State of Connecticut
Regulation of
Department of Energy and Environmental Protection
Concerning
NOx Emissions from Fuel-Burning Emission Units

Section 1. The Regulations of Connecticut State Agencies are amended by adding section 22a-174-22e as follows:

(NEW) Sec. 22a-174-22e. Control of nitrogen oxides emissions from fuel-burning equipment at major stationary sources of nitrogen oxides.

(a) **Definitions.** For the purposes of this section, the following definitions apply. Any term not defined shall be as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies:

(1) "Affected unit" means a fossil-fuel fired:
(A) Stationary source that serves a generator with a nameplate capacity of 15 MW or more; or
(B) Boiler or indirect heat exchanger with a maximum heat input capacity of 250 MMBtu/hr or more.
(2) "Boiler serving an electric generating unit" or "boiler serving an EGU" means a steam generating unit used for generating electricity.
(3) "Combined cycle combustion turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator, that recovers heat from the turbine exhaust gases to generate steam that drives a steam turbine that drives an additional electric generator.
(4) "Combined heat and power system" means a steam-generating unit that simultaneously produces both electric power and useful thermal energy from the same primary energy source.
(5) "Combustion turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator or other industrial equipment.
(6) "Cyclone boiler" means a boiler that combusts fuel in a horizontal water-cooled cylinder before releasing the combustion gases into the boiler.
(7) "Daily block average" means the arithmetic mean of all hourly emission concentrations or rates recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight).
(8) "Digester gas" means a mixture of primarily methane and carbon dioxide produced by a bacterial degradation of organic matter under anaerobic conditions and used as a fuel.
(9) "Duct burner" means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a combined cycle combustion turbine, to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.
(10) "Electric generating unit" or "EGU" means a combustion or steam generating source used for generating electricity that delivers all or part of its power to the electric power distribution grid for commercial sale.
(11) "Electricity supplier" means "electric supplier" as defined in section 16-1(a)(30) of the Connecticut General Statutes, and "municipal electric utility" as defined in section 7-233b(8) of the

Connecticut General Statutes.

(12) "Emergency" means an unforeseeable condition that is beyond the control of the owner or operator of an emergency engine that:

(A) Results in an interruption of electrical power from the electricity supplier to the premises;

(B) Results in a deviation of voltage from the electricity supplier to the premises of three percent (3%) above or five percent (5%) below standard voltage in accordance with section 16-11-115 of the RCSA;

(C) Requires an interruption of electrical power from the electricity supplier to the premises enabling the owner or operator to perform emergency repairs;

(D) Requires operation of the emergency engine to minimize damage from fire, flood, or any other catastrophic event, natural or man-made; or

(E) Requires operation of the emergency engine under an agreement with the New England region system operator during the period of time the New England region system operator is implementing voltage reductions or involuntary load interruptions within the Connecticut load zone in accordance with Action 6 of the ISO New England Operating Procedure No. 4 - Action During a Capacity Deficiency, effective June 24, 2015, or subsequent revisions thereto.

(13) "Emergency engine" means a stationary reciprocating engine or a combustion turbine that is used as a means of providing mechanical or electrical power only during the following periods:

(A) Emergencies;

(B) Testing;

(C) Scheduled maintenance;

(D) When the facility owner or operator interrupts power to the facility to perform construction, maintenance or repair of the power distribution system for the facility or portion of the facility; or

(E) When the electricity supplier makes a scheduled interruption of power to the facility so that the electricity supplier may perform construction, maintenance or repair of the primary power distribution system for the facility.

With the exception of a reciprocating engine or combustion turbine operated pursuant to subparagraph (E) of the definition of "emergency," "emergency engine" does not include a reciprocating engine or combustion turbine for which the owner or operator is a party to any other agreement to sell electrical power from such reciprocating engine or combustion turbine to an electricity supplier, or otherwise receives any reduction in the cost of electrical power for agreeing to produce power during periods of reduced voltage or reduced power availability.

(14) "Existing emission unit" means a source for which construction commenced prior to the effective date of this section.

(15) "Force majeure" means an event caused by circumstances beyond the control of the owner or operator of the affected facility, its contractors, or any entity controlled by the affected facility that prevents the owner or operator from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the affected facility's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility.

