

TABLES & GRAPHICS

Graphic images included in rules are published separately in this tables and graphics section. Graphic images are arranged in this section in the following order: Title Number, Part Number, Chapter Number and Section Number.

Graphic images are indicated in the text of the emergency, proposed, and adopted rules by the following tag: the word “Figure” followed by the TAC citation, rule number, and the appropriate subsection, paragraph, subparagraph, and so on.

Figure 1: 16 TAC Chapter 25 - Preamble

$$PRF = \frac{\sum \left(\frac{RT \text{ Telemetered HSL} \times \text{Available Flag}}{\text{Obligated Capacity}} \right)}{\text{Total Evaluated Period Intervals}} \times 100$$

Figure 2: 16 TAC Chapter 25 - Preamble

$$ARF = \frac{\text{Total Evaluated Period Intervals}}{\text{Total Period Intervals}}$$

Figure: 16 TAC §25.511(b)(2)

$$ARF = \frac{\text{Total Evaluated Period Intervals}}{\text{Total Period Intervals}}$$

Figure: 16 TAC §25.511(b)(4)

$$PRF = \frac{\sum \left(\frac{RT \text{ Telemetered HSL} \times \text{Available Flag}}{\text{Obligated Capacity}} \right)}{\text{Total Evaluated Period Intervals}} \times 100$$

Figure: 16 TAC §25.511(h)

$$Grant \text{ Payment} = \begin{cases} 0, & \text{if } PRF \leq PRF_{50} \\ \left[1 - 10(1 - ARF)^2 \right] \left[\frac{1}{4} + \frac{3}{4} \left(\frac{PRF - PRF_{50}}{PRF_{90} - PRF_{50}} \right) \right] \delta, & \text{if } PRF_{50} < PRF < PRF_{90} \\ \left[1 - 10(1 - ARF)^2 \right] \delta, & \text{if } PRF \geq PRF_{90} \end{cases}$$

Where δ is equal to one-tenth of the applicant’s completion bonus grant award based on the applicant’s notice of eligibility, PRF_{50} denotes the median performance standard, and PRF_{90} denotes the optimal performance standard.

Figure: 16 TAC §25.511(h)(2)

Percentile	50 th	60 th	70 th	80 th	90 th	100 th
<i>PRF_{Year 1}</i>	90	92	94	96	98	100
<i>PRF_{Year 2}</i>	88	90	92	94	96	98
<i>PRF_{Year 3}</i>	92	93	94	95	96	97

Test Period 1 -- The generation resource achieved a PRF of 92 and an ARF of 1.0. Its PRF is above the median value ($PRF_{50} = 90$) but below the optimal performance standard ($PRF_{90} = 98$). Therefore, its completion bonus grant payment for this test period would be:

$$[1 - 10(1 - 1)^2] \left[\frac{1}{4} + \frac{3}{4} \left(\frac{92 - 90}{98 - 90} \right) \right] (\$1,200,000) = \$525,000$$

Test Period 2 -- The generation resource achieved a PRF of 85 and an ARF of 1.0. Its PRF is below the median value ($PRF_{50} = 88$). The applicant receives no grant payment for this test period.

Test Period 3 - The generation resource achieved a PRF of 96 and an ARF of 0.80. Its PRF is equal to the optimal performance standard ($PRF_{90} = 96$), but its payment will be discounted as a result of its ARF being less than 0.9. Its completion bonus grant payment for this test period would be:

$$[1 - 10(1 - 0.80)^2](\$1,200,000) = \$720,000$$

Figure: 19 TAC §4.54(b)

