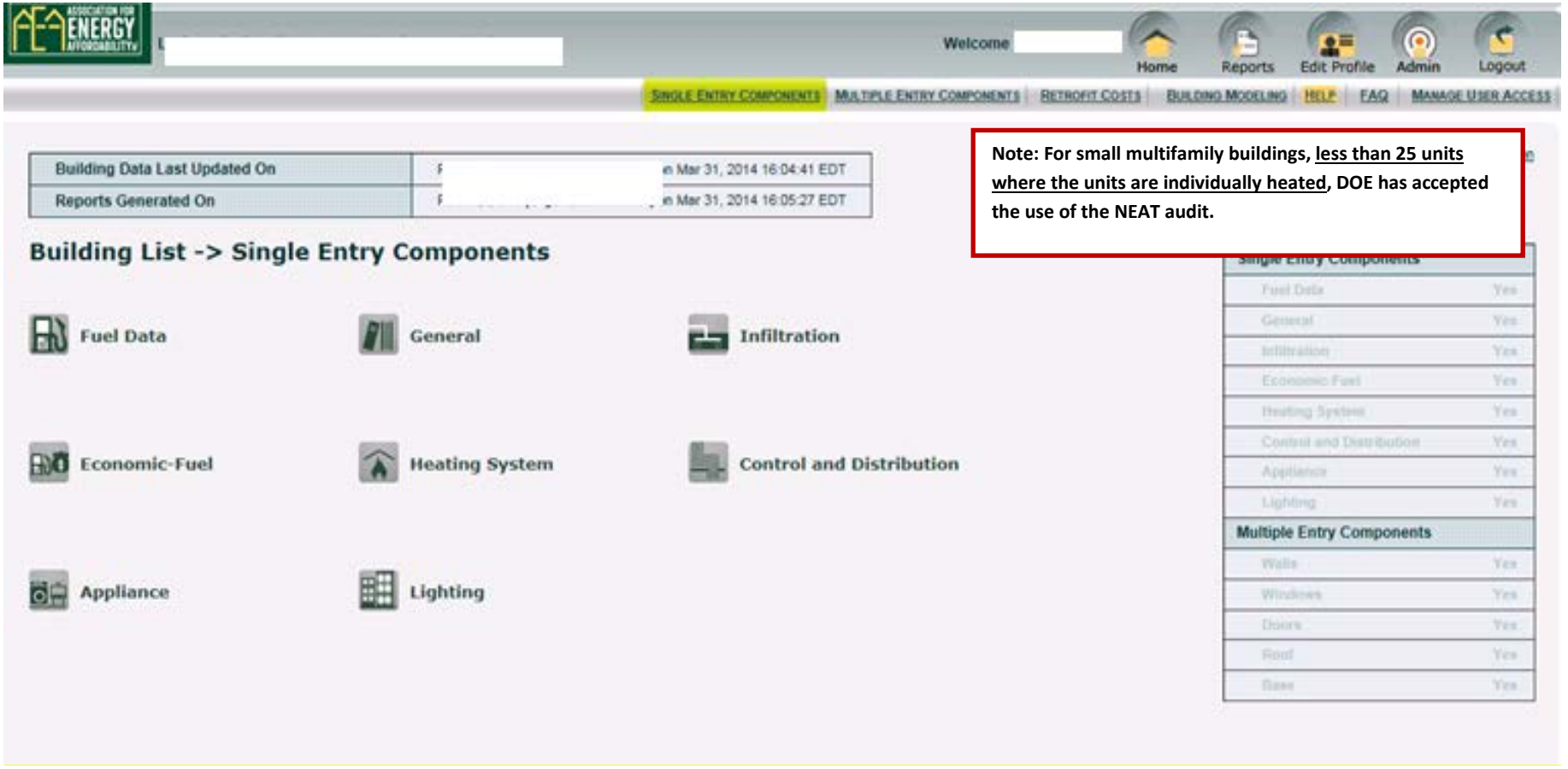
EA-QUIP is New Jersey's Weatherization audit tool which is used on 5 or more units. This audit determines economically optimal mixes of energy-saving measures for a given building and within a chosen budget, for which it uses retrofit and cost libraries. From the library of measures, the program chooses those which are applicable to the building under consideration and ranks them by decreasing savings-to-cost ratio. This ratio is defined for each retrofit as the life cycle savings (energy savings minus future maintenance and replacement costs over the user-selected time horizon for each retrofit) divided by the installed cost of the measure.

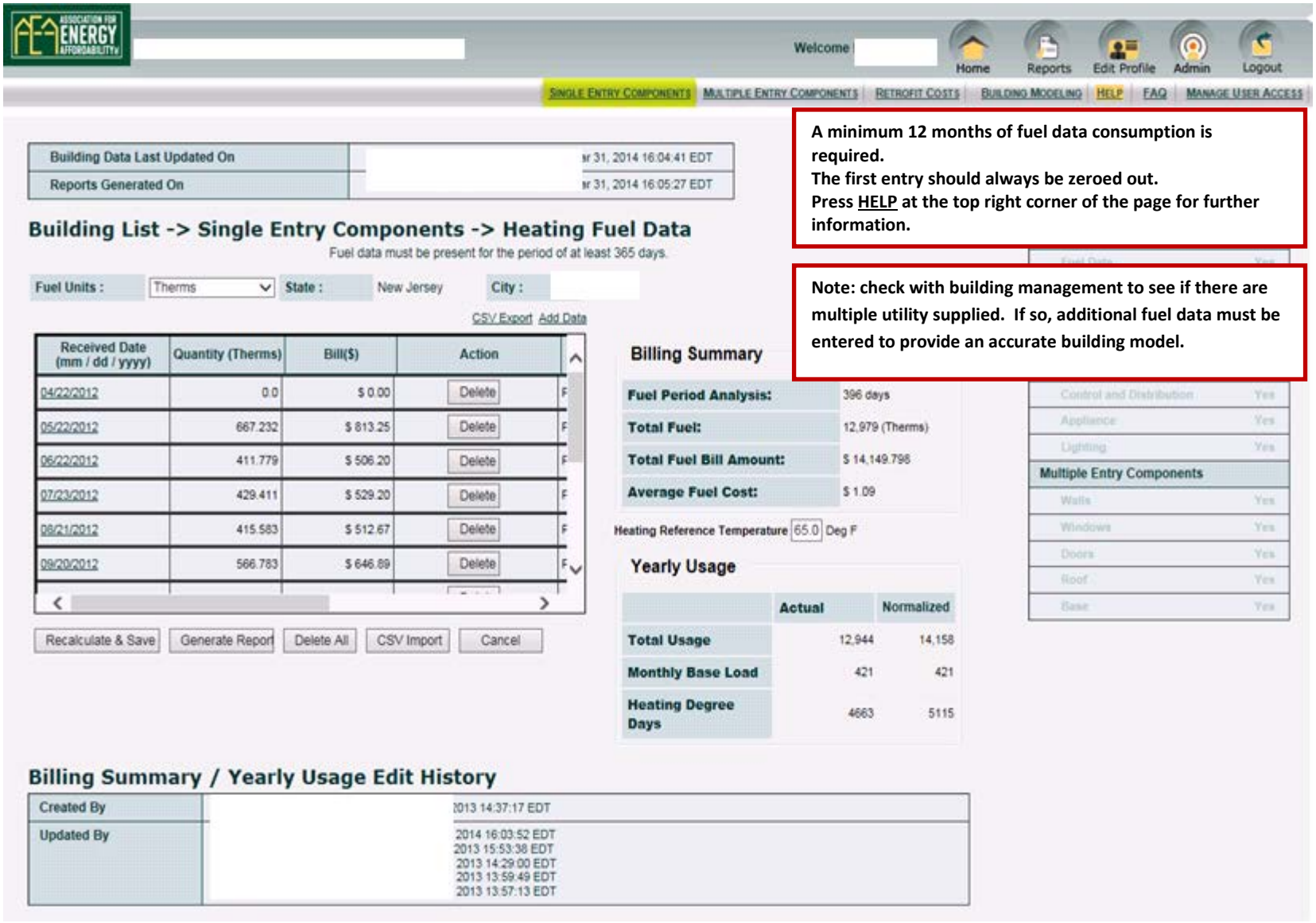
EA-QUIP provides preformatted energy and economics reports such as: Applicable Energy Conservation Measures rated by Life-Time savings per investment, Existing conditions, Energy savings, Savings and costs analysis, and an Investment Analysis report where measures are prioritized and ranked by saving to Investment Ratio (SIR). For energy auditors and energy policy makers who are more interested in the most desirable energy-saving combination of retrofits, EA-QUIP provides a three-stage automated process: the selection of retrofits, their economic optimization, and their predictive analysis**. [**Building Energy Software Tools Directory**]**

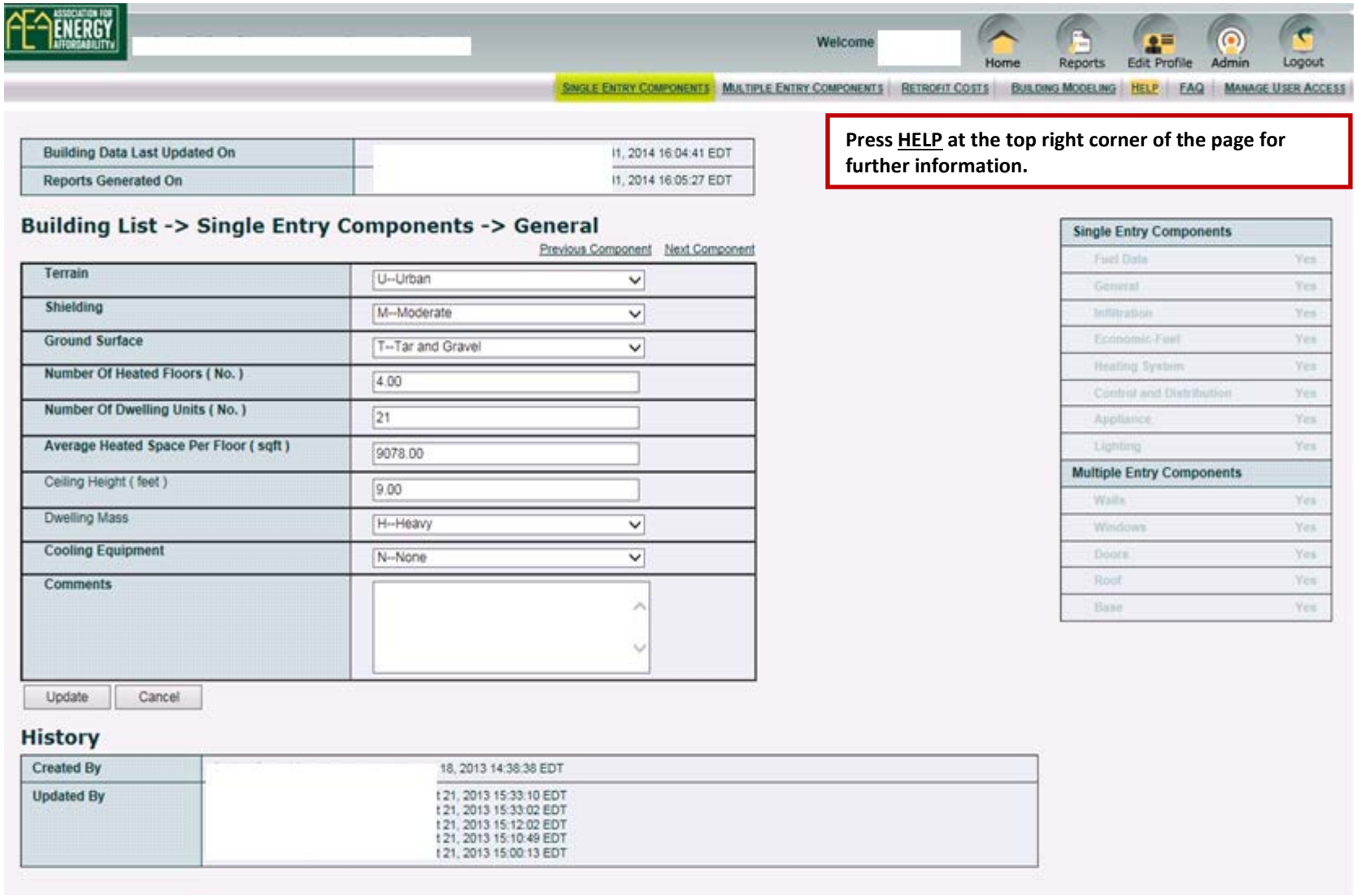
For multi-family buildings, all EA-QUIP audits must be reviewed by State Monitor followed by a physical site assessment to confirm the work indicated on the audit is required for the multi-family project. If the project will be funded through LIHEAP WX, WAP Agency can proceed to a bid upon State Monitor review being completed. If the project will be funded through DOE Annual funds, the project must be submitted to OLIEC for forwarding to USDOE for review and approval prior to any work commencing. WAP Agency must provide the following documents for submission to USDOE:

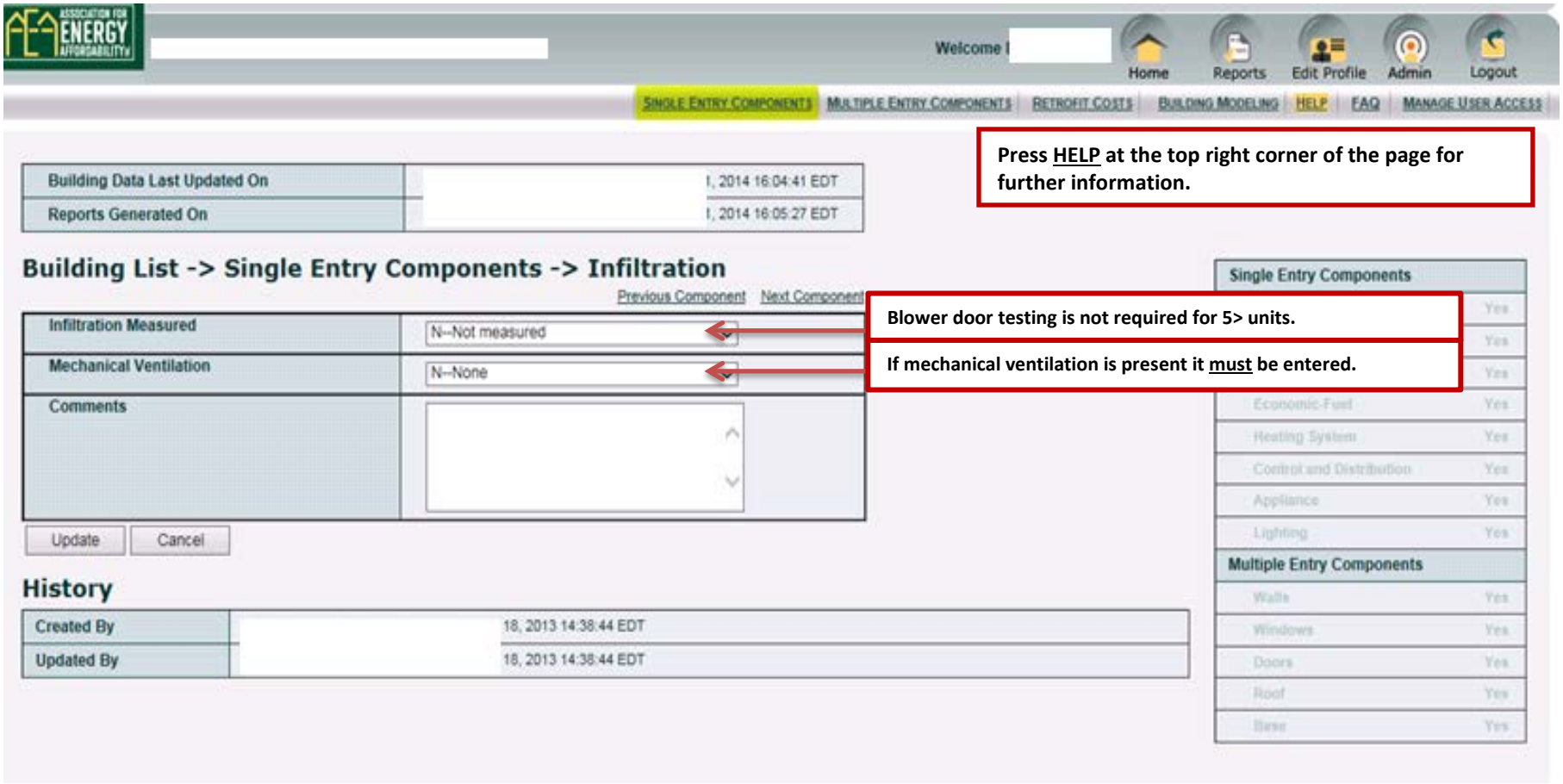
- Short narrative describing existing building (size, no. of units, envelope, building age, mechanical systems) and proposed improvements.
- Audit – EA-QUIP
  - Online EA-QUIP- WAP Agency must provide direct access to it with a password and userID.
  - If utilizing the old disc-based EA-QUIP then WAP Agency must print out a hard copy and scan -printout MUST INCLUDE the comparison of modeled vs. actual energy use.
- Field assessment notes and back-up calculations (if any).

- Any other documentation that was used to define the Scope of Work for the Project.
- Scope of Work for the Project including SIR for each measure and cumulative SIR.




Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
Reports Generated On
Building List -> Single Entry Components -> Heating Fuel Data
Fuel data must be present for the period of at least 365 days.
Fuel Units : Therms
State : New Jersey
City :
CSV Export Add Data
Received Date (mm / dd / yyyy)
Quantity (Therms)
Bill($)
Action
04/22/2012 0.0 $ 0.00 Delete
05/22/2012 667.232 $ 813.25 Delete
06/22/2012 411.779 $ 506.20 Delete
07/23/2012 429.411 $ 529.20 Delete
08/21/2012 415.583 $ 512.67 Delete
09/20/2012 566.783 $ 646.89 Delete
Recalculate & Save
Generate Report
Delete All
CSV Import
Cancel
Billing Summary
Fuel Period Analysis: 396 days
Total Fuel: 12,979 (Therms)
Total Fuel Bill Amount: $ 14,149.798
Average Fuel Cost: $ 1.09
Heating Reference Temperature 65.0 Deg F
Yearly Usage
Actual
Normalized
Total Usage 12,944 14,158
Monthly Base Load 421 421
Heating Degree Days 4663 5115
Billing Summary / Yearly Usage Edit History
Created By
Updated By
2013 14:37:17 EDT
2014 16:03:52 EDT
2013 15:53:38 EDT
2013 14:29:00 EDT
2013 13:59:49 EDT
2013 13:57:13 EDT
A minimum 12 months of fuel data consumption is required.
The first entry should always be zeroed out.
Press HELP at the top right corner of the page for further information.
Note: check with building management to see if there are multiple utility supplied. If so, additional fuel data must be entered to provide an accurate building model.
Multiple Entry Components


Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
Reports Generated On
Building List -> Single Entry Components -> General
Previous Component
Next Component
Terrain
U--Urban
Shielding
M--Moderate
Ground Surface
T--Tar and Gravel
Number Of Heated Floors (No.)
4.00
Number Of Dwelling Units (No.)
21
Average Heated Space Per Floor (sqft)
9078.00
Ceiling Height (feet)
9.00
Dwelling Mass
H--Heavy
Cooling Equipment
N--None
Comments
Update
Cancel
Single Entry Components
Multiple Entry Components
History
Created By
Updated By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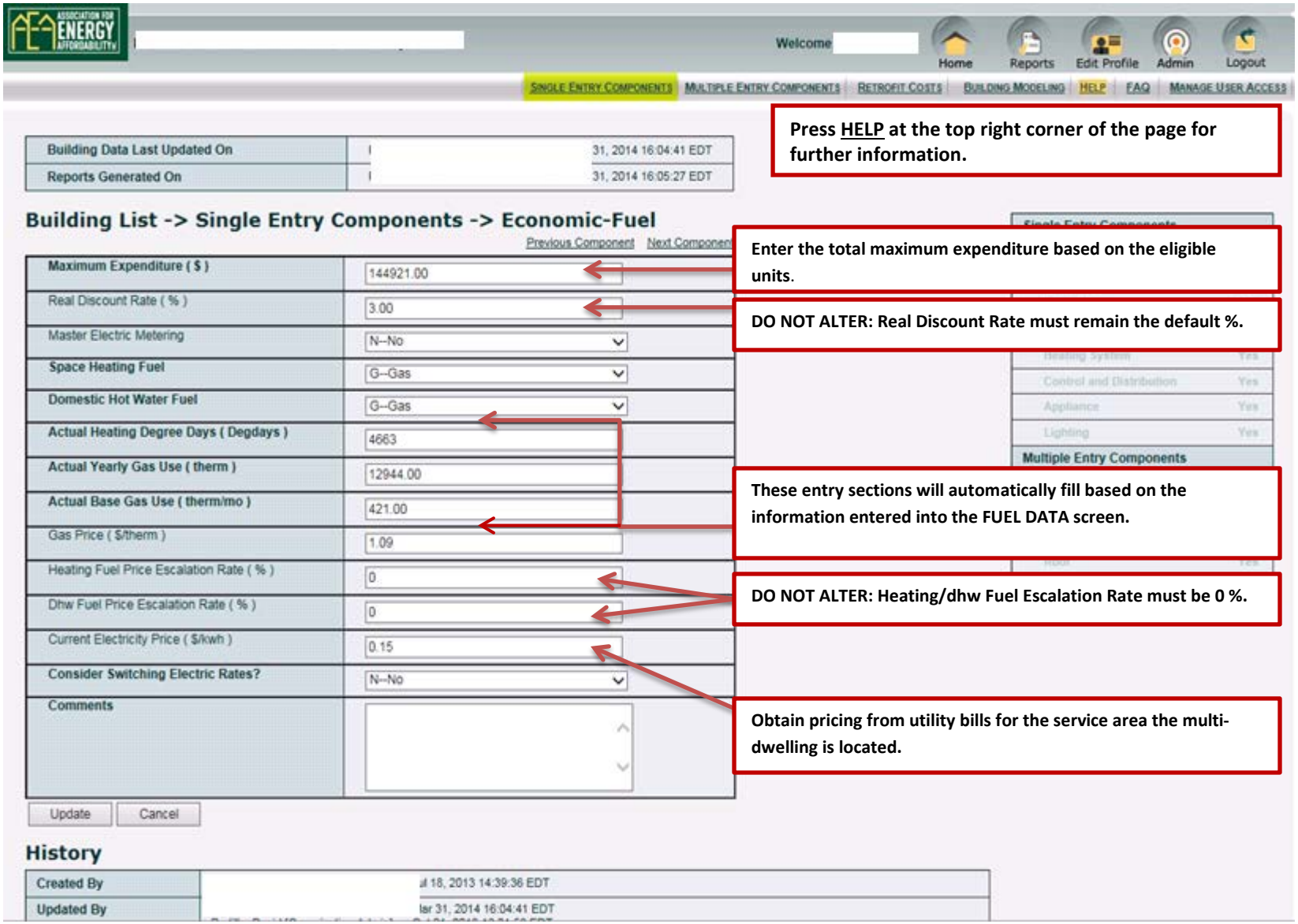
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
Reports Generated On
Building List -> Single Entry Components -> Infiltration
Previous Component
Next Component
Infiltration Measured
N--Not measured
Mechanical Ventilation
N--None
Comments
Update
Cancel
Blower door testing is not required for 5> units.
If mechanical ventilation is present it must be entered.
Single Entry Components
Multiple Entry Components
History
Created By
Updated By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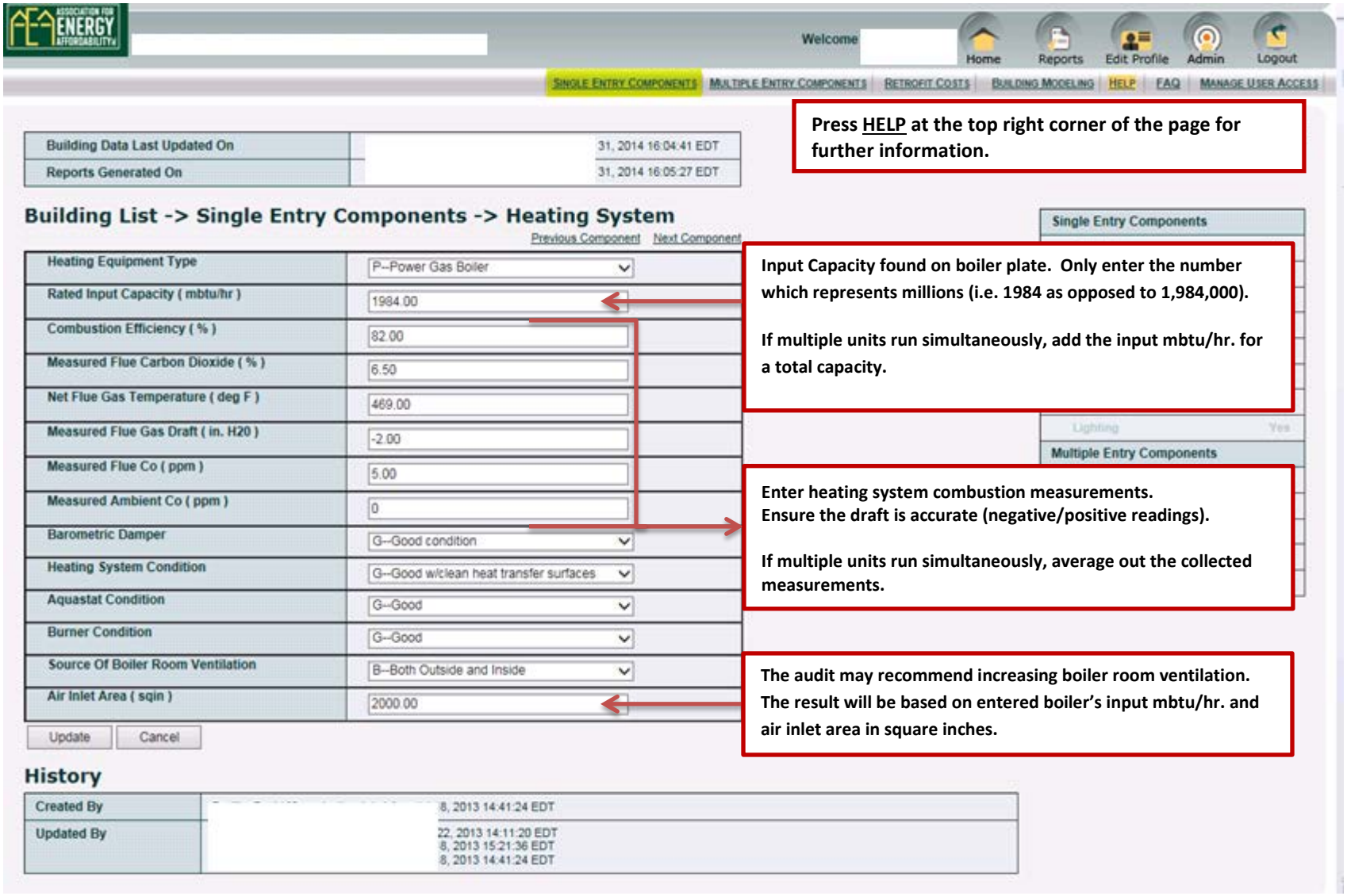
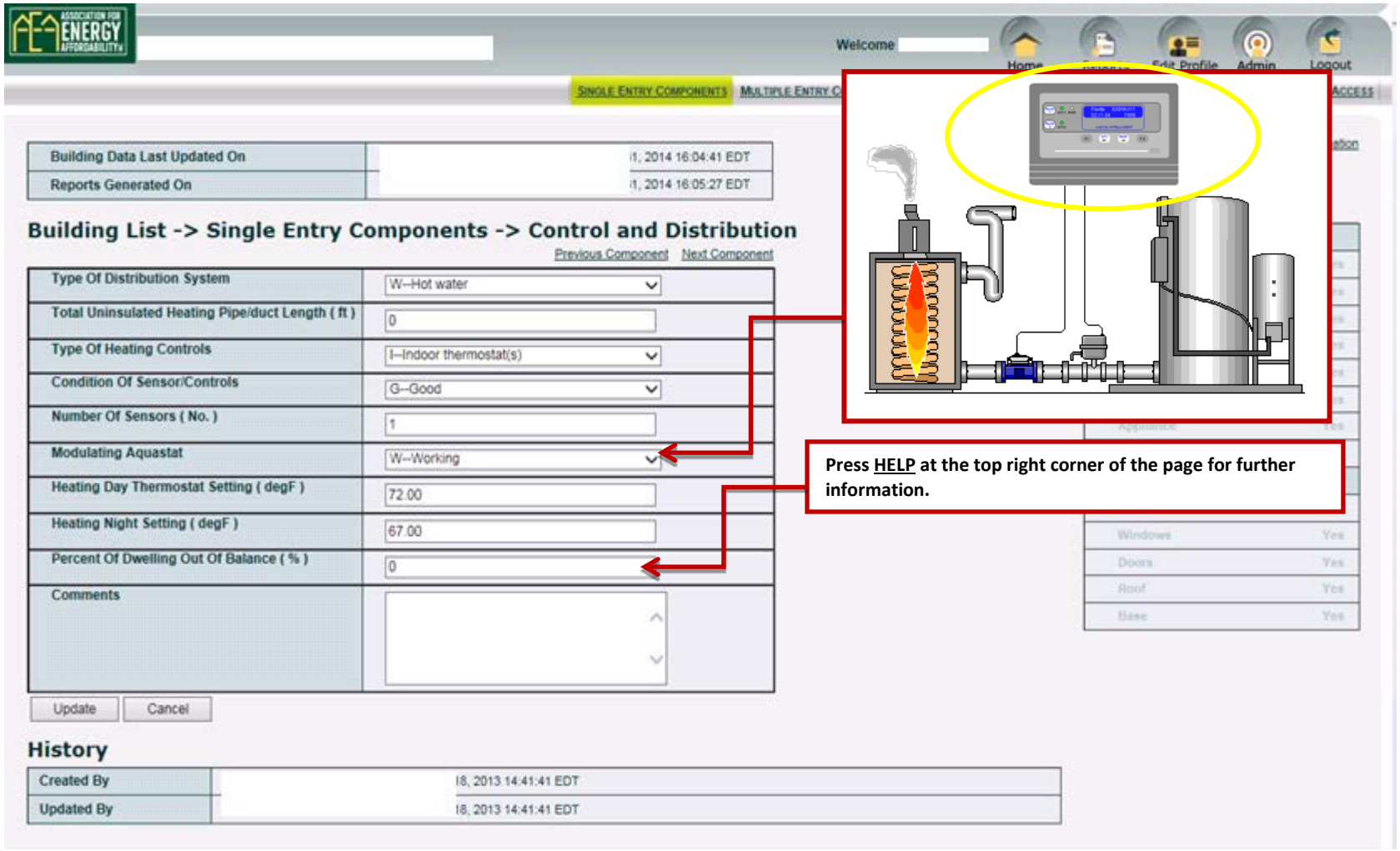
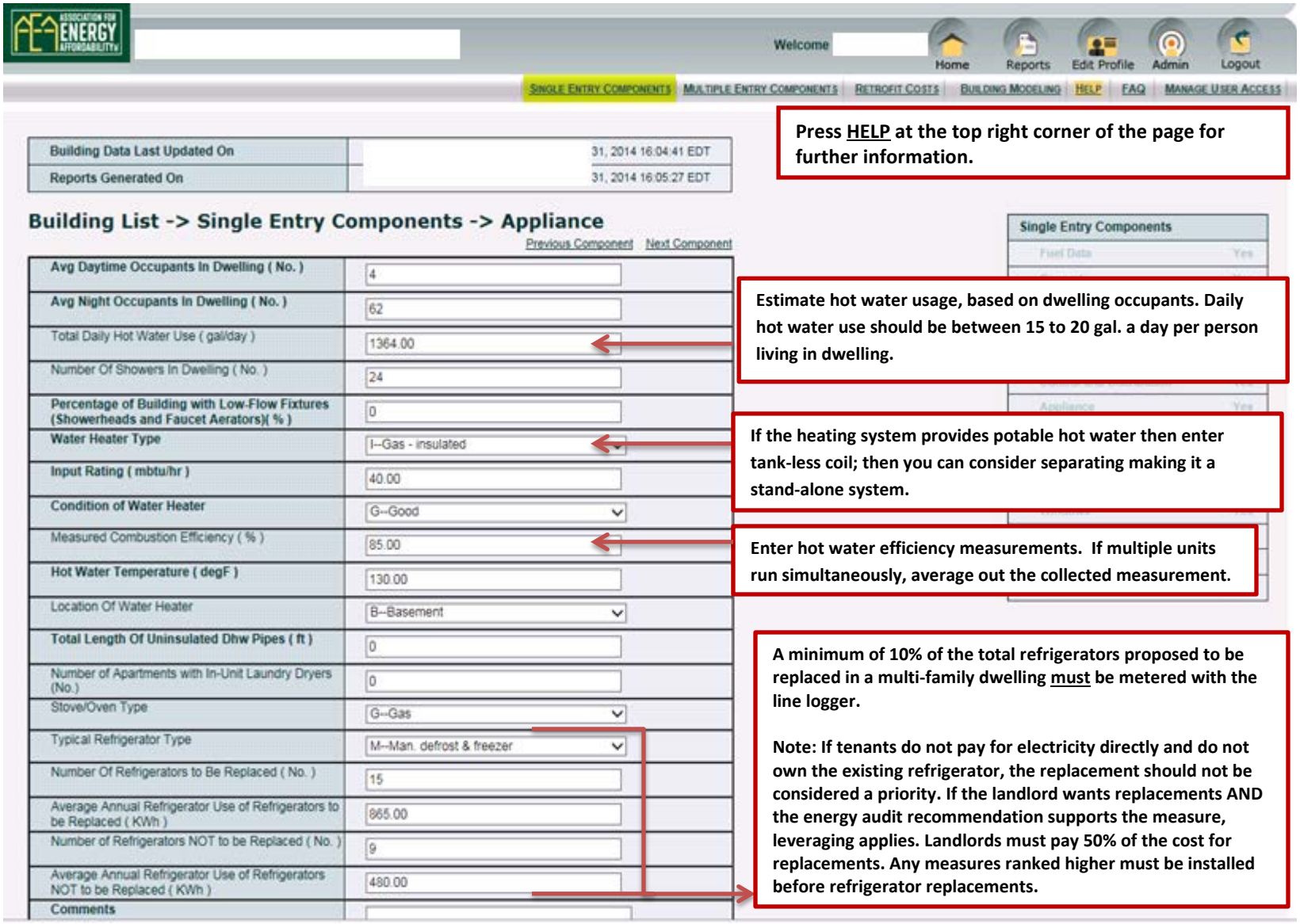
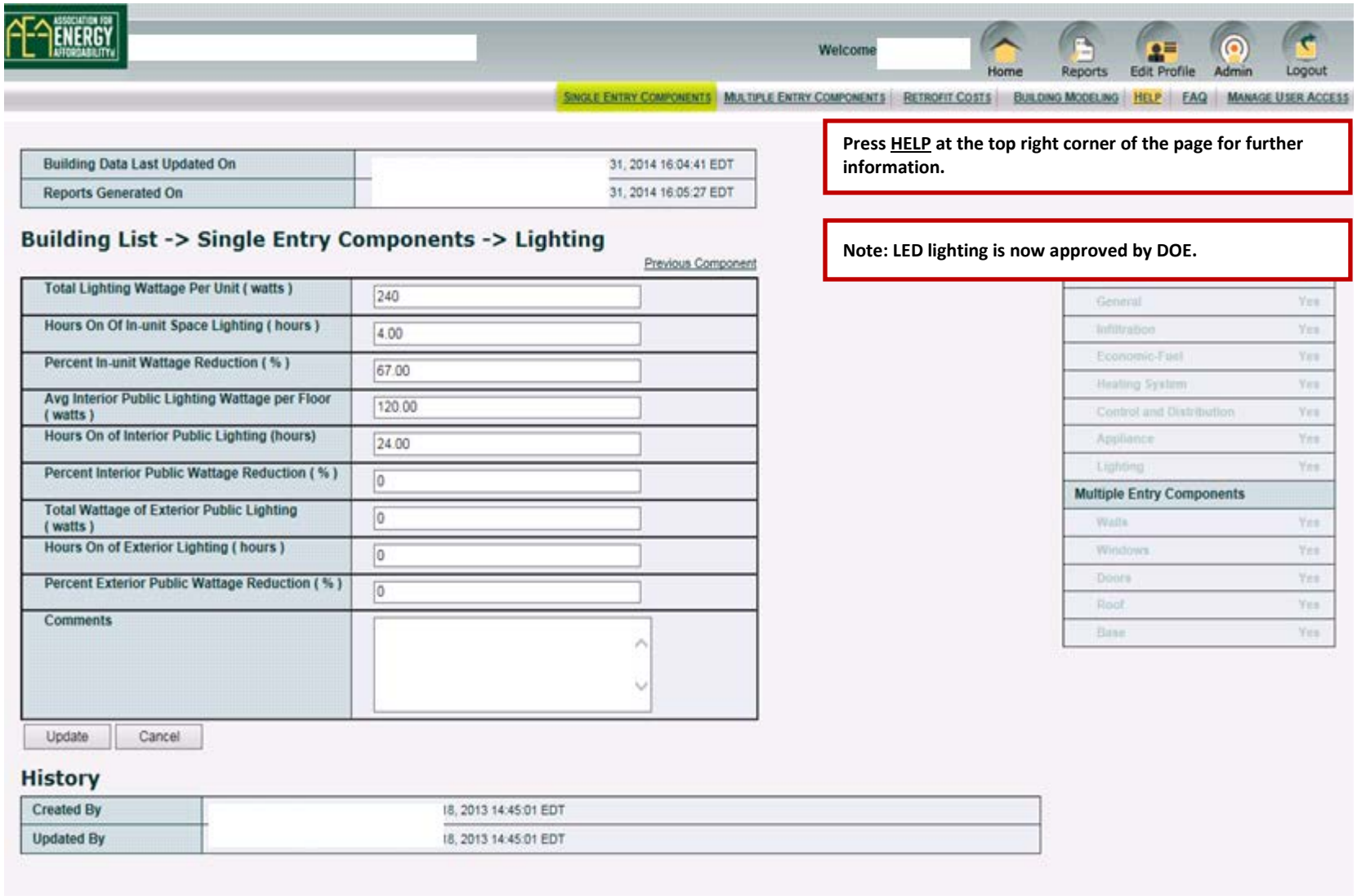
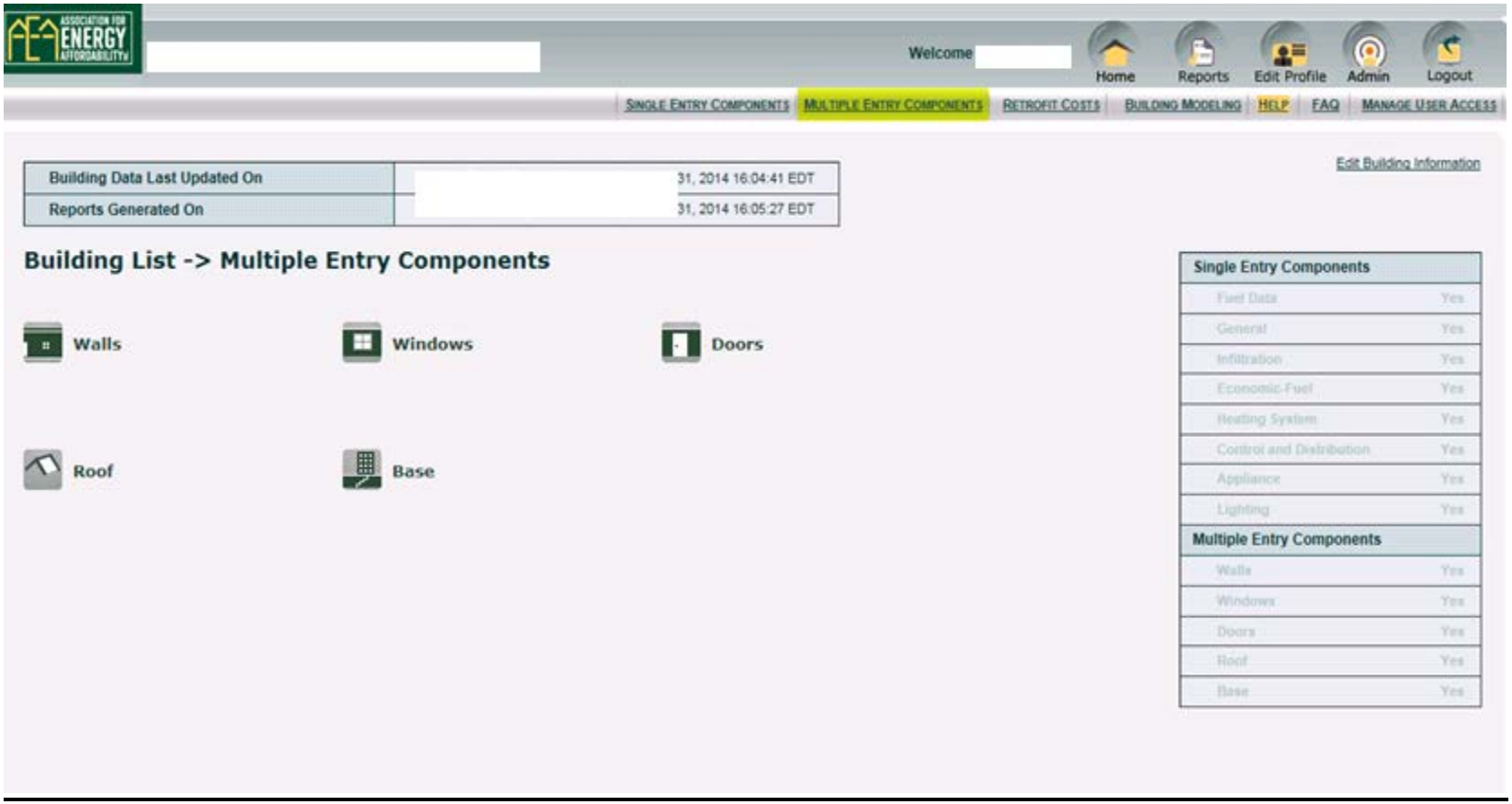
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Single Entry Components -> Economic-Fuel
Previous Component
Next Component
Maximum Expenditure ($)
144921.00
Enter the total maximum expenditure based on the eligible units.
Real Discount Rate (%)
3.00
DO NOT ALTER: Real Discount Rate must remain the default %.
Master Electric Metering
N--No
Space Heating Fuel
G--Gas
Domestic Hot Water Fuel
G--Gas
Actual Heating Degree Days (Degdays)
4663
Actual Yearly Gas Use (therm)
12944.00
Actual Base Gas Use (therm/mo)
421.00
These entry sections will automatically fill based on the information entered into the FUEL DATA screen.
Gas Price ($/therm)
1.09
Heating Fuel Price Escalation Rate (%)
0
Dhw Fuel Price Escalation Rate (%)
0
DO NOT ALTER: Heating/dhw Fuel Escalation Rate must be 0 %.
Current Electricity Price ($/kwh)
0.15
Consider Switching Electric Rates?
N--No
Comments
Obtain pricing from utility bills for the service area the multi-dwelling is located.
Update
Cancel
History
Created By
Updated By
Multiple Entry Components

