**Section 250.2660 Mechanical**

a) Any retrofit of existing heating, ventilating, or air conditioning systems for energy conservation purposes may meet any or all of the requirements of Section 250.2480 (Mechanical) in lieu of the parallel requirements of this Section.

b) Boiler feed pumps, return pumps, and circulating pumps shall be furnished in duplicate, each of which has a capacity to carry the full load. Blow off valves, relief valves, nonreturn valves, injectors and fittings shall be provided to meet the requirements of the city and state codes and recommendations of the American Society of Mechanical Engineers.

c) Air Conditioning, Heating and Ventilating Systems

1) The systems should be capable of providing the following temperatures and humidities in the following areas:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Temperature | | Relative Humidity % | |
| Area Designation | ºF | ºC | Min. | Max. |
| Operating Room | 70-76\* | 21-24\* | 50 | 60 |
| Delivery Room | 70-76\* | 21-24\* | 50 | 60 |
| Recovery Room | 75 | 24 | 50 | 60 |
| Intensive Care Units | 75-80\* | 24-27\* | 30 | 60 |
| Nursing Units | 75 | 24 | 30 | 60 |
| Special Care Nusery Units | 75-80\* | 24-27\* | 30 | 60 |
| Other patient areas | 75 | 24 |  |  |
| \*Variable range required |  |  |  |  |

2) Ventilation Systems

A) Air handling systems shall conform to NFPA 90A, Standard for Installation of Air Conditioning and Ventilating Systems.

B) Outdoor intakes shall be located as far as practical but not less than 15 feet from exhaust outlets of ventilation systems, combustion equipment stacks, medical-surgical vacuum systems, plumbing vent stacks, or from areas that may collect vehicular exhaust and other noxious fumes.

C) All ventilation air supplied to operating rooms, delivery rooms and nurseries shall be delivered at or near the ceiling of the area served, and all exhaust air from the area shall be removed near the floor level. At least two exhaust outlets shall be used in all operating and delivery rooms.

D) All central ventilation or air conditioning systems shall be equipped with filters having efficiencies no less than those specified in the following:

|  |  |  |  |
| --- | --- | --- | --- |
| FILTER EFFICIENCIES FOR CENTRAL VENTILATION AND AIR CONDITIONING SYSTEMS IN GENERAL HOSPITALS | | | |
| Area Designation |  | Filter Efficiencies (percent) |
| Sensitive Areas\* |  | 50 |
| Patient Care, Treatment, Diagnostic and Related Areas |  | 50 |
| Food Preparation Areas and Laundries |  | 50 |
| Administrative, Bulk Storage and Soiled Holding Areas |  | 20 |
| \*Includes operating rooms, delivery rooms, nurseries, recovery rooms, and intensive care units. | | |

E) The filter shall be located upstream of the air conditioning equipment. If a prefilter is installed, it shall be located upstream of the air conditioning equipment. The main filter may be located before or after the equipment.

F) Access to filters for changing shall be provided outside of clean areas unless approved otherwise by the Department.

G) All filter efficiencies shall be average atmospheric dust spot efficiencies tested in accordance with the ASHRAE Handbook of Fundamentals.

H) Filter frames shall be durable and shall provide an airtight fit with the enclosing duct work. All joints between filter segments and enclosing duct work shall be gasketed or sealed to provide a positive seal against air leakage.

I) A manometer shall be installed across each filter bed serving central air systems.

J) Ducts that penetrate construction intended for X-ray or other ray protection shall maintain the effectiveness of the protection.

K) Fire and smoke dampers shall be constructed, located and installed in accordance with the requirements of NFPA 90A, Standard for Installation of Air Conditioning and Ventilating Systems. Exception: all systems, regardless of size, that serve more than one smoke or fire zone, shall be equipped with smoke detectors to shut down fans automatically as specified in Paragraph 4-3.1 of NFPA 90A.

L) Laboratory hoods shall meet the following general requirements:

i) The exhaust system shall be separate from the building exhaust system; and

ii) The exhaust duct system shall be of noncombustible corrosion-resistant material consistent with the usage of the hood.

M) Laboratory hoods shall meet the following special requirements:

i) Each hood for the processing of infectious or radioactive materials shall have an adequate face velocity, shall be connected to an independent exhaust system, shall be provided with filters with 99.97 percent efficiency (based on the DOD, diocytlphthalate test method as described in DOD Penetration Test Method MIL STD 282: Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance Test Methods) in the exhaust system, and shall be designed and equipped to permit the safe removal, disposal and replacement of contaminated filters.

ii) Duct systems in which radioactive and strong oxidizing agents are present shall be constructed of corrosion‑resistant material consistent with usage for a minimum distance 10 feet from the hood and shall be equipped with wash-down facilities.

N) The hood and duct system for cooking equipment used in processes producing smoke or grease-laden vapors shall comply with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. That portion of the fire extinguishment system required for protection of the duct system may be omitted when all cooking equipment is served by listed grease extractors.

O) Other exhaust hoods in food preparation centers shall have an adequate exhaust rate.

P) Clean-out openings shall be provided to allow proper cleaning of the duct system serving kitchen and food preparation areas.

Q) The ventilation system for anesthesia storage rooms shall conform to the requirements of NFPA 99, Standard for Health Care Facilities, including the gravity option system.

R) Boiler rooms shall be provided with sufficient outdoor air to maintain proper combustion rates for equipment.

S) Rooms containing heat-producing equipment, such as boiler rooms, heater rooms, food preparation centers, laundries, and sterilizer rooms, shall be ventilated.

T) For general pressure relationships and ventilation of certain hospital areas, see Table F.

(Source: Amended at 35 Ill. Reg. 6386, effective March 31, 2011)