ASSESSMENT EXEMPTIONS					
Assessment Type	Assessment Version	Minimum Score	Combined?	TSI Exemption?	Exemption Expiration
ACT					
ACT Composite + English	Prior to 2/15/23	Composite 23 and English 19	May combine with scores on test administered after 2/15/23	English Language Arts and Reading (ELAR) Section	5 years from date of test
ACT Composite + Math	Prior to 2/15/23	Composite 23 and Math 19	N/A	Mathematics Section	5 years from date of test
ACT Math	After 2/15/23	Score of 22; No Composite	N/A	Mathematics Section	5 years from date of test
ACT English + Reading	After 2/15/23	Combined score of 40; No Composite	May combine with scores on test administered prior to 2/15/23	ELAR Section	5 years from date of test
SAT					
SAT Evidence-Based Reading & Writing (EBRW)	After 3/5/16	EBRW 480	Not allowable	ELAR Section	5 years from date of test
SAT Mathematics	After 3/5/16	Math 530	Not allowable	Mathematics Section	5 years from date of test
GED					
GED Mathematical Reasoning		Mathematical Reasoning 165	N/A	Mathematics Section	5 years from date of test
GED Reasoning Through Language Arts (RLA)		RLA 165	N/A	ELAR Section	5 years from date of test
HiSET					
HiSET Mathematics Subtest		Math Subtest minimum of 15	N/A	Mathematics Section	5 years from date of test

HiSET Reading Subtest, Writing Subtest, and Essay		Reading minimum of 15, Writing minimum of 15, and Essay minimum of 4.	N/A	ELAR Section	5 years from date of test
STAAR EOC					
STAAR EOC - English III		English III EOC 4000	N/A	ELAR Section	5 years from date of test
STAAR EOC – Algebra II		Algebra II EOC 4000	N/A	Mathematics Section	5 years from date of test

Figure: 19 TAC §4.54(c)

COURSE AND PROGRAM COMPLETION EXEMPTIONS				
Student Category	Institution Where Course or Program Completed	Applicability	Exemption	Exemption Expiration
High School Student who successfully completes College Prep Course (TEC 28.014)	School district partners with any public, private, independent institution of higher education	Applies at the institution of higher education that partners with the school district in which the student is enrolled to provide course(s), or at an institution that accepts the student as TSI-met based on course completion	Corresponding English Language Arts and Reading (ELAR) and/or Mathematics sections	24 months from date of high school graduation & student must enroll in college-level course in exempted content within first year of enrollment at institution
Student enrolled and met readiness standards in mathematics and/or ELAR by institution	Any Texas public, private, independent institution of higher education or accredited out-of-state institution	Student has met college readiness standards in mathematics, reading, or writing as determined by receiving institution	Corresponding ELAR and/or Mathematics sections	No Expiration
Student completed college level coursework with C or better	Any Texas public, private, independent institution of higher education or accredited out-of-state institution	A student with a transcribed grade of 'C' or better is not subject to TSI in accordance with Rule 4.52(b).	Corresponding ELAR and/or Mathematics sections	No Expiration

College level coursework in a dual credit course as defined by Rule 4.83(11), including a College Connect dual credit course offered under Rule 4.86, with C or better.	Any Texas public institution of higher education	A student with a transcribed grade of 'C' or better is not subject to TSI in accordance with Rule 4.54(c)(2)(b).	Corresponding ELAR and/or Mathematics sections	No Expiration
Student earned Texas First Diploma	Any Texas public institution of higher education	A student who has earned the Texas First Diploma is TSI-exempt under Rule 4.54(c)(3).	ELAR and Mathematics sections	No Expiration

~~[TABLE (1)]~~

SOUND TRANSMISSION LIMITATIONS IN FACILITIES

	Airborne sound transmission class (STC) ¹	
	Partitions	Floors
New Construction		
Patient room to patient room	45	40
Public space to patient room ²	55	40
Service areas to patient room ³	65	45
Patient room access corridor ⁴	45	45
Consultation room	50	40
Existing construction		
Patient room to patient room	35	40
Public space to patient room ²	40	40
Service areas to patient room ³	45	45

Types of wall construction and the associated STC ratings are given in Fire Resistance Design Manual available from Gypsum Association, 810 First Street NE, #510, Washington, DC 20002.