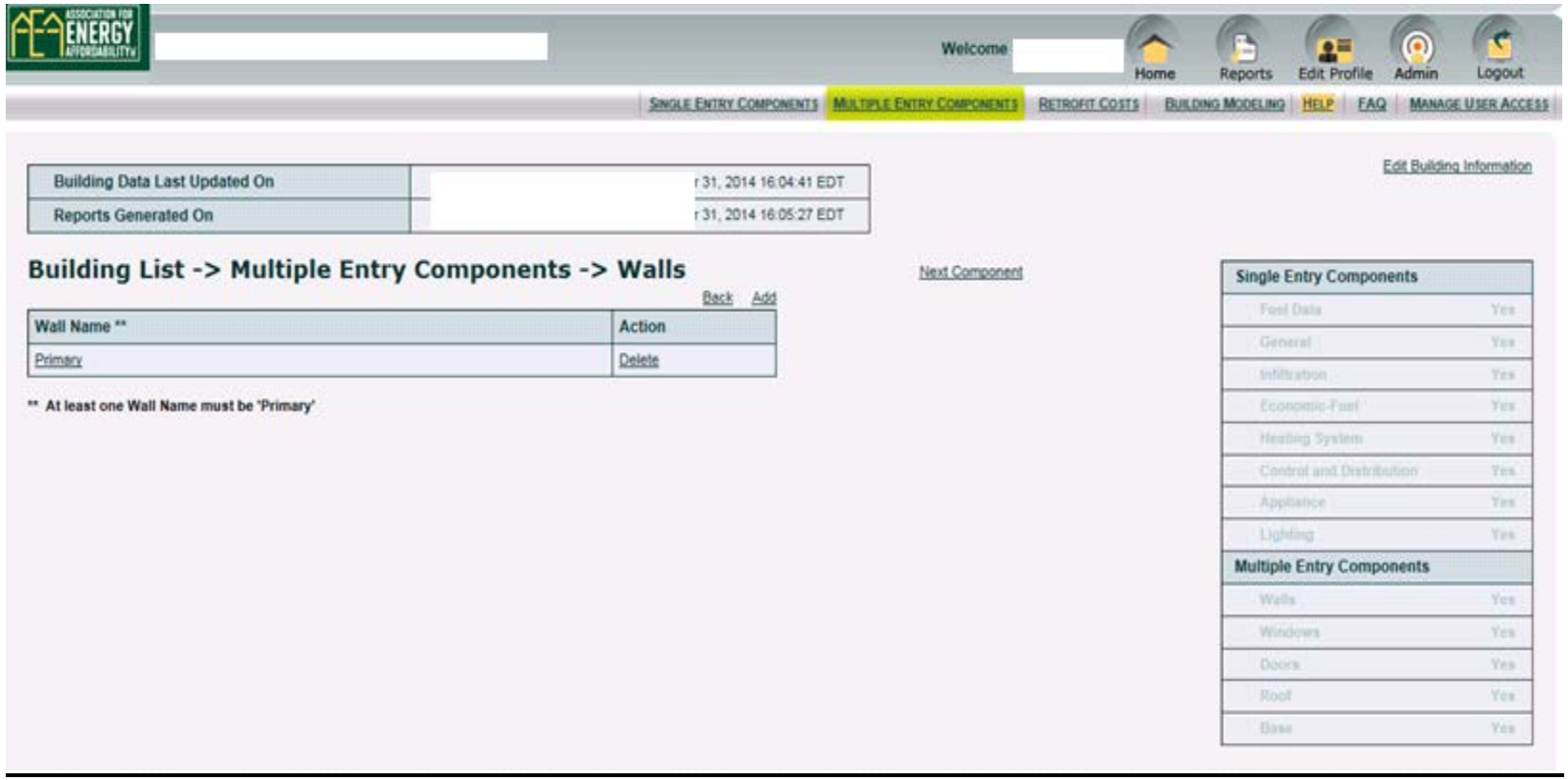

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Single Entry Components -> Heating System
Previous Component
Next Component
Heating Equipment Type
P--Power Gas Boiler
Rated Input Capacity (mbtu/hr)
1984.00
Combustion Efficiency (%)
82.00
Measured Flue Carbon Dioxide (%)
6.50
Net Flue Gas Temperature (deg F)
469.00
Measured Flue Gas Draft (in. H20)
-2.00
Measured Flue Co (ppm)
5.00
Measured Ambient Co (ppm)
0
Barometric Damper
G--Good condition
Heating System Condition
G--Good w/clean heat transfer surfaces
Aquastat Condition
G--Good
Burner Condition
G--Good
Source Of Boiler Room Ventilation
B--Both Outside and Inside
Air Inlet Area (sqin)
2000.00
Update
Cancel
Input Capacity found on boiler plate. Only enter the number which represents millions (i.e. 1984 as opposed to 1,984,000).
If multiple units run simultaneously, add the input mbtu/hr. for a total capacity.
Enter heating system combustion measurements.
Ensure the draft is accurate (negative/positive readings).
If multiple units run simultaneously, average out the collected measurements.
The audit may recommend increasing boiler room ventilation. The result will be based on entered boiler's input mbtu/hr. and air inlet area in square inches.
Single Entry Components
Lighting
Yes
Multiple Entry Components
History
Created By
8, 2013 14:41:24 EDT
Updated By
22, 2013 14:11:20 EDT
8, 2013 15:21:36 EDT
8, 2013 14:41:24 EDT

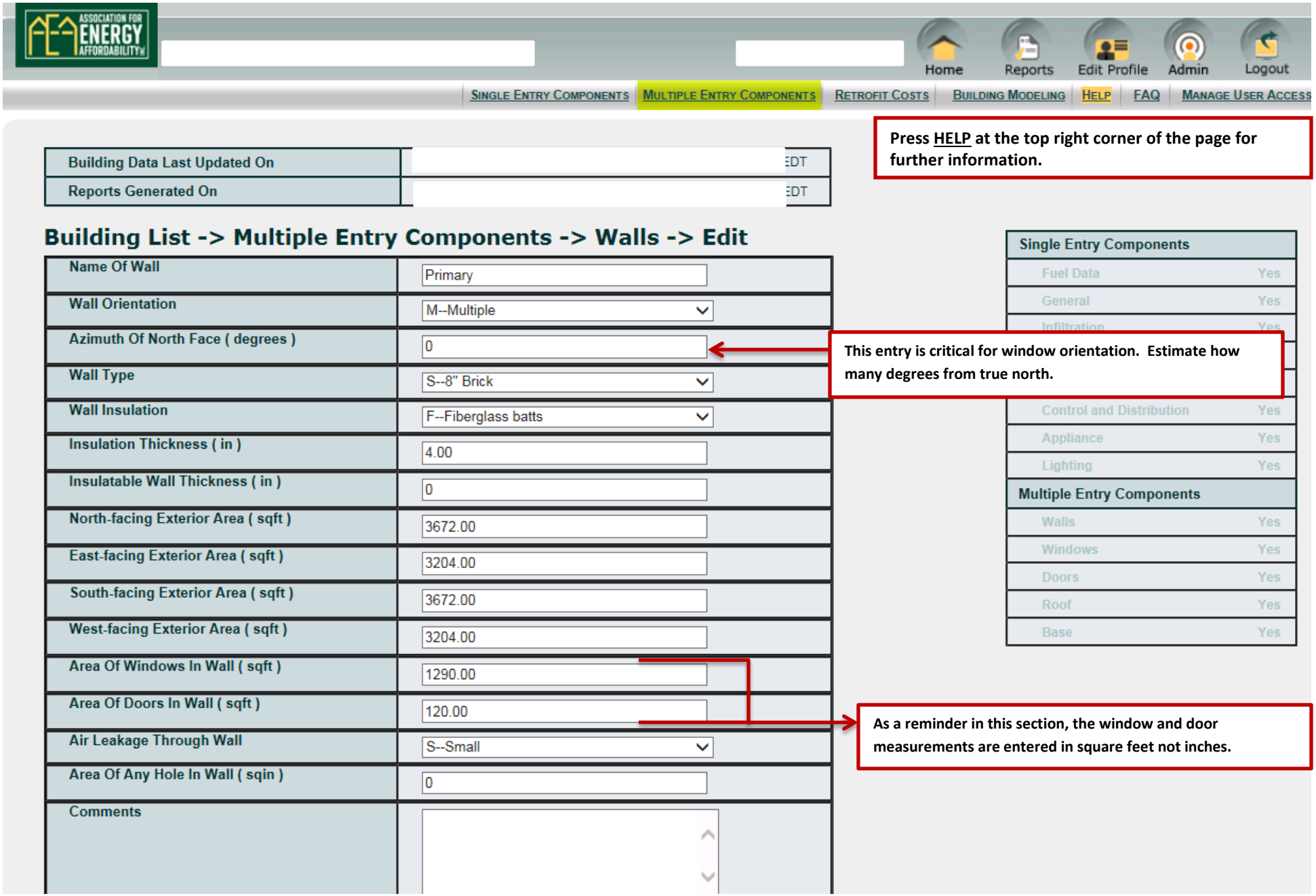

Welcome
Home
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY C
ACCESS
Building Data Last Updated On
1, 2014 16:04:41 EDT
Reports Generated On
1, 2014 16:05:27 EDT
Building List -> Single Entry Components -> Control and Distribution
Previous Component
Next Component
Type Of Distribution System
W--Hot water
Total Uninsulated Heating Pipe/duct Length (ft)
0
Type Of Heating Controls
I--Indoor thermostat(s)
Condition Of Sensor/Controls
G--Good
Number Of Sensors (No.)
1
Modulating Aquastat
W--Working
Heating Day Thermostat Setting (degF)
72.00
Heating Night Setting (degF)
67.00
Percent Of Dwelling Out Of Balance (%)
0
Comments
Update
Cancel
History
Created By
18, 2013 14:41:41 EDT
Updated By
18, 2013 14:41:41 EDT
Press HELP at the top right corner of the page for further information.

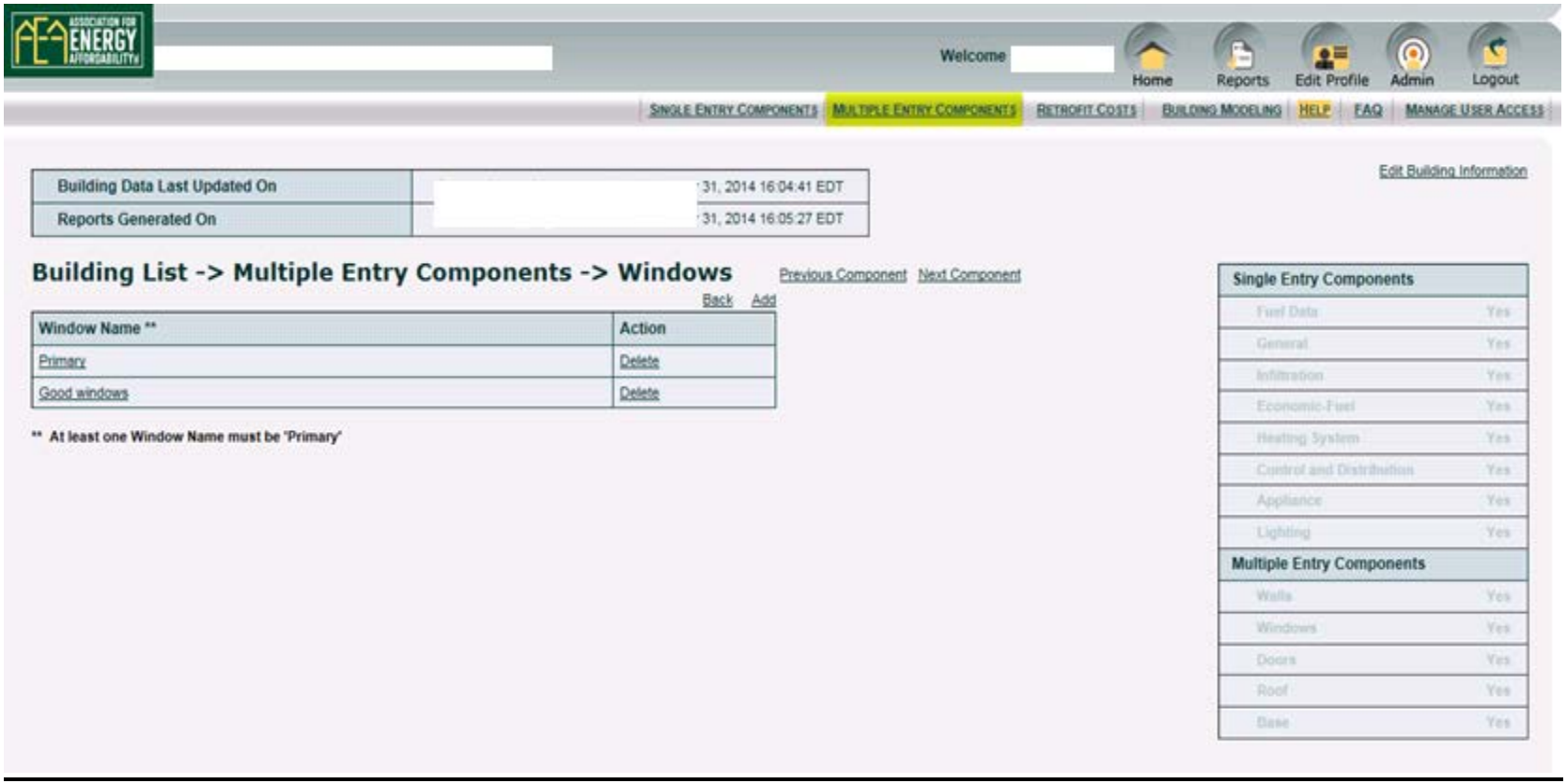

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Single Entry Components -> Appliance
Previous Component
Next Component
Avg Daytime Occupants In Dwelling (No.)
4
Avg Night Occupants In Dwelling (No.)
62
Total Daily Hot Water Use (gal/day)
1364.00
Number Of Showers In Dwelling (No.)
24
Percentage of Building with Low-Flow Fixtures (Showerheads and Faucet Aerators)(%)
0
Water Heater Type
I--Gas - insulated
Input Rating (mbtu/hr)
40.00
Condition of Water Heater
G--Good
Measured Combustion Efficiency (%)
85.00
Hot Water Temperature (degF)
130.00
Location Of Water Heater
B--Basement
Total Length Of Uninsulated Dhw Pipes (ft)
0
Number of Apartments with In-Unit Laundry Dryers (No.)
0
Stove/Oven Type
G--Gas
Typical Refrigerator Type
M--Man. defrost & freezer
Number Of Refrigerators to Be Replaced (No.)
15
Average Annual Refrigerator Use of Refrigerators to be Replaced (KWh)
865.00
Number of Refrigerators NOT to be Replaced (No.)
9
Average Annual Refrigerator Use of Refrigerators NOT to be Replaced (KWh)
480.00
Comments
Single Entry Components
Press HELP at the top right corner of the page for further information.
Estimate hot water usage, based on dwelling occupants. Daily hot water use should be between 15 to 20 gal. a day per person living in dwelling.
If the heating system provides potable hot water then enter tank-less coil; then you can consider separating making it a stand-alone system.
Enter hot water efficiency measurements. If multiple units run simultaneously, average out the collected measurement.
A minimum of 10% of the total refrigerators proposed to be replaced in a multi-family dwelling must be metered with the line logger.
Note: If tenants do not pay for electricity directly and do not own the existing refrigerator, the replacement should not be considered a priority. If the landlord wants replacements AND the energy audit recommendation supports the measure, leveraging applies. Landlords must pay 50% of the cost for replacements. Any measures ranked higher must be installed before refrigerator replacements.

