

## 1. Database Setup

Project Information – Outside Design Conditions – Location List – Pick State and Town.

Database – Exposures – Pick exposures that best apply to your project.

- Example – Highlight “NORTH” and then click “In Project”.
- This will need to be completed for each wall of the building.

Database – Structures – Pick all Structure Elements that apply to your project.

- Example – Click on “Vinyl Siding”
- Now Click on “In Project”. This is now part of your Database.
- Once all Elements Types have been added to the project Click “OK” to close the window.

Database – Windows – Same as above.

Database – Doors – Same as above.

Database – Pipe – Same as above.

Database – Manifolds – Same as above.

Database – Zones – New – Type name of zone and Click “OK”.

- With the drop-down window of “TYPE OF ZONE” pick “HEATED”.
- In the “SYSTEM DATA TAB” check the box for “RADIANT HEATING SYSTEM”.

## 2. Building the Structure

Project Information – Level List – PICK NEW LEVEL.

- “Level Description” – Type Name of Level (Ex: Basement, First Floor).
- “Rooms pre-code” – Code the Level (Ex: Basement would be B-1).
- “Internal Net Height” – Type height of level (Ex: Type “8” for 8 feet).
- “Type of Ceiling” – Use the first drop-down window to the right and pick type of Ceiling.
- The next drop-down window to the right of Ceiling Type – pick Exposure of ceiling for that level.
- “Floor covering” – Pick floor covering for this level.
- The next drop-down window to the right of “Floor covering” – pick type of heating system used for this level.
- Click “Create Level” .

**This must be done for each level of the building**

In the “ELEMENTS” field under “UPDATING BUILDING”

Highlight the Level you will be working on (Ex: Highlight “Basement”).

- Right Click on this highlighted level.
- Click “Insert”.
- Click “Room”.

**A new window will open**

- “Room Designation” – Pick from the drop-down window or create a new name.
- “Design Parameters” – Pick from the drop-down window.
- “Mechanical Room” – Pick from the drop-down window.
- “Type” – Pick “Normal”.
- “Length” – type Length of wall for this room (remember you only need “8” for 8 feet).
- “Width” – type Width of wall for this room (again you only need “8” for 8 feet).
- “Area” – just click on the area box and the program will calculate Area and load the box.
- Click “OK” to enter the input information and close this window.

**This needs to be completed for each room on each level**

### 3. Exposures

Please note: For Heating loads this step has no real affect on the calculation. For Cooling loads this is a very real and important step in the calculations. However, it is a step that must be performed for both types of calculations Heating and Cooling.

Highlight the Room you just created

- Right click on the Highlighted Room
- Insert
- Exposure
- Set the room to the Exposure (compass setting) from the drop-down window.
- Click "OK".

**This needs to be completed for each room on each level**

Highlight the new Exposure –

- Right Click on the Highlighted Exposure.
- Click Inset.
- Click on "Structure".
- Pick from the drop-down window the "Type" of construction for the wall.
- In this same window type the "Length" of the wall and change the "Height" if needed.
- Click on the "Area" box (the program will calculate the area and enter it in the area box).
- Click "OK".

Highlight the new Structure –

- Right Click
- Click on Insert
- Click on "Structure (secondary)
- From the "Structure" box pick from the drop-down window the Window or Door needed in your project.
- You can change the "Quantity" to add more the one window or door if they are all the same size.

**Again this must be done for each exposure in each room of each level**

#### 4. Update Distribution Piping Section

In the "Update Distribution" section of the screen –

- Highlight the Mech. Room
- Right Click on the Highlighted Mech. Room.
- Click on "Insert".
- Click on "Distribution Piping".
- Add a "Fluid" from the drop-down window.

Right Click on the new "PIPING" symbol under you Mech. Room-

- Click on "Manifold".
- Name the Manifold (Ex: Basement #1) at "Description"
- At "Manufacturer" pick the manifold from the drop down window that will be used in your project.
- At "Manifold Connection" – type the number of outlets for the manifold.

**At this point you need to run the calculations**

Click on the "Calculations" button at the top center of the screen

- Pick "Heat Losses".
- A window will open titled "Statistic Losses"
- This will give the total heat losses for the system.
- Close this window.

From the "Update Building" section of the screen

- Open each room – at this point you will see circuits have been added by the program to each room.
- Left click on the circuit and drag down to the manifold you want this circuit to be associated with.

**Run the Heat Loss Calculation again as above.**

## 5. Bill of Material (BOM)

From the "Print" Command box (top center of screen).

- Click on "Bill of Material".
- At "Material Takeoff Name" type the name of your project.
- Click the box for "Radiant System".
- Click "Create".

From the window that just opened find the "Printer Icon" (about the middle of this window).

- When you click on the printer icon the program will open "Save As" window.
- Type the file name in the file save box and save it the folder you want.
- From the next screen that the program will open click the "Bill of Material" TAB at the bottom left of the screen to view the BOM.

**Congratulations! Your project is complete in RayClima.**

### **Note: If you require a Pipe Layout Drawing of this project:**

- Sent the "Dwg" file that RayClima just saved to any of the design team at REHAU and a Pipe Layout Drawing may be created from this file.
- Please keep in mind the Pipe Layout Drawing will be completed completely from this file - the REHAU design team will make no changes to the information that you input into your project without having a conversation with you first.