NOTE: The listed STC rating requirements are for a reasonable degree of privacy. Rooms requiring confidentiality, such as examination rooms and rooms with extraordinary noise sources, may require additional sound insulation including acoustical doors and seals.

¹Sound transmission class (STC) shall be determined by tests in accordance with methods set forth in ASTM E90 and ASTM E4 13. Where partitions do not extend to the structure above, sound transmission through ceilings and composite STC performance must be considered.

²Public space includes corridors (except patient room access corridors), lobbies, dining rooms, recreation rooms, treatment rooms, and similar space.

³Service areas include kitchens, elevators, elevator machine rooms, laundries, garages, maintenance rooms, boiler and mechanical equipment rooms, and similar spaces of high noise. Mechanical equipment located on the same floor or above patient rooms, offices, nurses stations, and similar occupied space shall be effectively isolated from the floor.

⁴Patient room access corridors contain composite walls with door/windows and have direct access to patient rooms. Junctions and joints of walls and partitions shall be sealed to prevent sound leakage under, over, or through the separation. Outlets shall be insulated and separated. Openings around ducts, conduits and pipes shall be sealed to minimize sound transmission.

Figure: ~~26[25]~~ TAC §510.131(b)~~[§134.131(b)]~~

~~[TABLE (2)]~~

FLAME SPREAD AND SMOKE PRODUCTION LIMITATIONS FOR INTERIOR FINISHES

	<u>Flame Spread Rating</u>	<u>Smoke Development Rating</u>	
Walls and Ceilings¹	Exit Access, Storage Rooms, and Areas of Unusual Fire Hazard	Class A ² NFPA 255	450 or less NFPA 258 ³
	All other Areas	Class B ² NFPA 255	450 or less NFPA 258 ³
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Floors⁴	No requirements	No requirements	

¹Textile materials having a napped, tufted, looped, woven, non-woven, or similar surface shall not be applied to walls or ceilings unless such materials have a Class A rating and are installed in rooms or areas protected by an approved automatic sprinkler system. Cellular or foamed plastic materials shall not be used as interior wall and ceiling finishes.

²Products required to be tested in accordance with National Fire Protection Association 255, Standard Method of Test of Surface Burning Characteristics of Building Materials, 1996 edition, shall be Class A (flame spread 0-25) or class B (flame spread 26-75).

³Smoke development rating, an average of flaming and non flaming values as determined by National Fire Protection Association 258, Standard Research Test Method for Determining Smoke Generation of Solid Materials, 1997 Edition.

⁴ Refer to §510.122(d)(1)(F)~~[See §134.122(d)(1)(F)]~~ of this title for requirements relative to carpeting in areas that may be subject to use by handicapped individuals. Such areas include offices and waiting spaces as well as corridors that might be used by handicapped employees, visitors, or staff.

Figure 26[25] TAC §510.131(c)[§134.131(e)]

[TABLE (3)]

VENTILATION REQUIREMENTS FOR FACILITIES¹

Area designation	Air movement relationship to adjacent areas ²	Minimum air changes of outdoor air per hour ³	Minimum total air changes per hour ⁴	All air exhausted directly to outdoors ⁵	Recirculated by means of room units ⁶	Relative humidity (%) ⁷	Design temperature (degrees F) ⁸
NURSING							
Patient room	---	2	2	---	---	---	70-75
Patient toilet room	In	---	10	Y	---	---	---
Airborne infection isolation room ⁹	In	2	12	---	No	---	75
Isolation alcove or anteroom ⁹	Out	---	10	Y	No	---	---
Patient corridor	---	---	2	---	---	---	---
ANCILLARY							
Radiology¹⁰							
X-ray (diagnostic and treatment)	---	---	6	---	---	---	75
Darkroom	In	---	10	Y	No	---	---
Laboratory							
General ¹⁰	---	2	6	---	---	---	75
Sterilizing	In	---	10	Y	No	---	75
Pharmacy	Out	---	4	---	---	---	75
DIAGNOSTIC AND TREATMENT							
Examination room	---	---	6	---	---	---	75
Medication room	---	---	4	---	---	---	75
Treatment room	---	---	6	---	---	---	75
Physical therapy	In	---	6	---	---	---	75

and hydrotherapy

Soiled workroom	In	---	10	Y	No	---	---
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or holding