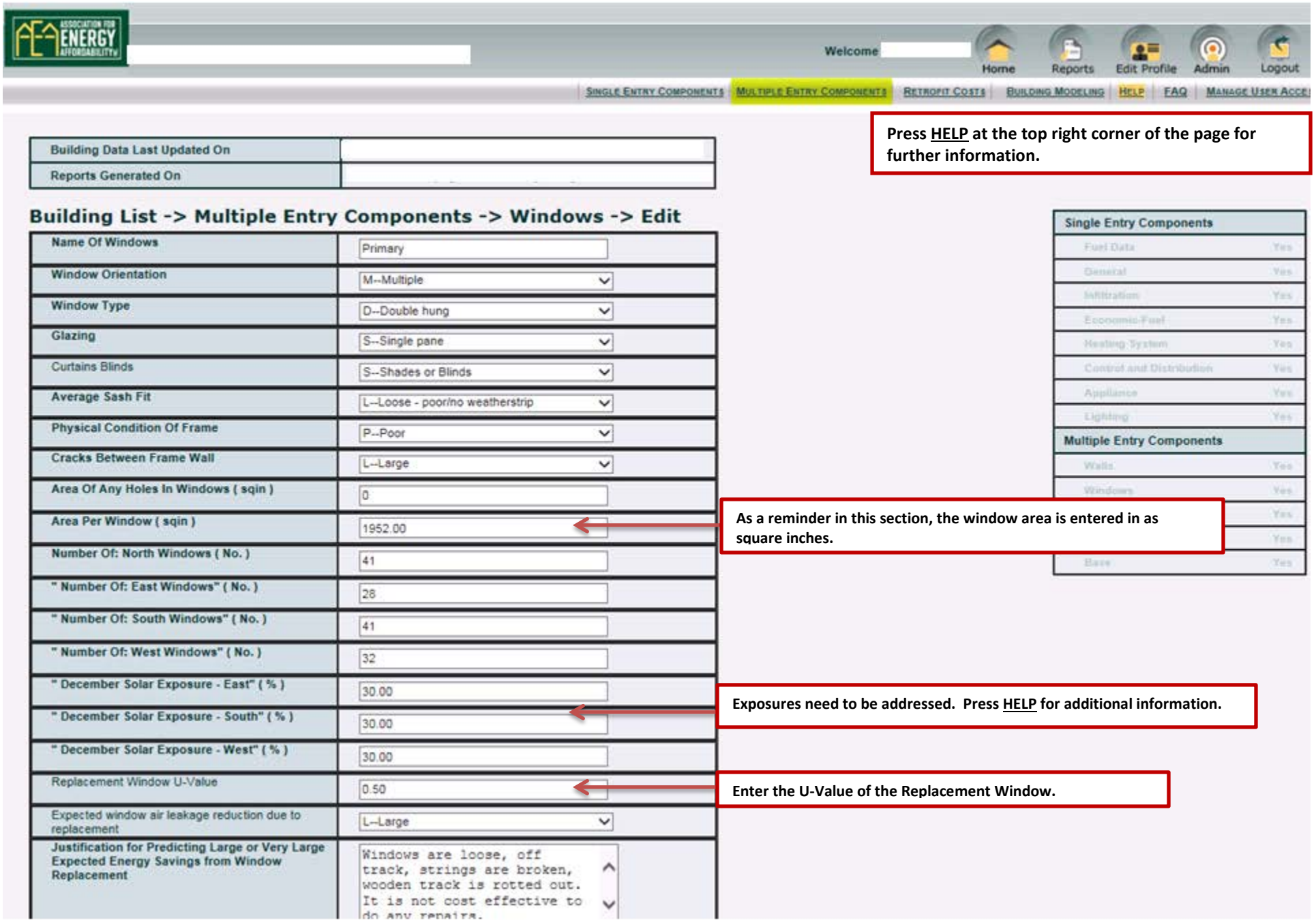

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Note: LED lighting is now approved by DOE.
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Single Entry Components -> Lighting
Previous Component
Total Lighting Wattage Per Unit (watts)
240
Hours On Of In-unit Space Lighting (hours)
4.00
Percent In-unit Wattage Reduction (%)
67.00
Avg Interior Public Lighting Wattage per Floor (watts)
120.00
Hours On of Interior Public Lighting (hours)
24.00
Percent Interior Public Wattage Reduction (%)
0
Total Wattage of Exterior Public Lighting (watts)
0
Hours On of Exterior Lighting (hours)
0
Percent Exterior Public Wattage Reduction (%)
0
Comments
Update
Cancel
History
Created By
18, 2013 14:45:01 EDT
Updated By
18, 2013 14:45:01 EDT
Multiple Entry Components

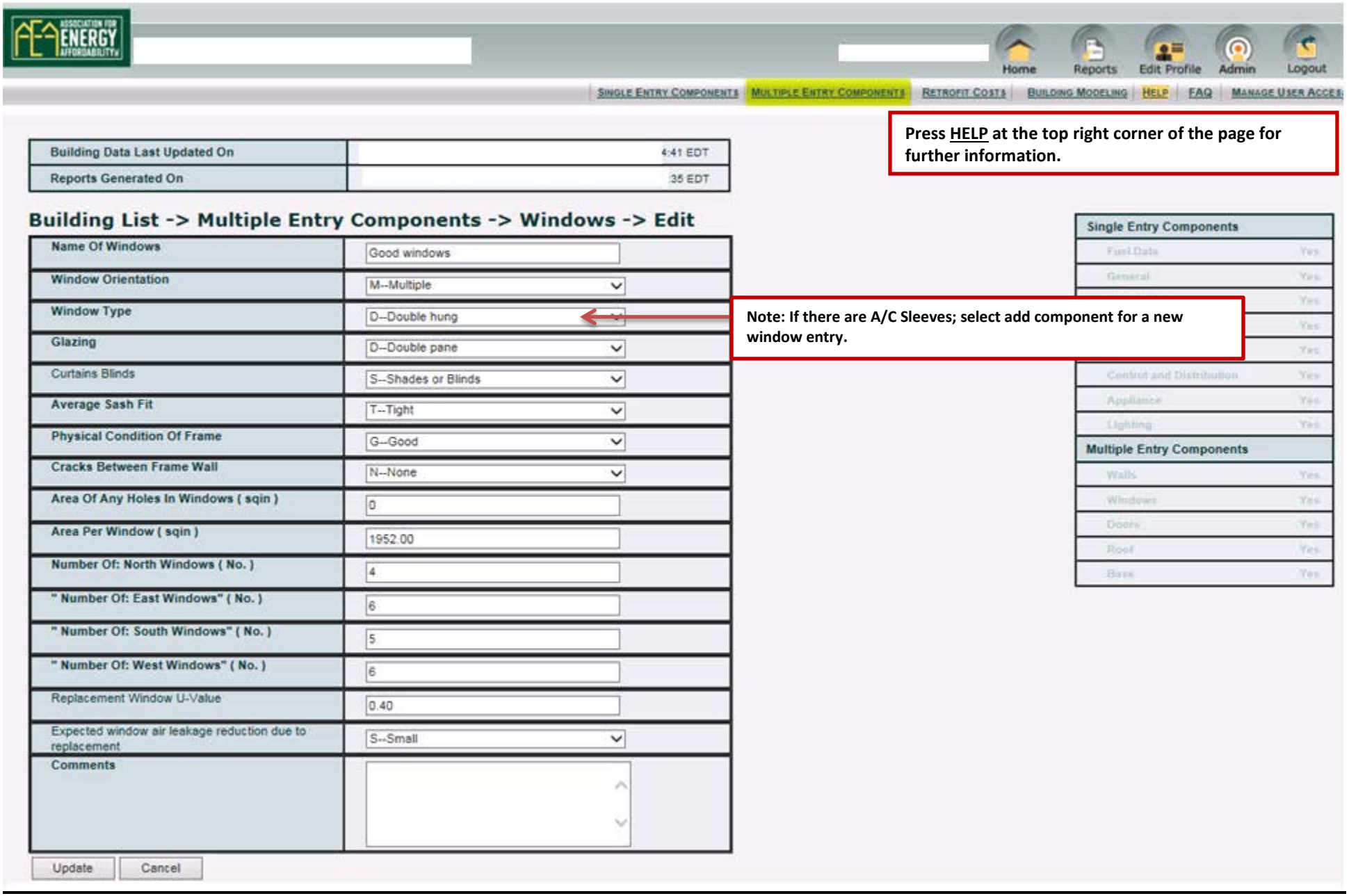

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Edit Building Information
Building List -> Multiple Entry Components
Walls
Windows
Doors
Roof
Base
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes

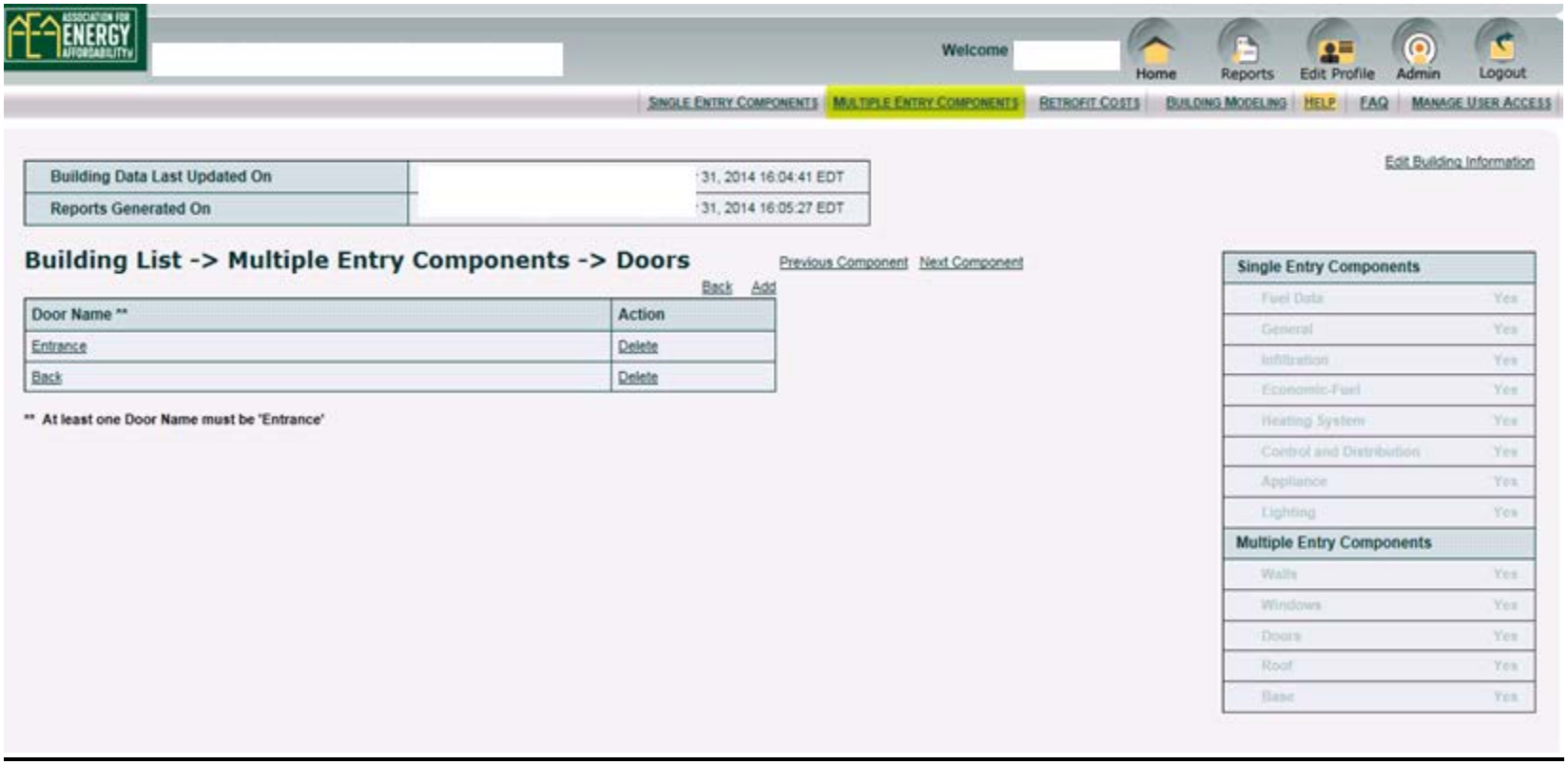

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
r 31, 2014 16:04:41 EDT
Reports Generated On
r 31, 2014 16:05:27 EDT
Edit Building Information
Building List -> Multiple Entry Components -> Walls
Next Component
Back Add
Wall Name **
Action
Primary
Delete
** At least one Wall Name must be 'Primary'
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes

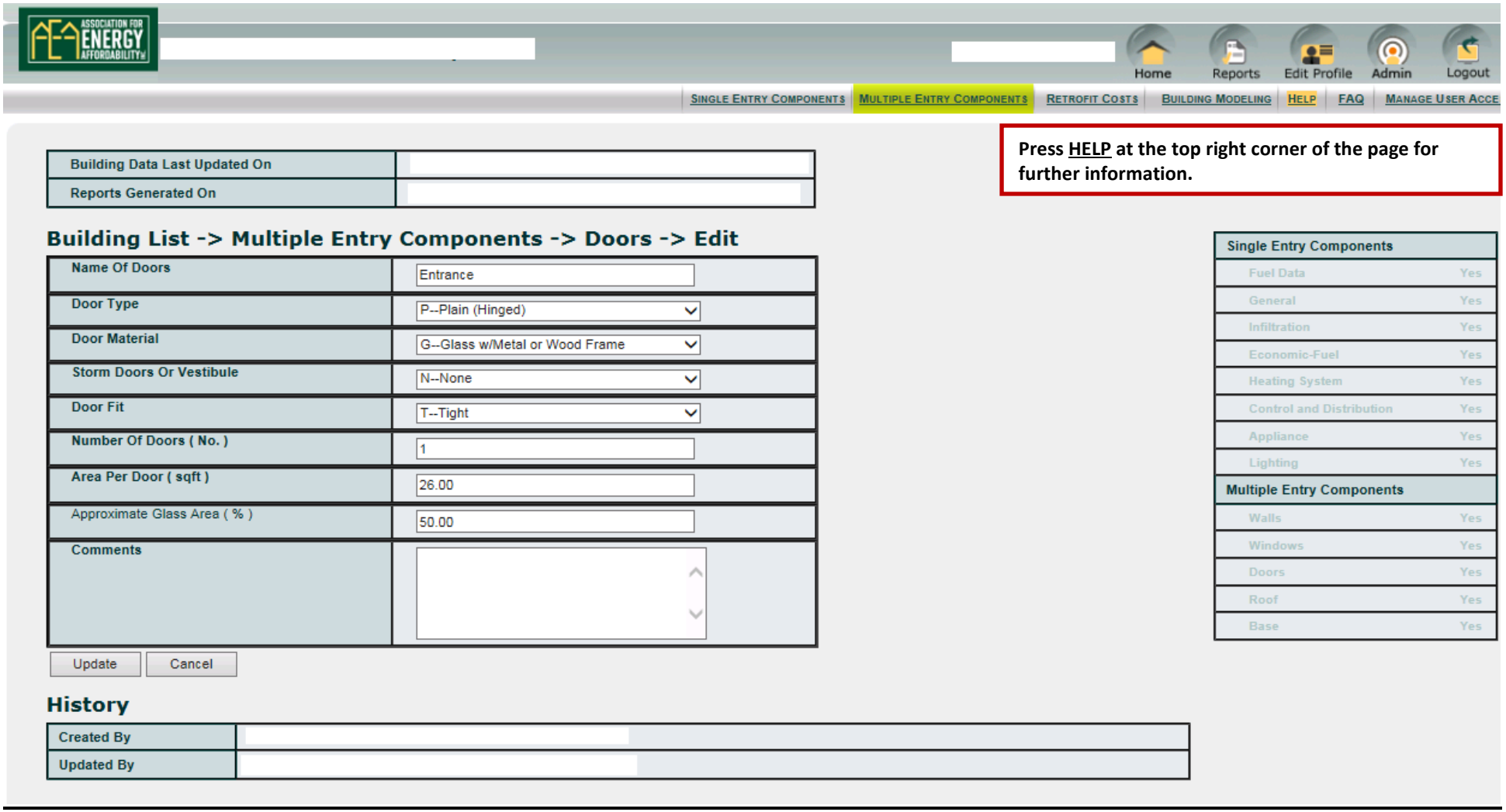

Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
Reports Generated On
Building List -> Multiple Entry Components -> Walls -> Edit
Name Of Wall
Primary
Wall Orientation
M--Multiple
Azimuth Of North Face (degrees)
0
Wall Type
S--8" Brick
Wall Insulation
F--Fiberglass batts
Insulation Thickness (in)
4.00
Insulatable Wall Thickness (in)
0
North-facing Exterior Area (sqft)
3672.00
East-facing Exterior Area (sqft)
3204.00
South-facing Exterior Area (sqft)
3672.00
West-facing Exterior Area (sqft)
3204.00
Area Of Windows In Wall (sqft)
1290.00
Area Of Doors In Wall (sqft)
120.00
Air Leakage Through Wall
S--Small
Area Of Any Hole In Wall (sqin)
0
Comments
This entry is critical for window orientation. Estimate how many degrees from true north.
Single Entry Components
Fuel Data Yes
General Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes
As a reminder in this section, the window and door measurements are entered in square feet not inches.

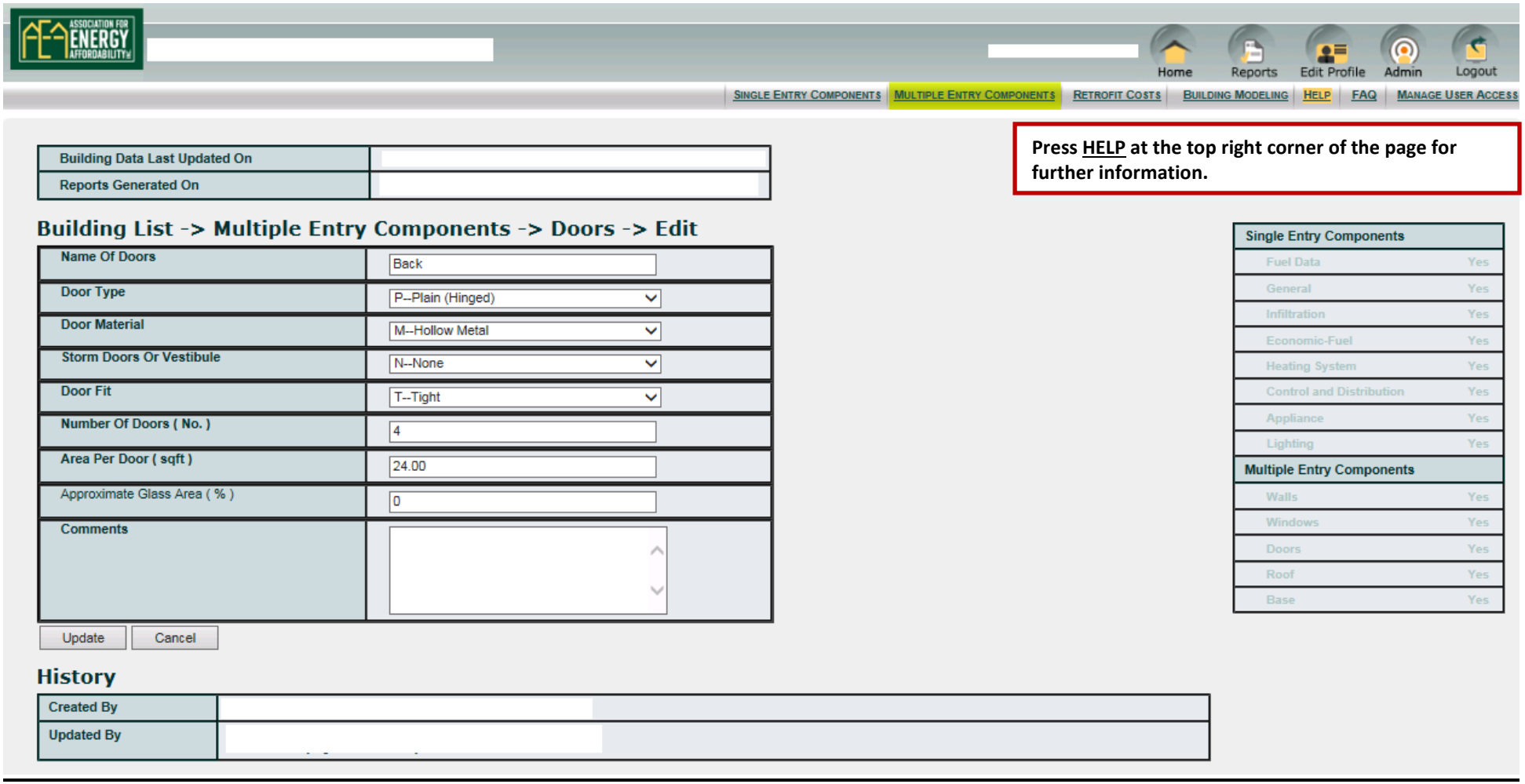

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Edit Building Information
Building List -> Multiple Entry Components -> Windows
Previous Component
Next Component
Back
Add
Window Name **
Action
Primary
Delete
Good windows
Delete
** At least one Window Name must be 'Primary'
Single Entry Components
Fuel Data
Yes
General
Yes
Infiltration
Yes
Economic-Fuel
Yes
Heating System
Yes
Control and Distribution
Yes
Appliance
Yes
Lighting
Yes
Multiple Entry Components
Walls
Yes
Windows
Yes
Doors
Yes
Roof
Yes
Base
Yes

