Hotels and other hospitality facilities present unique challenges for guests, employees and vendors when considering the control of Air Quality, including risk reduction addressing COVID-19 concerns. TLC Engineering Solutions can assist you in managing risk for the re-opening, operation, and long-term management of hospitality facilities.

The primary vectors for transmitting COVID-19 are touching surfaces with the virus, mitigated by hand washing; and contact with droplets containing the virus, mitigated by social distancing. The least prevalent transmission vector is an aspirated virus. HVAC systems can reduce the risk of infection from an aspirated virus.

How HVAC Systems Can Reduce the Risk of Transmission

- Retro-Commission core systems; don’t modify a system that is functioning below optimal
- Use ventilation and exhaust systems to improve IAQ
- Circulation systems that minimize cross-contamination
- Enhanced filtration levels improve IAQ
- Modified control sequences/setpoints (temperature and humidity control) minimize virus propagation
- Specialized equipment to target concerns

Want help identifying next steps for your building?
Contact your local TLC office or Erick Gonzalez, PE, LEED AP, at 305.263.3873 or erick.gonzalez@tlc-eng.com
Affect of Atmospheric Conditions of Virus Life

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>Temperature</th>
<th>Humidity</th>
<th>Solar</th>
<th>HALF LIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>70-75°F</td>
<td>20%</td>
<td>None</td>
<td>18 hours</td>
</tr>
<tr>
<td>Surface</td>
<td>70-75°F</td>
<td>80%</td>
<td>None</td>
<td>6 hours</td>
</tr>
<tr>
<td>Surface</td>
<td>95°F</td>
<td>80%</td>
<td>None</td>
<td>1 hour</td>
</tr>
<tr>
<td>Surface</td>
<td>70-75°F</td>
<td>80%</td>
<td>Summer</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Aerosol</td>
<td>70-75°F</td>
<td>20%</td>
<td>None</td>
<td>~60 minutes</td>
</tr>
<tr>
<td>Aerosol</td>
<td>70-75°F</td>
<td>20%</td>
<td>Summer</td>
<td>~15 minutes</td>
</tr>
</tbody>
</table>

Increased temperature, humidity, and sunlight are detrimental to SARS2-CoV-2 in saliva droplets on surfaces and in the air.

How to Remain Competitive in the ‘New Normal’

Communication is key with guests, staff and vendors. As you address operational and janitorial concerns, TLC can support you in communicating building energy system strategies that help protect your assets and may include:

- **Building wellness audit** to inform cost effective measures for IAQ improvement and address water system concerns that include Legionnaires’

- **Low cost / no cost HVAC system upgrades** that enhance efficiency:
  - Temperature set points
  - Damper positions
  - Fan speed settings
  - Filter upgrades / changes
  - Operational / Equipment settings

- **Planning / budgeting** for capital upgrades:
  - Fan replacements
  - Ventilation system upgrades
  - Lighting modifications
  - Air handler replacements

- **Position building asset as a healthy building**, including:
  - Indoor air quality metering / monitoring communicated to building users
  - Plan to achieve WELL, BREAM or FitWel Certification
  - Prepared materials for tenant pursued healthy building certifications

References

NIOSH - National Institute of Occupational Safety and Health - [https://www.cdc.gov/niosh/index.htm](https://www.cdc.gov/niosh/index.htm)
ASHRAE Handbook – HVAC Applications - CHAPTER 62. ULTRAVIOLET AIR AND SURFACE TREATMENT.
The RESET® Air Standard - [https://www.reset.build/standard#std__download](https://www.reset.build/standard#std__download)