Clean workroom or holding	Out	---	4	---	---	---	---
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STERILIZING AND SUPPLY

Sterilizer equipment room ²	In	---	10	Y	No	---	---
--	----	-----	----	---	----	-----	-----

Sterile storage	--	---	4	---	---	70 (max)	---
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SERVICE

Food preparation center ¹¹	--	10	---	---	No	---	---
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Warewashing	In	---	10	Y	No	---	---
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Dietary day storage	In	---	2	---	---	---	---
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Laundry, general	--	---	10	Y	---	---	---
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Soiled linen (sorting and storage)	In	---	10	Y	No	---	---
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Clean Linen storage	--	---	2	---	---	---	---
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Soiled linen and trash chute room	In	---	10	Y	No	---	---
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Bedpan room	In	---	10	Y	---	---	---
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Bathroom/Toilet room	--	---	10	Y	---	---	75
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Janitor's closet	In	---	10	Y	No	---	---
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ADMINISTRATIVE AND SUPPORT SERVICE

	--	--	2	---	---	30(min)	68-73
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¹¹The ventilation rates in this table cover ventilation for comfort, as well as for asepsis and odor control in areas of facilities that directly affect patient care and are determined based on healthcare entities being predominantly "No Smoking" entities. Where smoking may be allowed, ventilation rates will need adjustment. Areas where specific ventilation rates are not given in the table shall be ventilated in accordance with American Society of Heating Refrigeration and Air-conditioning Engineers Standard 62-1989, Ventilation for Acceptable Indoor Air Quality, and American Society of Heating Refrigeration and Air-conditioning Engineers, Handbook of Applications, 1991 edition. Specialized patient care areas, including organ transplant units, burn units, specialty procedure rooms, etc., shall have additional ventilation provisions for air quality control as may be appropriate. Occupational Safety

and Health Administration (OSHA) standards and/or National Institute for Occupational Safety and Health (NIOSH) criteria require special ventilation requirements or employee health and safety within health care facilities.

2Design of the ventilation system shall provide air movement which is generally from clean to less clean areas. If any form of variable air volume or load shedding system is used for energy conservation, it must not compromise the corridor-to-room pressure balancing relationships or the minimum air changes required by the table. Except where specifically permitted by exit corridor plenum provisions of NFPA 90A, the volume of infiltration and exfiltration shall not exceed 15% of the minimum total air changes per hour, or 50 cfm, whichever is larger, as defined by the table.

3To satisfy exhaust needs, replacement air from the outside is necessary. Table 3 does not attempt to describe specific amounts of outside air to be supplied to individual spaces except for certain areas such as those listed. Distribution of the outside air, added to the system to balance required exhaust, shall be as required by good engineering practice. Minimum outside air quantities shall remain constant while the system is in operation.

4Number of air changes may be reduced when the room is unoccupied if provisions are made to ensure that the number of air changes indicated is reestablished any time the space is being utilized. Adjustments shall include provisions so that the direction of air movement shall remain the same when the number of air changes is reduced. Areas not indicated as having continuous directional control may have ventilation systems shut down when space is unoccupied and ventilation is not otherwise needed, if the maximum infiltration or exfiltration permitted in Note 2 is not exceeded and if adjacent pressure balancing relationships are not compromised.

5Air from areas with contamination and/or odor problems shall be exhausted to the outside and not recirculated to other areas. Note that individual circumstances may require special consideration for air exhaust to the outside.