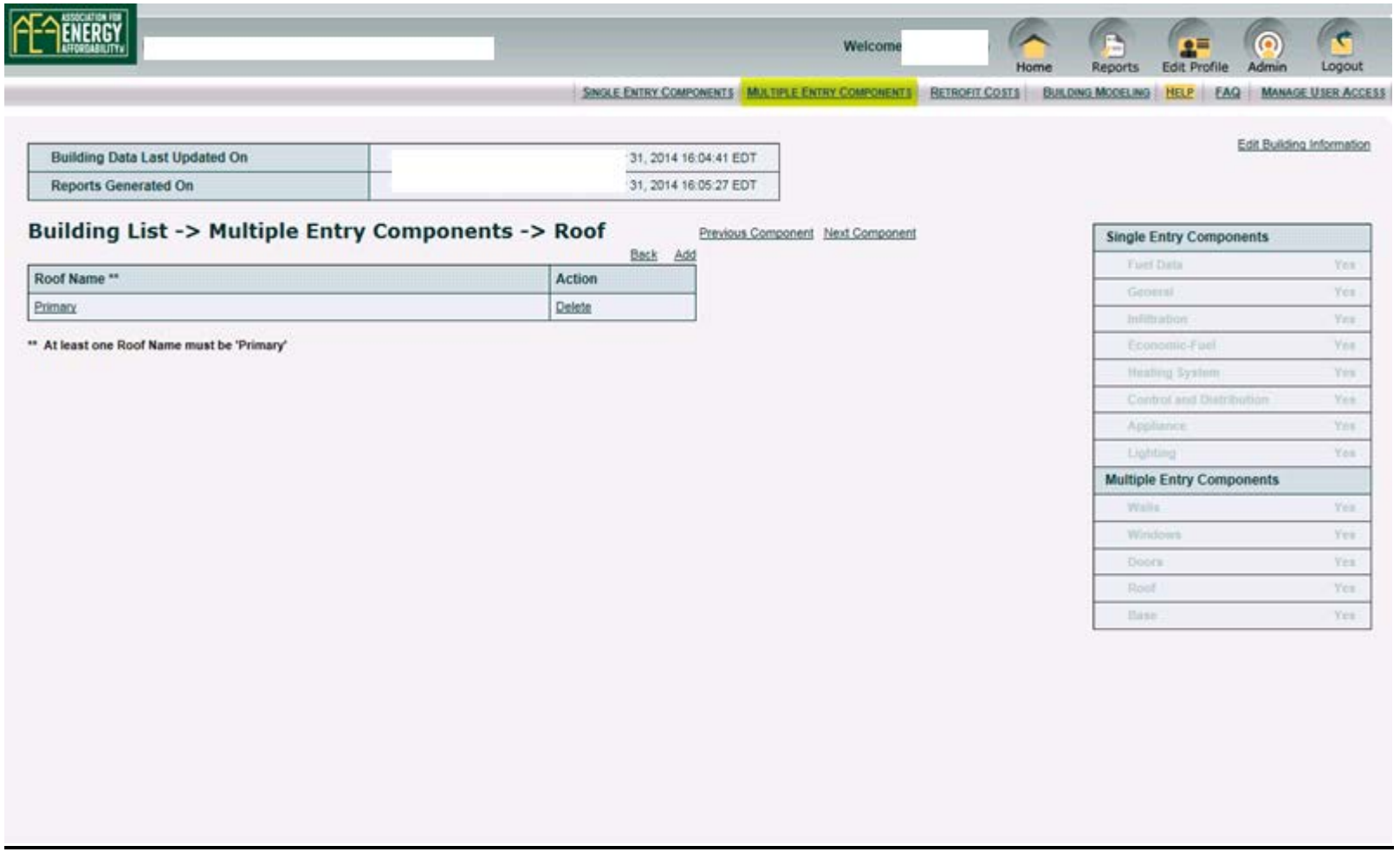

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
Reports Generated On
Building List -> Multiple Entry Components -> Windows -> Edit
Name Of Windows: Primary
Window Orientation: M--Multiple
Window Type: D--Double hung
Glazing: S--Single pane
Curtains Blinds: S--Shades or Blinds
Average Sash Fit: L--Loose - poor/no weatherstrip
Physical Condition Of Frame: P--Poor
Cracks Between Frame Wall: L--Large
Area Of Any Holes In Windows (sqin): 0
Area Per Window (sqin): 1952.00
Number Of: North Windows (No.): 41
" Number Of: East Windows" (No.): 28
" Number Of: South Windows" (No.): 41
" Number Of: West Windows" (No.): 32
" December Solar Exposure - East" (%): 30.00
" December Solar Exposure - South" (%): 30.00
" December Solar Exposure - West" (%): 30.00
Replacement Window U-Value: 0.50
Expected window air leakage reduction due to replacement: L--Large
Justification for Predicting Large or Very Large Expected Energy Savings from Window Replacement: Windows are loose, off track, strings are broken, wooden track is rotted out. It is not cost effective to do any repairs.
Single Entry Components
Multiple Entry Components
As a reminder in this section, the window area is entered in as square inches.
Exposures need to be addressed. Press HELP for additional information.
Enter the U-Value of the Replacement Window.

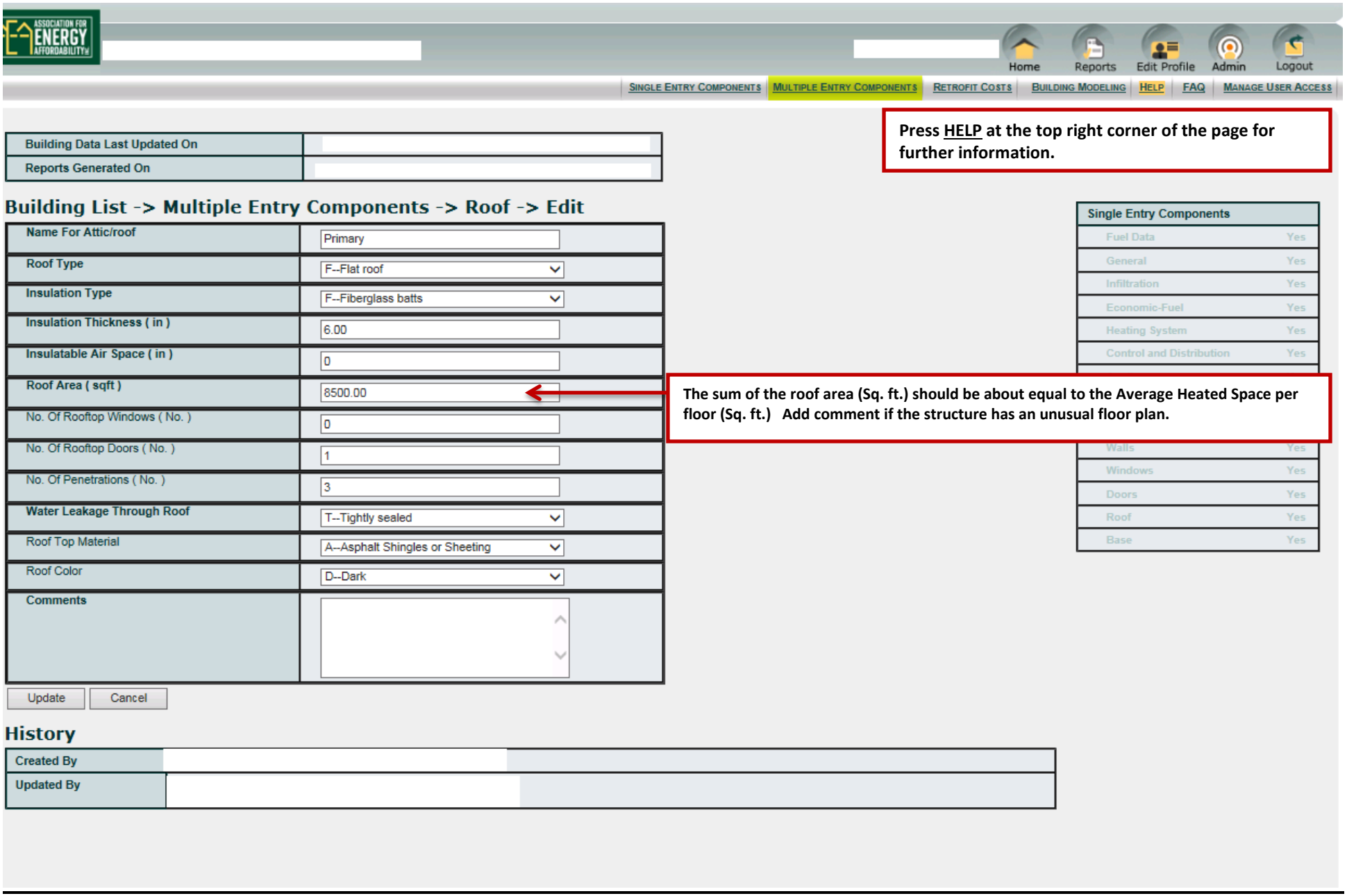

Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCES
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
4:41 EDT
Reports Generated On
35 EDT
Building List -> Multiple Entry Components -> Windows -> Edit
Name Of Windows
Good windows
Window Orientation
M--Multiple
Window Type
D--Double hung
Glazing
D--Double pane
Curtains Blinds
S--Shades or Blinds
Average Sash Fit
T--Tight
Physical Condition Of Frame
G--Good
Cracks Between Frame Wall
N--None
Area Of Any Holes In Windows (sqin)
0
Area Per Window (sqin)
1952.00
Number Of: North Windows (No.)
4
" Number Of: East Windows" (No.)
6
" Number Of: South Windows" (No.)
5
" Number Of: West Windows" (No.)
6
Replacement Window U-Value
0.40
Expected window air leakage reduction due to replacement
S--Small
Comments
Update
Cancel
Note: If there are A/C Sleeves; select add component for a new window entry.
Single Entry Components
Multiple Entry Components
Walls
Windows
Doors
Roof
Base

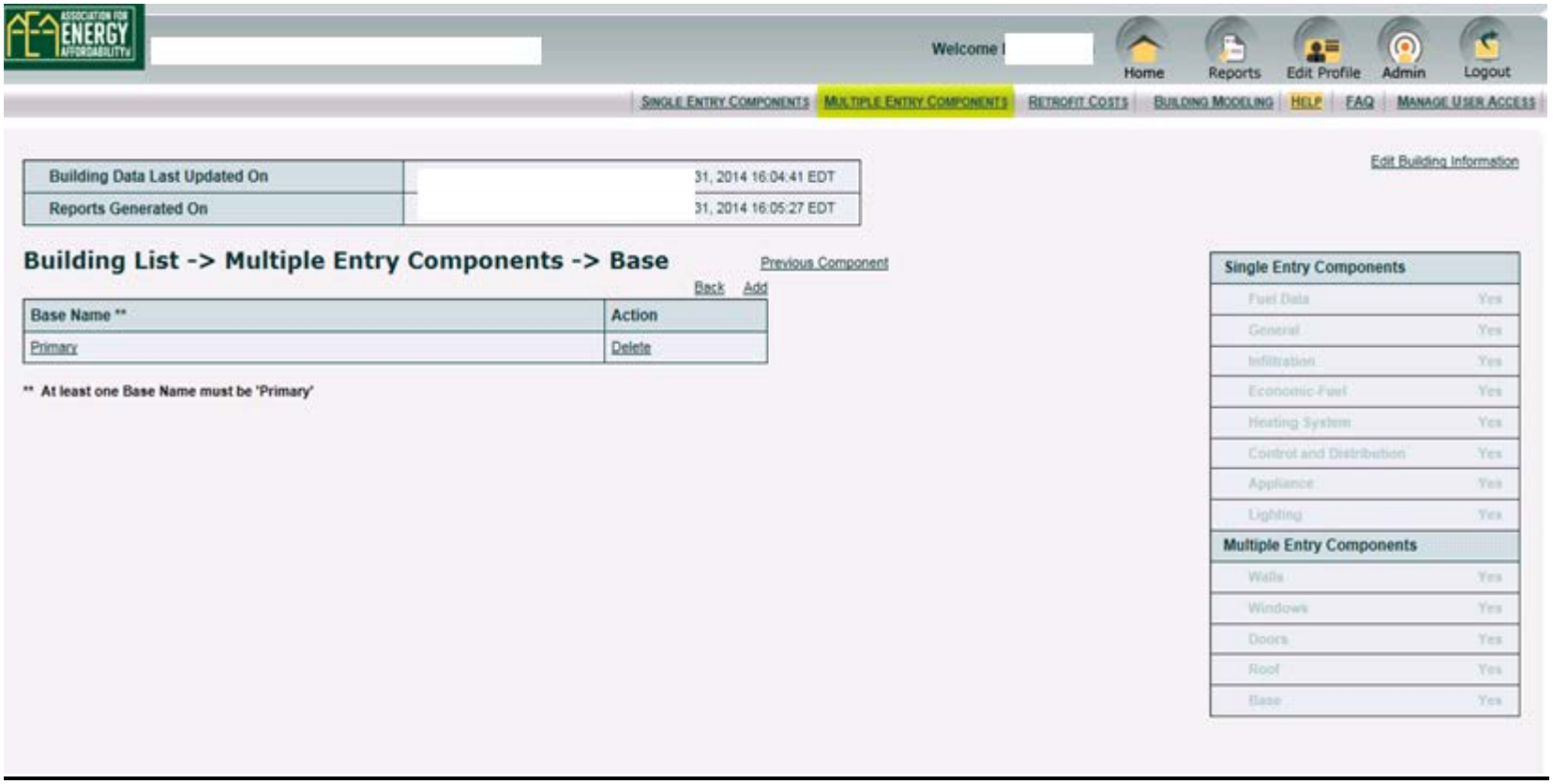

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Edit Building Information
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Multiple Entry Components -> Doors
Previous Component
Next Component
Back
Add
Door Name **
Action
Entrance
Delete
Back
Delete
** At least one Door Name must be 'Entrance'
Single Entry Components
Fuel Data
Yes
General
Yes
Infiltration
Yes
Economic-Fuel
Yes
Heating System
Yes
Control and Distribution
Yes
Appliance
Yes
Lighting
Yes
Multiple Entry Components
Walls
Yes
Windows
Yes
Doors
Yes
Roof
Yes
Base
Yes

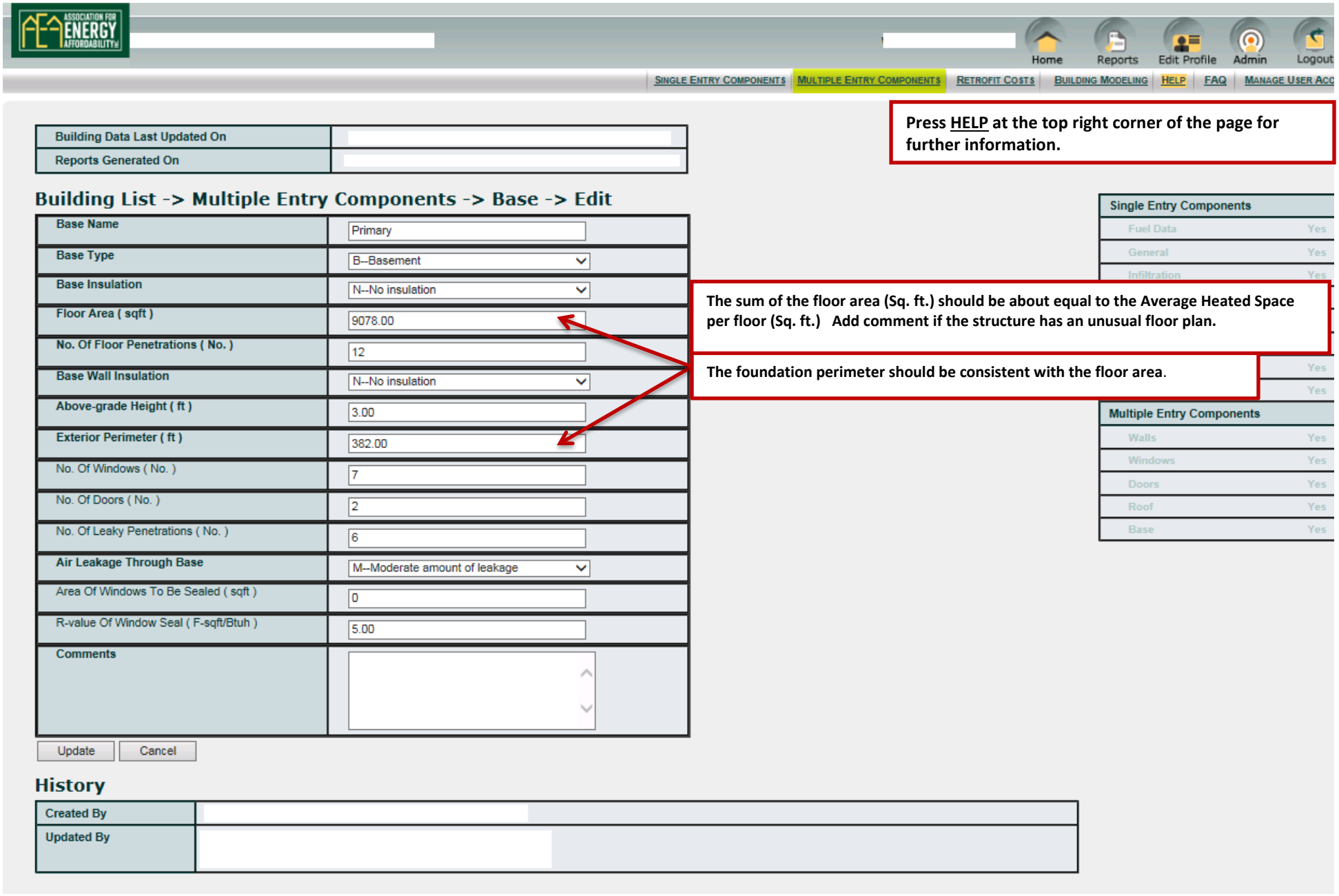

Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCE
Building Data Last Updated On
Reports Generated On
Press HELP at the top right corner of the page for further information.
Building List -> Multiple Entry Components -> Doors -> Edit
Name Of Doors
Entrance
Door Type
P--Plain (Hinged)
Door Material
G--Glass w/Metal or Wood Frame
Storm Doors Or Vestibule
N--None
Door Fit
T--Tight
Number Of Doors (No.)
1
Area Per Door (sqft)
26.00
Approximate Glass Area (%)
50.00
Comments
Update
Cancel
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes
History
Created By
Updated By