(16) "Gas" or "gaseous fuel" means natural gas, propane, or any other fuel that is in the gaseous state under standard conditions, except for landfill gas or digester gas.

(17) "Industrial/commercial/institutional boiler" or "ICI boiler" means an indirect heat exchanger that heats water to supply heat to an industrial, commercial, or institutional operation.

(18) "Landfill gas" means a mixture of primarily methane and carbon dioxide produced by bacterial degradation of organic matter in a landfill and used as a fuel.

(19) "Non-ozone season" means the period beginning October 1 of a calendar year and ending on April 30 of the following calendar year, inclusive.

(20) "Other oil" means a fuel that is liquid at standard conditions and is not residual oil.

(21) "Ozone forecast" means the eight-hour ozone forecast issued as an air quality index one or more days in advance by the commissioner and posted on the Department's website or otherwise provided by the Department for the regulated community.

(22) "Ozone season" means the period beginning May 1 of a calendar year and ending on September 30 of the same year, inclusive.

(23) "Phase 1" means the first implementation phase of this section, beginning June 1, 2018 and ending May 31, 2022.

(24) "Phase 2" means the second implementation phase of this section, beginning June 1, 2022 and continuing thereafter.

(25) "Reciprocating engine" means an internal combustion engine in which a rotating crankshaft is driven by reciprocating motion of piston or pistons.

(26) "Relative accuracy test audit" or "RATA" means the CEMS performance test procedure conducted pursuant to 40 CFR Part 60 or 75.

(27) "RCSA" means Regulations of Connecticut State Agencies.

(28) "Simple cycle combustion turbine" means a combustion turbine that does not recover heat from its exhaust gases.

(29) "Temporary unit" means any gaseous or liquid fuel fired unit that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers or platforms. A unit is not a "temporary unit" if any one of the following conditions exists:

(A) The unit is attached to a foundation;

(B) The unit or a replacement remains at the location within the facility and performs the same or similar function for more than 12 consecutive months. A temporary unit that replaces a temporary unit at a location and performs the same or similar function will be included in calculating the consecutive time period;

(C) The unit is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years and operates at that facility for at least three months of the year; or

(D) The unit is moved from one location to another within the facility, but continues to perform the same or similar function and serve the same electricity, steam or hot water system in an attempt to circumvent the residence time specification of this definition.

(30) "Test stand" or "test cell" means the collection of all equipment and activities associated with the apparatus used for testing uninstalled engines.

(31) "Tune-up" means adjustments made to an emission unit to improve efficiency with respect to combustion operations.

(b) **Applicability.**

(1) This section applies to the owner or operator of the listed emission units, including temporary units, located at a major stationary source for NOx:

(A) A boiler serving an electric generating unit;

(B) A simple cycle combustion turbine with a maximum rated capacity of five MMBtu/hr or more;

(C) A combined cycle combustion turbine with a maximum rated capacity of five MMBtu/hr or more;

(D) An ICI boiler with a maximum rated capacity of five MMBtu/hr or more;

(E) A reciprocating engine with a maximum rated capacity of three MMBtu/hr or more;

(F) Equipment that combusts fuel for heating materials, including air, and that has a maximum rated capacity of five MMBtu/hr or more; or

(G) Any other stationary fuel-burning equipment with a maximum rated capacity of five

MMBtu/hr or more.

(2) This section applies to the owner or operator of an emission unit that is subject to RCSA section 22a-174-22f and either:

(A) On any day on and after the effective date of RCSA section 22a-174-22f, exceeds the applicable daily emission threshold of subsection (e)(2) of RCSA section 22a-174-22f; or

(B) Is an affected unit.

(c) **Exemptions and exceptions.**

(1) The requirements of this section shall not apply to a mobile source.

(2) The requirements of this section shall not apply to an emissions unit that is a type of incinerator for which an emissions guideline has been issued under Section 129 of the Act;

(3) The requirements of subsections (d)(6), (d)(14), (i), (*l)*, and (m) of this section shall not apply to the following reciprocating engines:

(A) Used to test or provide emergency power or alternative power for safety-related structures, systems and components or other Nuclear Regulatory Commission-mandated systems at an electric generating facility licensed under 10 CFR 50; or

(B) Located at a hospital or other health care facility and used to meet standards of The Joint Commission or the National Fire Protection Association for emergency electrical power systems.