6Recirculating room Heating, Ventilating, and Air Conditioning (HVAC) units refers to those local units that are used primarily for heating and cooling of air, and not disinfection of air. Because of cleaning difficulty and potential for buildup of contamination, recirculating room units shall not be used in areas marked "No." However, for airborne infection control, air may be recirculated within individual isolation rooms if 99.97% efficiency filters are used. Isolation and intensive care unit rooms may be ventilated by reheat induction units in which only the primary air supplied from a central system passes through the reheat unit. Gravity-type heating or cooling units such as radiators or convectors shall not be used in operating rooms and other special care areas. Recirculating devices with 99.97% efficiency filters may have potential uses in existing facilities as interim, supplemental environmental controls to meet requirements for the control of airborne infectious agents. Limitations in design must be recognized. The design of either portable or fixed systems should prevent stagnation and short circuiting of airflow. The supply and exhaust locations should direct clean air to areas where health care workers are likely to work, across the infectious source, and then to the exhaust, so the health care worker is not in a position between the infectious source and the exhaust location. The design of such systems should also allow for easy access for scheduled preventive maintenance and cleaning.

7The ranges listed are the minimum and maximum limits where control is specifically needed.

8Where temperature ranges are indicated, the systems shall be capable of maintaining the rooms at any point within the range. A single figure indicates a heating or cooling capacity of at least the indicated temperature. This is usually applicable when patients may be undressed and require a warmer environment. Additional heating may be required in these areas. Nothing in these rules shall be construed as precluding the use of temperatures lower than those noted when the patients' comfort and medical conditions make lower temperatures desirable. Unoccupied areas such as storage rooms shall have temperatures appropriate for the function intended.

9The infectious disease isolation room described here is to be used for isolating the airborne spread of infectious diseases, such as measles, varicella, or tuberculosis. The design of airborne infection isolation (All) rooms should include the provision for normal patient care during periods not requiring isolation precautions. Supplemental recirculating devices may be used in the patient room, to increase the equivalent room air exchanges; however, such recirculating devices do not provide the outside air requirements. Air may be recirculated within individual isolation rooms if HEPA filters are used. Exhaust systems for infectious isolation rooms shall exhaust no other areas or rooms. Rooms with reversible airflow provisions for the purpose of switching between protective environment and All functions are not acceptable.

10When required, appropriate hoods and exhaust devices for the removal of noxious gases or chemical vapors shall be provided. Laboratory hoods shall meet the following general standards:

1. Have an average face velocity of at least 75 feet per minute.
2. Be connected to an exhaust system to the outside which is separate from the building exhaust system.
3. Have an exhaust fan located at the discharge end of the system.
4. Have an exhaust duct system of noncombustible corrosion-resistant material as needed to meet the planned usage of the hood.

Laboratory hoods shall meet the following special standards:

1. Fume hoods and their associated equipment in the air stream, intended for use with perchloric acid and other strong oxidants, shall be constructed of stainless steel or other material consistent with special exposures, and be provided with a water wash and drain system to permit periodic flushing of duct and hood. Electrical equipment intended for installation within the duct shall be designed and constructed to resist penetration by water. Lubricants and seals shall not contain organic materials. When perchloric acid or other strong oxidants are only transferred from one container to another, standard laboratory fume hoods and associated equipment may be used in lieu of stainless steel construction. Fume hood intended for use with radioactive isotopes shall be constructed of stainless steel or other material suitable for the particular exposure and shall comply with National Fire Protection Association 801, Facilities for Handling Radioactive Materials, 1995 edition (NFPA 801).

NOTE: RADIOACTIVE ISOTOPES USED FOR INJECTIONS, ETC., WITHOUT PROBABILITY OF AIRBORNE PARTICULATES OR GASES MAY BE PROCESSED IN A CLEAN WORKBENCH-TYPE HOOD WHERE ACCEPTABLE TO THE NUCLEAR REGULATORY COMMISSION.