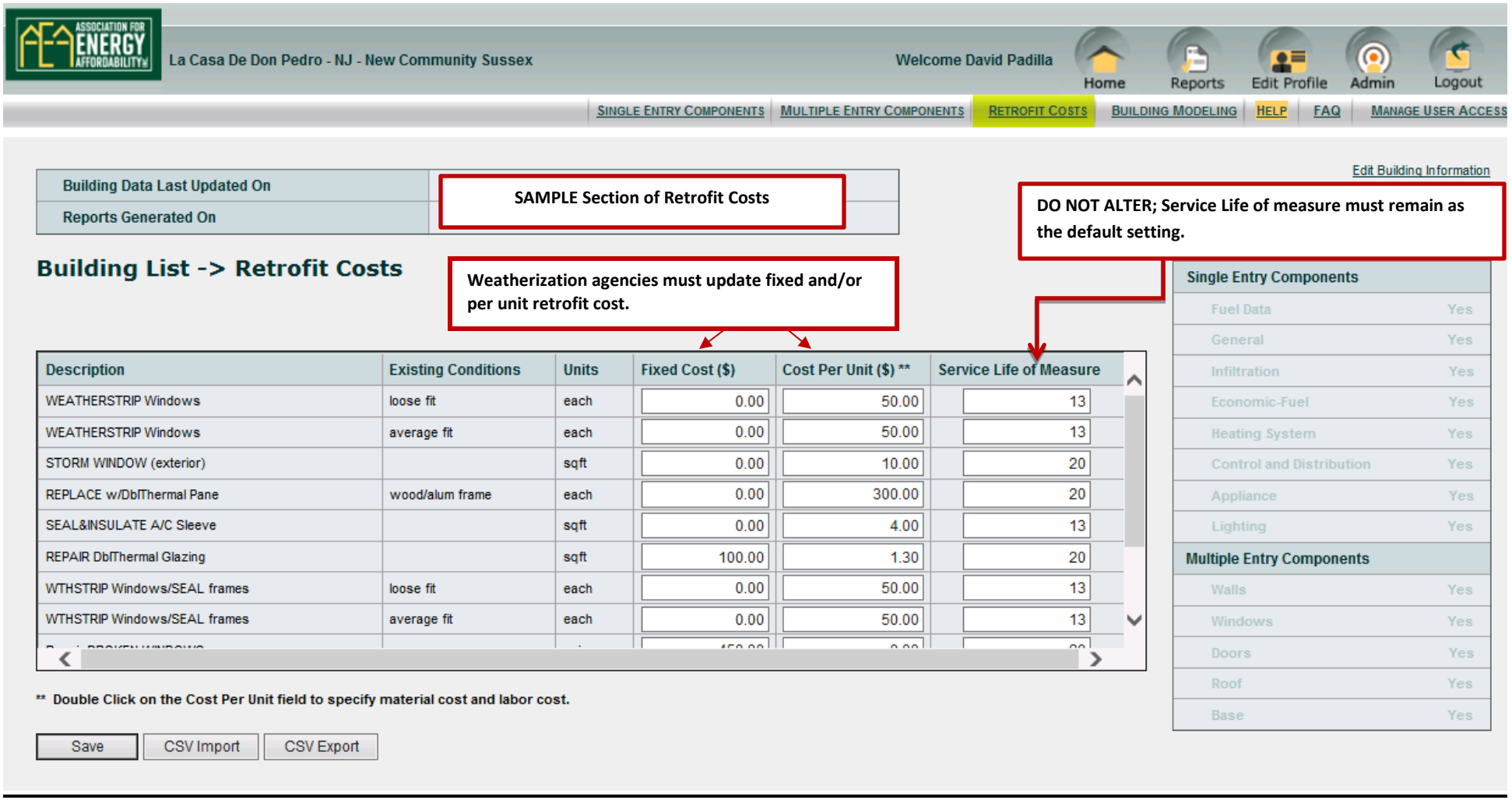

Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
Reports Generated On
Press HELP at the top right corner of the page for further information.
Building List -> Multiple Entry Components -> Doors -> Edit
Name Of Doors
Back
Door Type
P--Plain (Hinged)
Door Material
M--Hollow Metal
Storm Doors Or Vestibule
N--None
Door Fit
T--Tight
Number Of Doors (No.)
4
Area Per Door (sqft)
24.00
Approximate Glass Area (%)
0
Comments
Update
Cancel
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes
History
Created By
Updated By

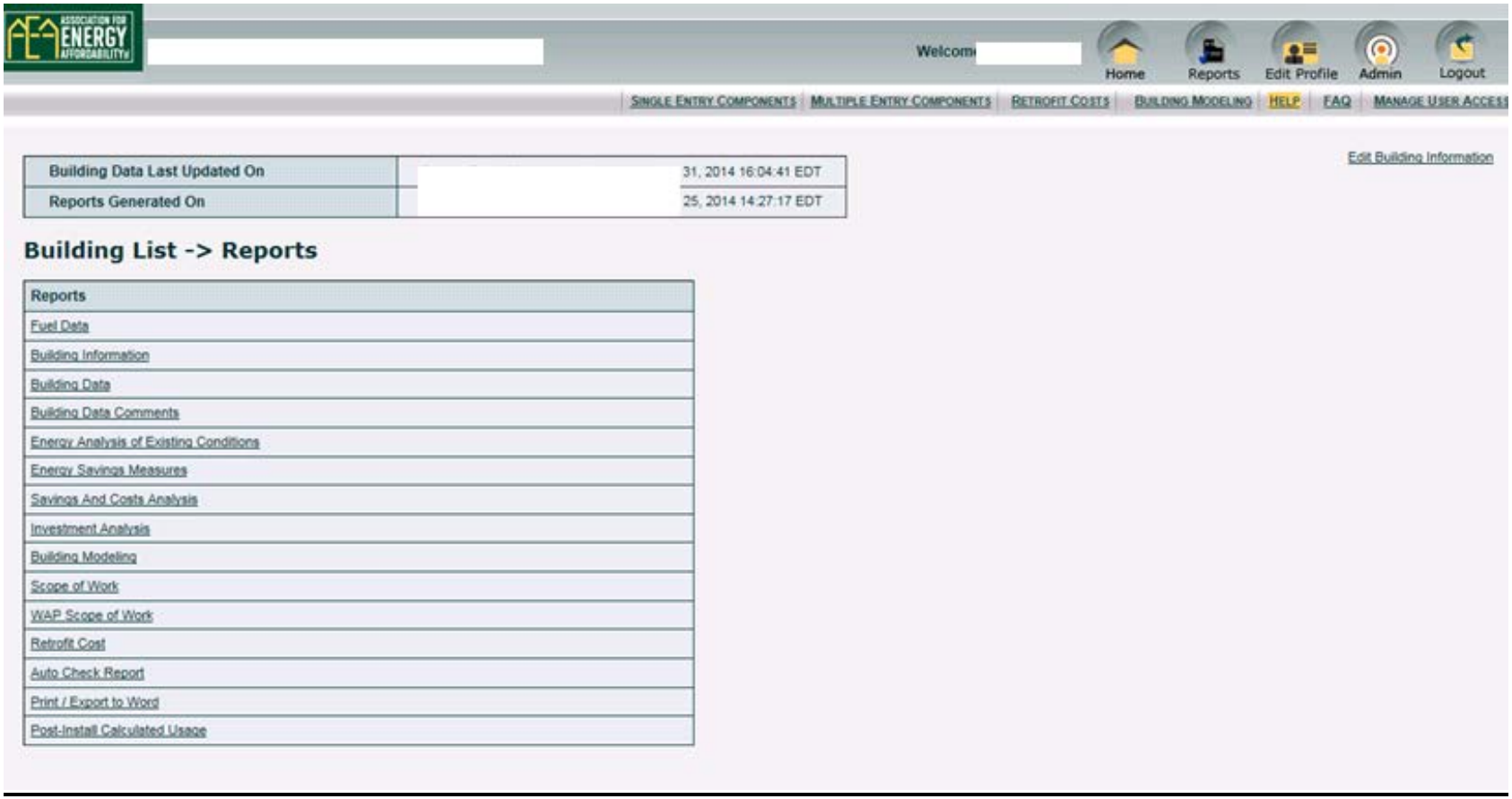

Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Edit Building Information
Building List -> Multiple Entry Components -> Roof
Previous Component
Next Component
Back
Add
Roof Name **
Action
Primary
Delete
** At least one Roof Name must be 'Primary'
Single Entry Components
Multiple Entry Components

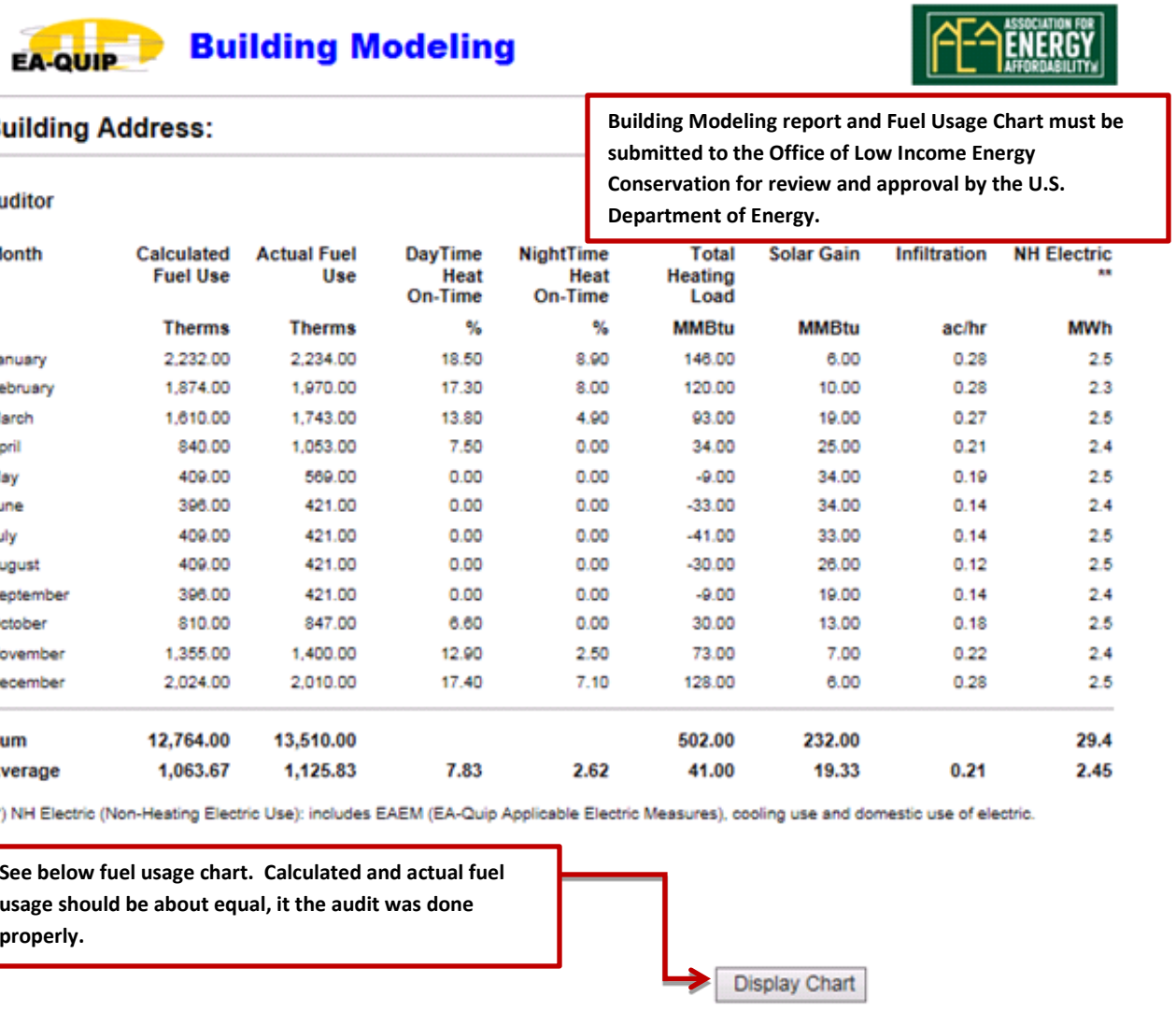

Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
Reports Generated On
Press HELP at the top right corner of the page for further information.
Building List -> Multiple Entry Components -> Roof -> Edit
Name For Attic/roof
Primary
Roof Type
F--Flat roof
Insulation Type
F--Fiberglass batts
Insulation Thickness (in)
6.00
Insulatable Air Space (in)
0
Roof Area (sqft)
8500.00
No. Of Rooftop Windows (No.)
0
No. Of Rooftop Doors (No.)
1
No. Of Penetrations (No.)
3
Water Leakage Through Roof
T--Tightly sealed
Roof Top Material
A--Asphalt Shingles or Sheeting
Roof Color
D--Dark
Comments
Update
Cancel
The sum of the roof area (Sq. ft.) should be about equal to the Average Heated Space per floor (Sq. ft.) Add comment if the structure has an unusual floor plan.
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes
History
Created By
Updated By


Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Edit Building Information
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
31, 2014 16:05:27 EDT
Building List -> Multiple Entry Components -> Base
Previous Component
Back
Add
Base Name **
Action
Primary
Delete
** At least one Base Name must be 'Primary'
Single Entry Components
Fuel Data
General
Infiltration
Economic Fuel
Heating System
Control and Distribution
Appliance
Lighting
Multiple Entry Components
Walls
Windows
Doors
Roof
Base


Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACC
Press HELP at the top right corner of the page for further information.
Building Data Last Updated On
Reports Generated On
Building List -> Multiple Entry Components -> Base -> Edit
Base Name
Primary
Base Type
B--Basement
Base Insulation
N--No insulation
Floor Area (sqft)
9078.00
No. Of Floor Penetrations (No.)
12
Base Wall Insulation
N--No insulation
Above-grade Height (ft)
3.00
Exterior Perimeter (ft)
382.00
No. Of Windows (No.)
7
No. Of Doors (No.)
2
No. Of Leaky Penetrations (No.)
6
Air Leakage Through Base
M--Moderate amount of leakage
Area Of Windows To Be Sealed (sqft)
0
R-value Of Window Seal (F-sqft/Btuh)
5.00
Comments
Update
Cancel
The sum of the floor area (Sq. ft.) should be about equal to the Average Heated Space per floor (Sq. ft.) Add comment if the structure has an unusual floor plan.
The foundation perimeter should be consistent with the floor area.
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Yes
Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes
History
Created By
Updated By


La Casa De Don Pedro - NJ - New Community Sussex
Welcome David Padilla
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Building Data Last Updated On
Reports Generated On
SAMPLE Section of Retrofit Costs
Edit Building Information
DO NOT ALTER; Service Life of measure must remain as the default setting.
Building List -> Retrofit Costs
Weatherization agencies must update fixed and/or per unit retrofit cost.
Description
Existing Conditions
Units
Fixed Cost ($)
Cost Per Unit ($) **
Service Life of Measure
WEATHERSTRIP Windows | loose fit | each | 0.00 | 50.00 | 13
WEATHERSTRIP Windows | average fit | each | 0.00 | 50.00 | 13
STORM WINDOW (exterior) | | sqft | 0.00 | 10.00 | 20
REPLACE w/DblThermal Pane | wood/alum frame | each | 0.00 | 300.00 | 20
SEAL&INSULATE A/C Sleeve | | sqft | 0.00 | 4.00 | 13
REPAIR DblThermal Glazing | | sqft | 100.00 | 1.30 | 20
WTHSTRIP Windows/SEAL frames | loose fit | each | 0.00 | 50.00 | 13
WTHSTRIP Windows/SEAL frames | average fit | each | 0.00 | 50.00 | 13
** Double Click on the Cost Per Unit field to specify material cost and labor cost.
Save
CSV Import
CSV Export
Single Entry Components
Fuel Data Yes
General Yes
Infiltration Yes
Economic-Fuel Yes
Heating System Yes
Control and Distribution Yes
Appliance Yes
Lighting Yes
Multiple Entry Components
Walls Yes
Windows Yes
Doors Yes
Roof Yes
Base Yes


Welcom
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
MANAGE USER ACCESS
Edit Building Information
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
25, 2014 14:27:17 EDT
Building List -> Reports
Reports
Fuel Data
Building Information
Building Data
Building Data Comments
Energy Analysis of Existing Conditions
Energy Savings Measures
Savings And Costs Analysis
Investment Analysis
Building Modeling
Scope of Work
WAP Scope of Work
Retrofit Cost
Auto Check Report
Print / Export to Word
Post-Install Calculated Usage



EA-QUIP **Building Modeling**

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Auditor

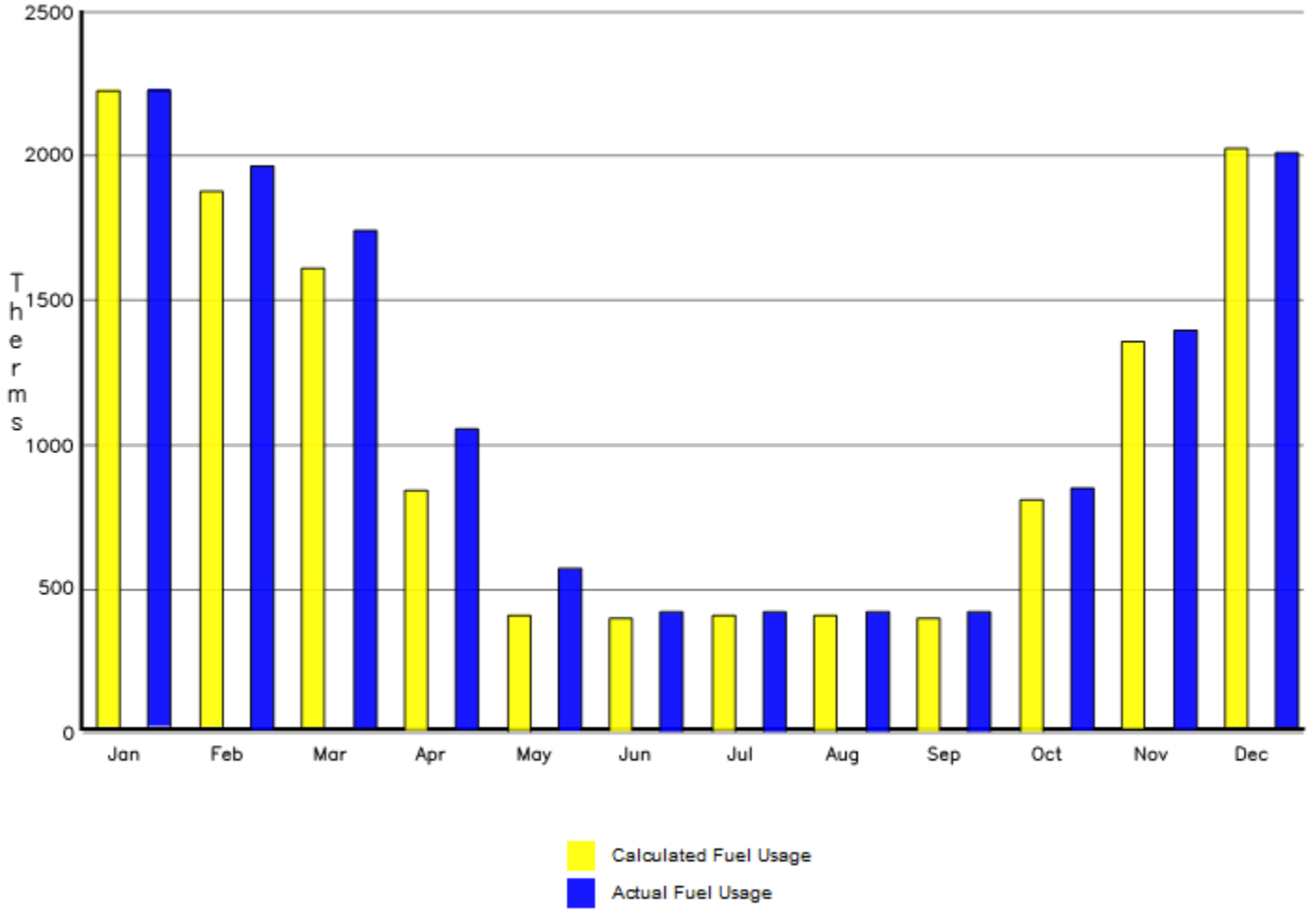
Building Modeling report and Fuel Usage Chart must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Month	Calculated Fuel Use	Actual Fuel Use	DayTime Heat On-Time	NightTime Heat On-Time	Total Heating Load	Solar Gain	Infiltration	NH Electric **
	Therms	Therms	%	%	MMBtu	MMBtu	ac/hr	MWh
January	2,232.00	2,234.00	18.50	8.90	146.00	6.00	0.28	2.5
February	1,874.00	1,970.00	17.30	8.00	120.00	10.00	0.28	2.3
March	1,610.00	1,743.00	13.80	4.90	93.00	19.00	0.27	2.5
April	840.00	1,053.00	7.50	0.00	34.00	25.00	0.21	2.4
May	409.00	569.00	0.00	0.00	-9.00	34.00	0.19	2.5
June	396.00	421.00	0.00	0.00	-33.00	34.00	0.14	2.4
July	409.00	421.00	0.00	0.00	-41.00	33.00	0.14	2.5
August	409.00	421.00	0.00	0.00	-30.00	26.00	0.12	2.5
September	396.00	421.00	0.00	0.00	-9.00	19.00	0.14	2.4
October	810.00	847.00	6.60	0.00	30.00	13.00	0.18	2.5
November	1,355.00	1,400.00	12.90	2.50	73.00	7.00	0.22	2.4
December	2,024.00	2,010.00	17.40	7.10	128.00	6.00	0.28	2.5
Sum	**12,764.00**	**13,510.00**			**502.00**	**232.00**		**29.4**
Average	**1,063.67**	**1,125.83**	**7.83**	**2.62**	**41.00**	**19.33**	**0.21**	**2.45**

(**) NH Electric (Non-Heating Electric Use): includes EAEM (EA-Quip Applicable Electric Measures), cooling use and domestic use of electric.

