Guide Energy Auditing Questionnaire

**LIGHTING TYPES**
1. Type of light (Fluorescent, Incandescent, Mercury vapor, Sodium, Metal halide & (other) ………………………………………………………………………

<table>
<thead>
<tr>
<th>Lighting Type</th>
<th>% of occupied area</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

2. Schedule of operation ……………………………………………………………………..
3. Wattage of lamps …………………………………………………………………………..
4. Number of lighting fixtures ………………………………………………………………..
5. Availability of daylight sensors ……………………………………………………………
6. Availability of occupancy sensors …………………………………………………………

**BUILDING ENVELOPE**
1. Picture of the building……………………………………………………………………
2. Geographical location………………………………………………………………………
3. Type of building………………………………………………………………………………
4. Number of floors………………………………………………………………………………
5. Number of floors below ground………………………………………………………………
6. Gross floor area ………………………………………………………………………………
7. Conditioned area (heated only)………………………………………………………………
8. Conditioned area (cooled only)………………………………………………………………
9. Conditioned area (heated & cooling)…………………………………………………………
10. Year of construction…………………………………………………………………………
11. Wall construction materials………………………………………………………………
12. Roof construction materials……………………………………………………………..
13. Type of window glass……………………………………………………………………….
14. Insulations both roof & walls………………………………………………………………
15. Maintenance operation………………………………………………………………………
16. Check for leakages…………………………………………………………………………

<table>
<thead>
<tr>
<th>Construction Code</th>
<th>R-Value</th>
<th>Glass shading Coefficient</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
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BUILDING UTILITIES
1. Types of energy sources in the building..................................................
2. Name of energy providers..........................................................................
3. Number of meter(s) for each source..........................................................
4. At least one year bill for each source........................................................

BUILDING SCHEDULE

<table>
<thead>
<tr>
<th>Days</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>Th</th>
<th>F</th>
<th>Sat</th>
<th>Sun</th>
<th>Hol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours Open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hours Close</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Peak # of occupants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Avg. # of occupants</td>
<td></td>
<td></td>
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</tbody>
</table>

PRELIMINARY ENERGY ALLOCATION TO END USES
(More than 5% energy use) (Nameplate will help)

<table>
<thead>
<tr>
<th>End Use</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Water Heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen Cooking Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Processing Equipment</td>
<td></td>
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</tbody>
</table>

HVAC SYSTEM
Important: Copy of the nameplate of the components of the HVAC system should be collected.

1. Type(s) of HVAC system in the building and age.................................
   (Single zone, multi zone, dual duct, variable air volume, reheat, fan coil units, unit ventilators, packaged terminal air conditioner, Chillers etc)
2. Space Cooling set-point .....................................................................
3. Space Heating set-point .....................................................................
4. Availability of economizer and type.....................................................
5. Availability of ERV and type.................................................................
6. Type of fan motor, efficiency & capacity.............................................
7. Availability of VFD for fan motor.......................................................
8. Type of pump motor, efficiency & capacity
9. Maintenance schedule of the system
10. Have the cooled water and hot water temperature been reset?
11. Type and state of HVAC controls

HVAC Operation Schedule:
- Chiller
- Boiler
- AHUs

Shutdown of:
- AHUs by Time Schedule
- Exhaust fan by Time Schedule
- Chillers
  - By Time schedule
  - By Outside Air Temperature
- Boilers
  - By Time schedule
  - By Outside Air Temperature

Are the following control systems present in the facilities?
- Optimum Start Control
- Automatic Shutdown
- Setback Controls
- What is the design CFM of the facility?
- What is the approximate outdoor air percentage?