2. In new installations and construction or major renovation work, each hood used to process infectious or radioactive materials shall have a minimum face velocity of 150 feet per minute with suitable static pressure operated dampers and alarms to alert staff of fan shutdown. Each hood shall have filters with an efficiency of 99.97% (based on the dioctyl-phtalate test method) in the exhaust stream, and be designed and equipped to permit the removal, disposal, and replacement of contaminated filters. Filters shall be as close to the hood as practical to minimize duct contamination. Hoods that process radioactive materials shall meet the requirements of the Nuclear Regulatory Agency.

11Food preparation centers shall have ventilation systems whose air supply mechanisms are interfaced appropriately with exhaust hood controls or relief vents so that exfiltration or infiltration to or from exit corridors does not compromise the exit corridor restrictions of NFPA 90A, the pressure requirements of NFPA 96, or the maximum defined in the table. The number of air changes may be reduced or varied to any extent required for odor control when the space is not in use.

Figure: ~~26~~[25] TAC ~~§510.131(d)~~[§134.131(d)]

[TABLE (4)]

**FILTER EFFICIENCIES FOR CENTRAL VENTILATION AND AIR
CONDITIONING SYSTEMS**

Area Designation	Number of Filter Beds	Filter Efficiencies (%)	
		Filter Bed No. 1	Filter Bed No. 2
Patient care and treatment, diagnostic and related areas	2	25	90
Laboratories and sterile storage	1	80	
Administrative, bulk storage, soiled holding areas, food preparation areas, and laundries	1	30	

NOTES: Additional roughing or prefilters should be considered to reduce maintenance required for filters with efficiency higher than 75%. The filtration efficiency ratings are based on American Society of Heating Refrigeration and Air-conditioning Engineers, Standard 52-92, 1992 edition.

[TABLE (5)]

HOT WATER USE

	<u>Clinical</u>	<u>Dietary</u>	<u>Laundry</u>
Gallons per hour per bed¹	3	2	2
Temperature (°F)	110 ²	140 ³	140 ⁴

1Quantities indicated for design demand of hot water are for general reference minimums and shall not substitute for accepted engineering design procedures using actual number and types of fixtures to be installed. Design will also be affected by temperatures of cold water used for mixing, length of run, and insulation relative to heat loss. As an example, total quantity of hot water needed will be less when temperature available at the outlet is very nearly that of the source tank, and cold water used for tempering is relatively warm.

2Hot water temperature at point of use for handwashing and bathing

3Provisions shall be made to provide 180 F hot water at the laundry equipment when needed. (This may be by steam jet or separate booster heater.)

4However, it is emphasized that this does not imply that all water used will be at this temperature. Water temperatures required for acceptable laundry results shall vary according to type of cycle, time of operation, and formula of soap and bleach as well as type and degree of soil. Lower temperatures may be adequate for most procedures in many facilities but the higher 160 F should be available when needed for special conditions.

Figure: ~~26~~[25] TAC ~~§510.131(f)~~[§134.131(f)]

[TABLE (6)]

STATION OUTLETS FOR OXYGEN, VACUUM, AND MEDICAL AIR SYSTEMS

Location	Number of Outlets*	
	Oxygen	Vacuum
Patient rooms	1	1
Examination/Treatment rooms	1	1
Isolation room	1	1
Emergency care secure holding area	1	1
Emergency care exam/treatment room	1	1

* Number of outlets indicated is required per each bed location or treatment unit.

Figure: 30 TAC §117.1120(c)

$$\text{System Cap} = \sum_{i=1}^N (H_i \times R_i)$$

Where:

System Cap = NO_x emission cap for an electric power generating system in pounds per day on a rolling 30-day average basis;

i = each EGF in the electric power generating system;

N = the total number of EGFs in the system cap;

H_i = the average of the daily heat input for each EGF in the system cap, in million British thermal units per day, as certified to the executive director, for any 30-day period in 2019, 2020, 2021, 2022, or 2023; the same 30-day period must be used for all EGFs in the emission cap; and

R_i = the applicable emission specification in §117.1105 of this title for each EGF.