See below fuel usage chart. Calculated and actual fuel usage should be about equal, it the audit was done properly.

Display Chart


2500
2000
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Therms
Jan
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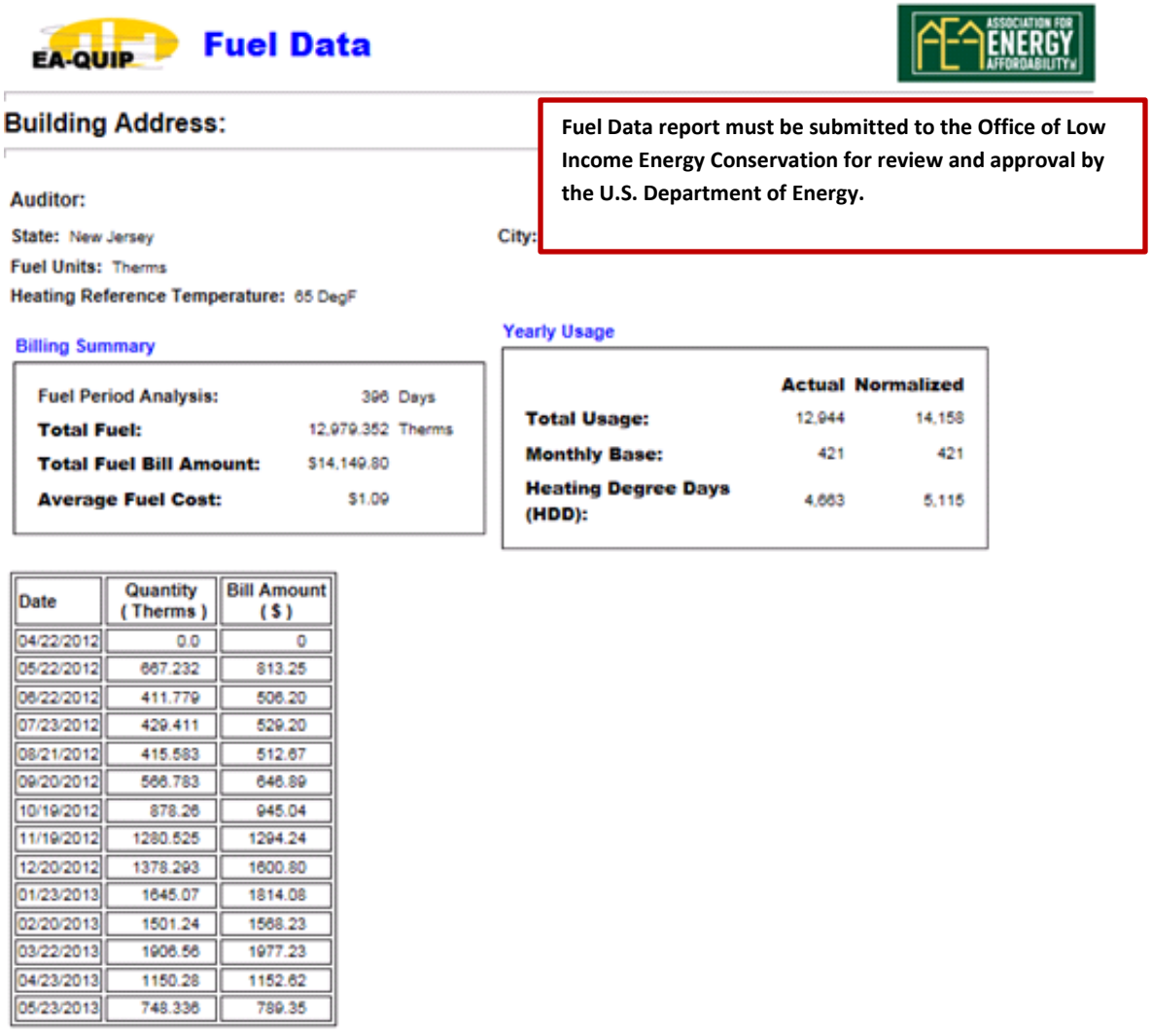
Calculated Fuel Usage
Actual Fuel Usage
Back



EA-QUIP **Fuel Data**

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Fuel Data report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Auditor:

State: New Jersey **City:**

Fuel Units: Therms

Heating Reference Temperature: 65 DegF

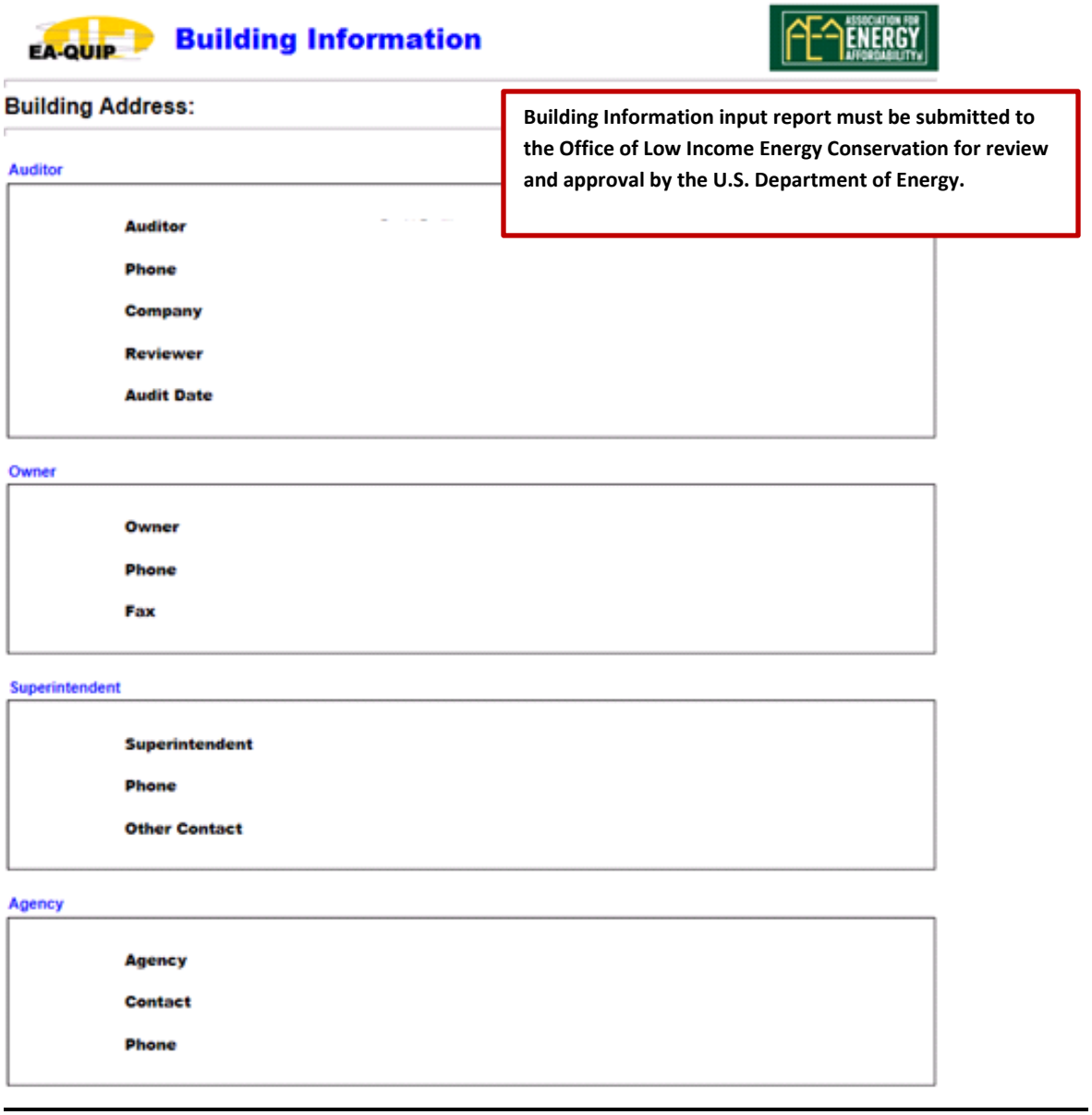
Billing Summary

Fuel Period Analysis:	396 Days
Total Fuel:	12,979.352 Therms
Total Fuel Bill Amount:	$14,149.80
Average Fuel Cost:	$1.09

Yearly Usage

	Actual	Normalized
Total Usage:	12,944	14,158
Monthly Base:	421	421
Heating Degree Days (HDD):	4,663	5,115

Date	Quantity (Therms)	Bill Amount ($)
04/22/2012	0.0	0
05/22/2012	667.232	813.25
06/22/2012	411.779	506.20
07/23/2012	429.411	529.20
08/21/2012	415.583	512.67
09/20/2012	566.783	646.89
10/19/2012	878.26	945.04
11/19/2012	1280.525	1294.24
12/20/2012	1378.293	1600.80
01/23/2013	1645.07	1814.08
02/20/2013	1501.24	1568.23
03/22/2013	1906.56	1977.23
04/23/2013	1150.28	1152.62
05/23/2013	748.336	789.35



EA-QUIP **Building Information**

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Building Information input report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Auditor

Auditor

Phone

Company

Reviewer

Audit Date

Owner

Owner

Phone

Fax

Superintendent

Superintendent

Phone

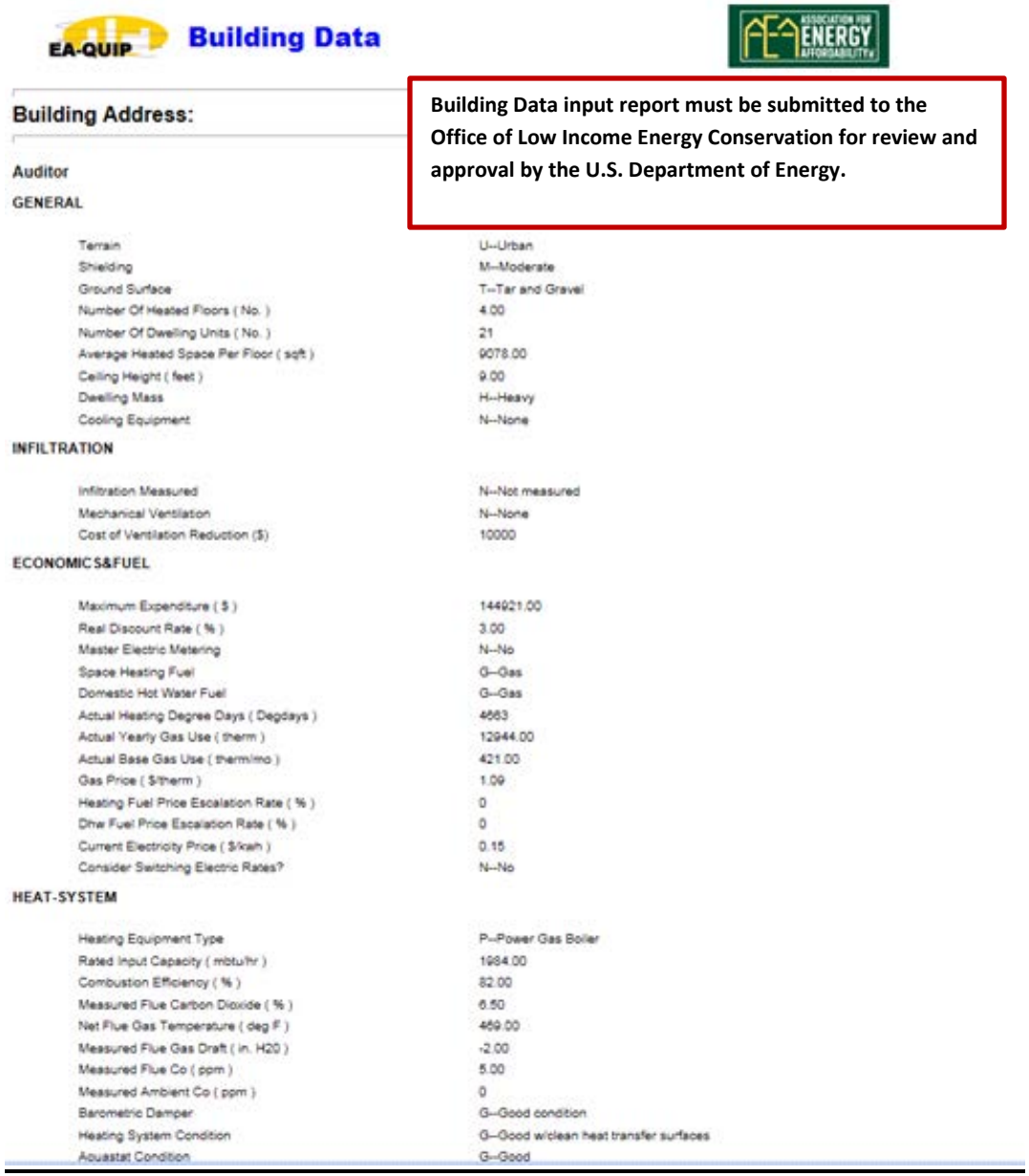
Other Contact

Agency

Agency

Contact

Phone



EA-QUIP **Building Data**

Building Address:

Building Data input report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Auditor

GENERAL

Terrain	U--Urban
Shielding	M--Moderate
Ground Surface	T--Tar and Gravel
Number Of Heated Floors (No.)	4.00
Number Of Dwelling Units (No.)	21
Average Heated Space Per Floor (sqft)	9078.00
Ceiling Height (feet)	9.00
Dwelling Mass	H--Heavy
Cooling Equipment	N--None

INFILTRATION

Infiltration Measured	N--Not measured
Mechanical Ventilation	N--None
Cost of Ventilation Reduction ($)	10000

ECONOMICS&FUEL

Maximum Expenditure ($)	144921.00
Real Discount Rate (%)	3.00
Master Electric Metering	N--No
Space Heating Fuel	G--Gas
Domestic Hot Water Fuel	G--Gas
Actual Heating Degree Days (Degdays)	4663
Actual Yearly Gas Use (therm)	12944.00
Actual Base Gas Use (therm/mo)	421.00
Gas Price ($/therm)	1.09
Heating Fuel Price Escalation Rate (%)	0
Dhw Fuel Price Escalation Rate (%)	0
Current Electricity Price ($/kwh)	0.15
Consider Switching Electric Rates?	N--No

HEAT-SYSTEM

Heating Equipment Type	P--Power Gas Boiler
Rated Input Capacity (mbtu/hr)	1984.00
Combustion Efficiency (%)	82.00
Measured Flue Carbon Dioxide (%)	6.50
Net Flue Gas Temperature (deg F)	469.00
Measured Flue Gas Draft (in. H20)	-2.00
Measured Flue Co (ppm)	5.00
Measured Ambient Co (ppm)	0
Barometric Damper	G--Good condition
Heating System Condition	G--Good w/clean heat transfer surfaces
Aquastat Condition	G--Good

Energy Analysis Of Existing Conditions

Energy Analysis report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Building Address:

Auditor:

Seasons

The HEATING season is from October through May. The COOLING season is from June through September.

Physical

				Heating	Cooling
Total Living Space (sqft):	36312.00				
Number of Apartments:	21	Season Infiltration (cfm):		1341.20	802.45
Dwelling Volume (cuft):	326808.0	Air Exchange Rate (ach):		0.25	0.15

(BTU/Hr/degF)	Overall	Roof	Wall	Win & Doors	Base
Conduction	4078.46	388.24	766.58	2359.84	563.79
Infiltration	826.76	265.83	99.13	423.00	38.80
Total	4905.22	654.07	865.71	2782.84	602.59

(sqft)	North	East	South	West	Horizontal
Wtr Solar Aperture	331.71	252.76	337.55	279.17	86.76
Smr Solar Aperture	331.71	252.76	337.55	279.17	86.76

System & Economics

	Heating	Cooling	Water Heater	Electric
Day/Night Temp (degF)	72/67.0	78/80	130	-n/a-
Real Fuel Escalation(%)	0.00	0.00	0.00	0.00

EA-QUIP

Energy Savings Measures

Based On User Selected Retrofits

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Auditor **Audit Date:**

Original Operating Cost: $17,210.81 /yr **Savings In Operating Cost:** $5,501.13 /yr

	Heating	Cooling	Water Heater	EAEM (*)
Original Building (MMBtu/yr)	794.83	0.00	374.50	101.63
Retrofitted Building(MMBtu/yr)	478.16	0.00	353.39	60.22
Energy Savings	39.84%	0.00%	5.64%	40.75%

(*) EAEM (EA-Quip Applicable Electric Meausures): lighting and refrigerators eligible for replacement, range and dryers if electric.

Description	Location	Heating (%)	Cooling (%)	Water Heater (%)	Other Electric (%)
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	39.63	-	-	-
WTHSTRIP Windows/SEAL frames	Primary (Windows)	3.49	-	-	-
Replace apartment lighting	Lighting	-1.33	-	-	16.56
Install 386 kwh/yr REFRIGERATOR	Appliance	-1.95	-	-	24.13
LO-FLO showers & restrictors	Appliance	-	-	5.64	-

EA-QUIP

Energy Savings Measures

Based On System Defined Retrofits

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Auditor: **Audit Date:**

Original Operating Cost: $17,210.81 /yr **Savings In Operating Cost:** $5,501.13 /yr

	Heating	Cooling	Water Heater	EAEM (*)
Original Building (MMBtu/yr)	794.83	0.00	374.50	101.63
Retrofitted Building(MMBtu/yr)	478.16	0.00	353.39	60.22
Energy Savings	39.84%	0.00%	5.64%	40.75%

(*) EAEM (EA-Quip Applicable Electric Meausures): lighting and refrigerators eligible for replacement, range and dryers if electric.

Description	Location	Heating (%)	Cooling (%)	Water Heater (%)	Other Electric (%)
Replace apartment lighting	Lighting	-1.33	-	-	16.56
LO-FLO showers & restrictors	Appliance	-	-	5.64	-
Install 386 kwh/yr REFRIGERATOR	Appliance	-1.95	-	-	24.13
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	39.63	-	-	-
WTHSTRIP Windows/SEAL frames	Primary (Windows)	3.49	-	-	-

Savings And Costs Analysis

Based On User Selected Retrofits

Building Address:

Auditor: **Audit Date:**

Investment Cost:	$54,773.90	**Investment Limit:**	$144,921.00
Original Operating Cost:	$17,210.81 /yr	**Savings In Operating Cost:**	$5,498.56 /yr

	Energy Factor	EAEM + Cooling (*)
Original Building	6.91 BTU/sqft/HDD	29,776.04 kWh/yr
Retrofitted Building	4.91 BTU/sqft/HDD	17,643.78 kWh/yr
% Savings	**28.89 %**	**40.75 %**

*) EAEM(EA-Quip Applicable Electric Measures): lighting and refrigerators eligible for replacement, range and dryers if electric.

