

Noise Emissions of Healthcare Facilities

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Hospitals require high-powered building systems that run around the clock. These systems can radiate noise to the surrounding area, negatively affecting relationships with neighbors. The allowable noise emission depends on applicable state and local ordinances.

Some noise codes are written in terms of absolute noise limits, such as "noise cannot exceed 50 dBA at neighboring property lines." These limits often depend on the zoning of the hospital property and adjacent areas. Other noise codes are written relative to the existing background noise level and prohibit raising this background level more than an allowable increment, such as 10 dBA.

The *2010 Guidelines for Design and Construction of Health Care Facilities* from the Facilities Guidelines Institute provide sound level emission requirements where there are no applicable state or local noise codes. These requirements are absolute noise limits that are based on the conditions of the site.

Noise control mitigation measures are available for each building system that contributes to a hospital's noise emission. Duct silencers are often required for the outside air and relief air ducts of air handling systems. Silencers may also be required for the discharge of exhaust systems.

Noise from cooling system equipment such as cooling towers and air-cooled chillers can be addressed with barrier screens and/or modifications to the equipment. (Please note that cooling tower and water-cooled chiller systems can usually be quieter than air-cooled chiller systems.)

State and local governments vary in their handling of emergency generator noise ranging from no requirements to meeting stringent nighttime noise limits.

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