Description	Location	First Year savings ($)	Initial Cost ($)	Simple Payback (yrs)	Cumulative Cost ($)
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	3433.27	39400.74	11.5 yr	39400.74
WTHSTRIP Windows/SEAL frames	Primary (Windows)	302.71	7100.00	23.5 yr	46500.74
Replace apartment lighting	Lighting	623.78	105.00	0.2 yr	46605.74
Install 386 kwh/yr REFRIGERATOR	Appliance	908.64	8100.00	8.9 yr	54705.74
LO-FLO showers & restrictors	Appliance	230.16	68.16	0.3 yr	54773.90

EA-QUIP

Savings And Costs Analysis

Based On System Defined Retrofits

Savings and Costs Analysis (System Defined Retrofit) report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Building Address:

Auditor:

Investment Cost:	$54,773.90	**Investment Limit:**	$144,921.00
Original Operating Cost:	$17,210.81 /yr	**Savings In Operating Cost:**	$5,498.56 /yr

	Energy Factor	EAEM + Cooling (*)
Original Building	6.91 BTU/sqft/HDD	29,776.04 kWh/yr
Retrofitted Building	4.91 BTU/sqft/HDD	17,643.78 kWh/yr
% Savings	**28.89 %**	**40.75 %**

(*) EAEM(EA-Quip Applicable Electric Measures): lighting and refrigerators eligible for replacement, range and dryers if electric.

Description	Location	First Year savings ($)	Initial Cost ($)	Simple Payback (yrs)	Cumulative Cost ($)
Replace apartment lighting	Lighting	623.78	105.00	0.2 yr	105.00
LO-FLO showers & restrictors	Appliance	230.16	68.16	0.3 yr	173.16
Install 386 kwh/yr REFRIGERATOR	Appliance	908.64	8100.00	8.9 yr	8273.16
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	3433.27	39400.74	11.5 yr	47673.90
WTHSTRIP Windows/SEAL frames	Primary (Windows)	302.71	7100.00	23.5 yr	54773.90

Investment Analysis

Based On User Selected Retrofits

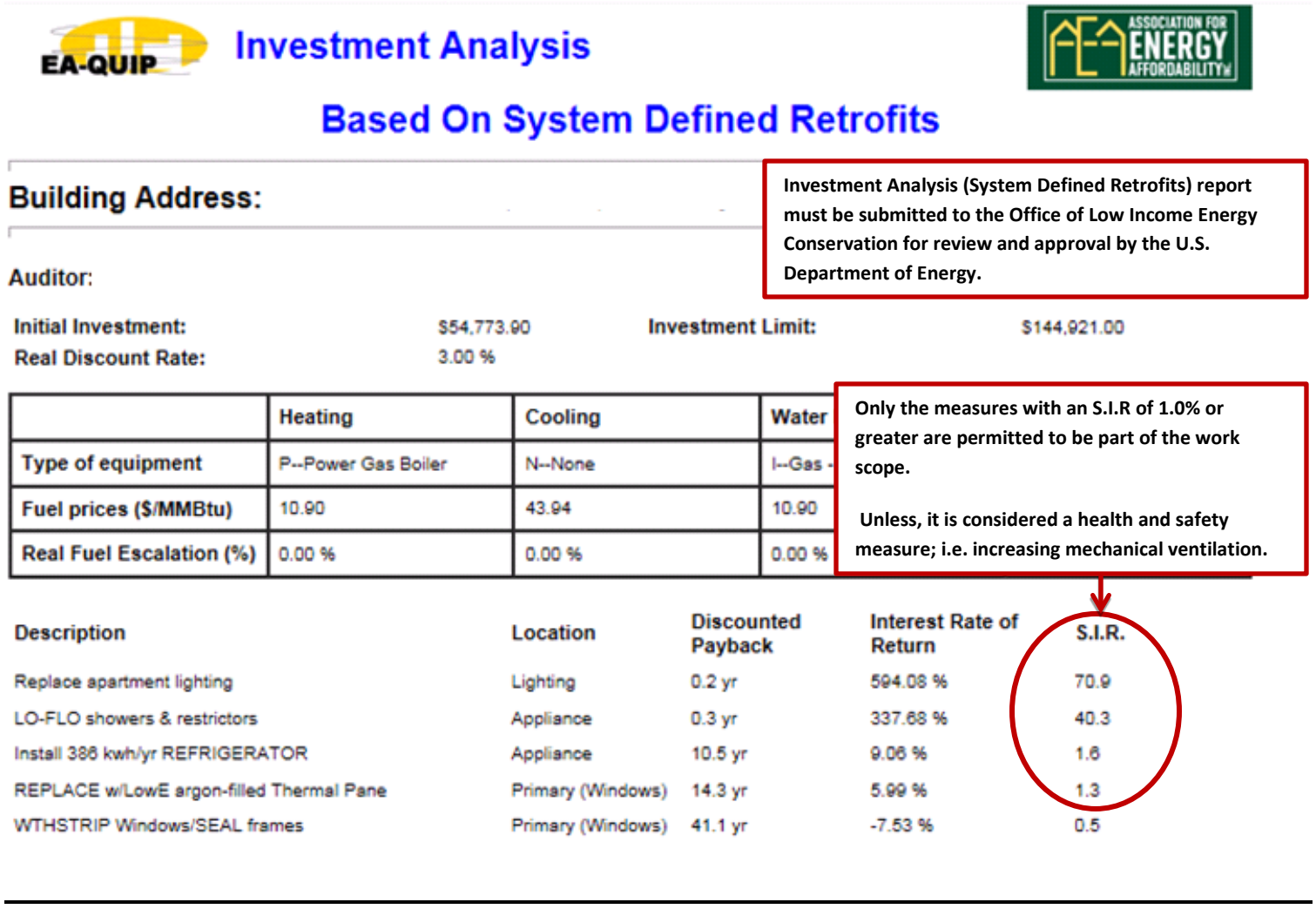
Building Address:

Auditor: **Audit Date:**

Initial Investment: $54,773.90 **Investment Limit:** $144,921.00
Real Discount Rate: 3.00 %

	Heating	Cooling	Water Heater	Other Electric
Type of equipment	P--Power Gas Boiler	N--None	I--Gas - insulated	
Fuel prices ($/MMBtu)	10.90	43.94	10.90	43.94
Real Fuel Escalation (%)	0.00 %	0.00 %	0.00 %	0.00 %

Description	Location	Discounted Payback	Interest Rate of Return	S.I.R.
Replace apartment lighting	Lighting	0.2 yr	594.08 %	70.9
LO-FLO showers & restrictors	Appliance	0.3 yr	337.68 %	40.3
Install 386 kwh/yr REFRIGERATOR	Appliance	10.5 yr	9.06 %	1.6
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	14.3 yr	5.99 %	1.3
WTHSTRIP Windows/SEAL frames	Primary (Windows)	41.1 yr	-7.53 %	0.5



EA-QUIP

Investment Analysis

Based On System Defined Retrofits

ASSOCIATION FOR ENERGY AFFORDABILITY

Building Address:

Auditor:

Investment Analysis (System Defined Retrofits) report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Initial Investment: $54,773.90 **Investment Limit:** $144,921.00

Real Discount Rate: 3.00 %

	Heating	Cooling	Water
Type of equipment	P--Power Gas Boiler	N--None	I--Gas -
Fuel prices ($/MMBtu)	10.90	43.94	10.90
Real Fuel Escalation (%)	0.00 %	0.00 %	0.00 %

Only the measures with an S.I.R of 1.0% or greater are permitted to be part of the work scope.

Unless, it is considered a health and safety measure; i.e. increasing mechanical ventilation.

Description	Location	Discounted Payback	Interest Rate of Return	S.I.R.
Replace apartment lighting	Lighting	0.2 yr	594.08 %	70.9
LO-FLO showers & restrictors	Appliance	0.3 yr	337.68 %	40.3
Install 386 kwh/yr REFRIGERATOR	Appliance	10.5 yr	9.06 %	1.6
REPLACE w/LowE argon-filled Thermal Pane	Primary (Windows)	14.3 yr	5.99 %	1.3
WTHSTRIP Windows/SEAL frames	Primary (Windows)	41.1 yr	-7.53 %	0.5

Retrofit Costs

Retrofit Costs report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Building Address:

Auditor:

GENERAL

Description	Existing Conditions	Units	Fixed Cost	Cost Per Unit	Service Life of Measure
Raise ambient cooling Temp 3 Deg F		each	10000.00	0.00	10
Raise ambient cooling Temp 5 Deg F		each	10000.00	0.00	10
Install 5 F Cooling night setback		each	1000.00	0.00	10
Install 10 F Cooling night setback		each	1000.00	0.00	10
Upgrade room air conditioners		each	0.00	360.00	13

INFILTRATION

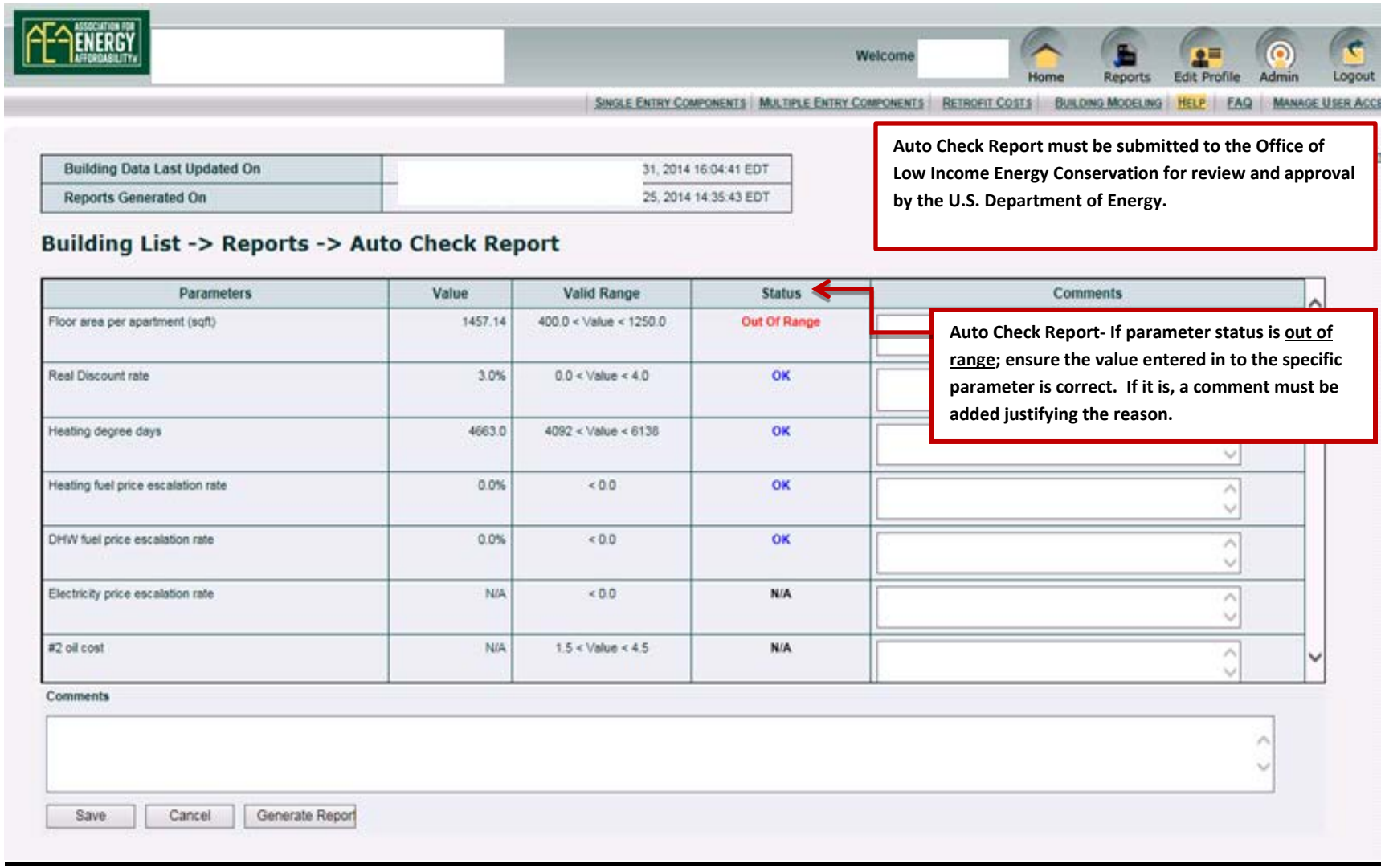
Description	Existing Conditions	Units	Fixed Cost	Cost Per Unit	Service Life of Measure
SEAL house (Blower Door)		each	500.00	0.00	13

ECONOMIC-FUEL

Description	Existing Conditions	Units	Fixed Cost	Cost Per Unit	Service Life of Measure
SWITCH electric rates		each	0.00	0.00	0

HEATING SYSTEM

Description	Existing Conditions	Units	Fixed Cost	Cost Per Unit	Service Life of Measure


Welcome
Home
Reports
Edit Profile
Admin
Logout
SINGLE ENTRY COMPONENTS
MULTIPLE ENTRY COMPONENTS
RETROFIT COSTS
BUILDING MODELING
HELP
FAQ
Building Data Last Updated On
31, 2014 16:04:41 EDT
Reports Generated On
25, 2014 14:35:43 EDT
Building List -> Reports -> Auto Check Report
Parameters
Value
Valid Range
Status
Comments
Floor area per apartment (sqft)
1457.14
400.0 < Value < 1250.0
Out Of Range
Real Discount rate
3.0%
0.0 < Value < 4.0
OK
Heating degree days
4663.0
4092 < Value < 6138
OK
Heating fuel price escalation rate
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< 0.0
OK
DHW fuel price escalation rate
0.0%
< 0.0
OK
Electricity price escalation rate
N/A
< 0.0
N/A
#2 oil cost
N/A
1.5 < Value < 4.5
N/A
Comments
Save
Cancel
Generate Report
Auto Check Report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.
Auto Check Report- If parameter status is out of range; ensure the value entered in to the specific parameter is correct. If it is, a comment must be added justifying the reason.

Post-Install Calculated Usage

Post-Install Calculated Usage report must be submitted to the Office of Low Income Energy Conservation for review and approval by the U.S. Department of Energy.

Building Address:

Auditor:

Month	Post-Install Calculated Fuel Usage	Pre-Install Actual Fuel Usage	DayTime Heat On-Time	NightTime Heat On-Time	Total Heating Load	Solar Gain	Infiltration	NH Electric **
	Therms	Therms	%	%	MMBtu	MMBtu	ac/hr	MWh
January	1,524.00	2,234.00	13.90	3.70	88.00	6.00	0.17	1.5
February	1,287.00	1,970.00	13.10	3.10	72.00	10.00	0.16	1.4
March	1,075.00	1,743.00	10.60	0.00	54.00	19.00	0.16	1.5
April	625.00	1,053.00	4.40	0.00	17.00	25.00	0.12	1.4
May	391.00	569.00	0.00	0.00	-9.00	34.00	0.11	1.5
June	379.00	421.00	0.00	0.00	-27.00	34.00	0.08	1.4
July	391.00	421.00	0.00	0.00	-33.00	33.00	0.08	1.5
August	391.00	421.00	0.00	0.00	-24.00	26.00	0.07	1.5
September	379.00	421.00	0.00	0.00	-9.00	19.00	0.08	1.4
October	626.00	847.00	4.10	0.00	16.00	13.00	0.10	1.5
November	927.00	1,400.00	9.00	0.00	43.00	7.00	0.13	1.4
December	1,393.00	2,010.00	13.20	2.40	76.00	6.00	0.16	1.5
Sum	**9,388.00**	**13,510.00**			**264.00**	**232.00**		**17.5**
Average	**782.33**	**1,125.83**	**5.69**	**0.77**	**22.00**	**19.33**	**0.12**	**1.46**

(**) NH Electric (Non-Heating Electric Use): includes EAEM (EA-Quip Applicable Electric Measures), cooling use and domestic use of electric.

2.4 Buydown and Leveraging

In recent years, the Department of Energy (DOE) has increased the focus on leveraging activities and specifically, since 2010, allowed a provision to include buy downs for multifamily weatherization in the Program. This provision creates flexibility for programs to install measures that save energy but don't achieve the necessary Savings-to-Investment Ratio (SIR) by allowing the agencies to secure funding to apply to the cost of the measure, bringing down the cost of the measure to meet the SIR requirement.

Buy Down – aligns with a private interest and the funding source retains the decision-making authority in identifying the building being selected for installation of the measure(s). Buy down is only available in multifamily dwellings (including small buildings with 2-4 units) because a contribution is required for a buy down to occur. In order for a measure to qualify for the buy down, the package of measures, including the full cost (the pre-buy down cost) of the measure which is to be bought down, must have an SIR $\geq$ 1.0. a. In the event contributions are made by a landlord that exceeds the agreement and there is no stipulation the funds be expended on a specific building(s), then those funds would be considered *leveraged* funds and could follow the modified auditing approach below**.**

Leveraging – aligns with the intention of supplementing the weatherization resources and the funding source does not identify specific buildings for the investment. For the purpose of WAP, funds that are considered "leveraged" indicates the funding source has transferred decision-making authority to the WAP agency to determine which buildings will receive the measure(s). If funds are *leveraged* and the funding source does not identify specific buildings but transfers decision-making authority to the agency to determine which buildings will receive the measure(s), DOE will allow agencies to simplify the auditing process and run the audit once with the leveraged cost included.

In instances where the funds are being used to reduce the cost of a measure to meet the programs SIR requirement (e.g., furnaces or solar systems), agencies may enter the "discounted" cost for the measure into the audit tool (as if they were purchasing the item "on sale"), and document the discounted costs and funding sources in the file. This approach is appropriate only in cases where the measure being "discounted" remains the last measure in the package of measures being installed.

Any instances wherein the measure isn't last on the list, the audit shall by reviewed on a case-by-case by the assigned State Monitor prior to implementation. In the examples of high efficiency furnaces being made available at a discounted price, WAP agencies would

enter the actual cost incurred by WAP into the audit tool, not the full cost as required with a buy down.

3. Compliance Review

The State Monitors will be randomly selecting three to four completed energy audits for review every quarter. State Monitors will provide feedback to WAP agencies through a completed Audit Reviews Summary of Finding(s) Form which can be found in the appendix. This serves several purposes:

1. Ensuring NJ homes are being weatherized based on quality and accurate audits.
2. Providing feedback on the quality of the energy audits which will identify weaknesses and need for training for field staff.
3. Reviews foster sharing of expertise among State Monitors and strengthening quality of monitoring.

WAP Agencies are requires to correct deficiencies in audits within 30 calendar days of the receipt of the Audit Reviews Summary of Finding(s) Form.

4. Ancillary and Incidental Repair Measures

The following chart are examples of Ancillary and Incidental Repair Items for entry into the Energy Audit.

Energy Conservation Measure (ECM)	**Ancillary Items** **(Cost must be included in SIR for associated individual ECM)**	**Incidental Repair Measures** **(Cost must be included in SIR for the whole unit package of ECMs)**
Attic Insulation	• Eave baffles • Damming hatch • Dams for heat producing devices	• Minor roof repair • Attic vents • Repair, replace, or reinforce the ceiling to support the weight of insulation

	• Insulation air-sealing backing	
Wall Insulation	• Fasteners for patches • Interior blow patch, sand prime wall	• Minor roof repair • Repair, replace, or reinforce the wall to support the pressure of dense pack
Belly Insulation (mobile)	• Repair/replace rodent barrier • Flexible patches • Fasteners	• Skirting
Crawlspace Insulation	• Restrainer materials • Wood lath, twine, wire supports, fasteners	• Vapor barrier • Crawlspace vents • Water line pipe insulation
Air-Sealing	• Fasteners for patches	• Unusually large coverage such as 1 sheet of sheetrock, patching
Attic Hatch Install	• Fasteners, primer, etc.	• Demolition and/or framing for new hatch

Knee-wall or crawlspace access door Install	• Hinges • Laches • Primer	• Demolition of deteriorated existing framing. • New trim/stop
Replacement Windows	• Fasteners • Interior and exterior caulk	• Replace broken stops • Repair or replace rotten jambs and wall framing
Replacement Doors	• Hinges • Door knobs • Dead bolt • Primer	• Repair or replace damaged framing