(4) The requirements of this section shall not apply to a reciprocating engine operated by an EAS Participant, as defined in 47 CFR 11.2, to meet the equipment operational readiness requirements of 47 CFR 11.35.

(5) Emergency engines are exempt from the following requirements of this section:

(A) The emissions limitations of subsection (d)(6);

(B) The tune-up requirements of subsection (i);

(C) The testing requirements of subsection (*l)*;

(D) The monitoring requirements of subsection (m); and

(E) If an owner or operator operates an emergency engine in compliance with the Tier 4 NOx emissions standards of 40 CFR 1039, Subpart B for model year 2013 or later, such engine is exempt from the restriction of subsection (d)(14) of this section.

(6) The requirements of subsections (d), (i), (*l)*, and (m) of this section shall not apply to the owner or operator of a test stand or test cell, for emissions from the use of such test stand or test cell.

(7) The requirements of subsections (d)(3), (d)(4), (d)(6), (i), (*l)*, and (m) of this section shall not apply to the emission units listed in subparagraphs (A) and (B) of this subdivision. The owner or operator of an emission unit operating pursuant to this subdivision shall not operate such emission unit on any day for which the Commissioner has forecast that ozone levels will be “moderate to unhealthy for sensitive groups,” “unhealthy for sensitive groups,”, “unhealthy” or “very unhealthy.” If subsequent to the initial forecast of “moderate to unhealthy for sensitive groups” or greater, the forecast is revised to “moderate” or lower, the owner or operator is no longer prohibited from operating the emission unit for the remainder of that day. An owner or operator of an emission unit may rely on an ozone forecast of “moderate” or lower obtained after 3 PM on the preceding day. Subsequent changes to the ozone forecast after 3 PM that forecast ozone levels of “moderate to unhealthy for sensitive groups” or greater shall not obligate the owner or operator to refrain from operation of the emission unit at the facility on the following day. Emission units that may operate pursuant to this exemption include the following:

(A) Fuel-burning equipment that is the subject of or used for research and development; or

(B) Compression-ignition reciprocating engines used exclusively for training personnel in the operation and maintenance of such engines aboard submarines.

(8) The requirements of subsections (d)(3), (i), (*l*), and (m) of this section shall not apply to a boiler that operates to supply steam used for the startup of a nuclear reactor or to supply hot water,

heat or steam for the protection of facility systems when reactor-heated steam is not available at an electric generating facility licensed under 10 CFR 50.

(9) The requirements of this section shall not apply to non-road engines, as defined in 40 CFR Section 1068.30 or Section 89.2.

(10) With the exception of a reciprocating engine or combustion turbine operated pursuant to subparagraph (E) of the definition of "emergency," the exemptions provided in subdivision (3) or (4) of this subsection are not available for a reciprocating engine or combustion turbine for which the owner or operator is party to an agreement to sell electrical power from such reciprocating engine or combustion turbine to an electricity supplier or an owner or operator who otherwise receives any reduction in the cost of electrical power for agreeing to produce power during periods of reduced voltage or reduced power availability.

(11) For an emission unit subject to this section pursuant to subsection (b)(2)(A) of this section, if the owner or operator requests from the commissioner and is granted an enforceable limitation on daily NOx emissions to a level below the applicable daily NOx threshold in RCSA section 22a-174-22f(e)(2), the emission unit is no longer subject to this section. Such an enforceable limitation shall be issued in an order or a modification to an existing permit.

(d) **Emissions limitations.**

(1) The owner or operator of an emission unit shall not cause or allow an emission unit to exceed the applicable emissions limitations specified in this subsection unless such owner or operator has undertaken one of the following actions:

(A) Implement an alternative compliance mechanism as provided in subsection (g) of this section;

(B) Operate under a case-by-case RACT determination as provided in subsection (h) of this section; or

(C) Cease operation as provided in subsection (f) of this section.

(2) **Boilers serving EGUs.**

(A) For Phase 1, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a boiler serving an EGU:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)	Coal-fired (lb/MMBtu)
Cyclone boiler	0.30	0.43	0.43	0.43
Other boiler	0.20	0.25	0.20	0.28

(B) For Phase 1, the following ozone season and non-ozone season emissions limitations apply to the owner or operator of a boiler serving an EGU that is also an affected unit. The averaging period for the ozone season limit is May 1 through September 30, and the averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)	Coal-fired (lb/MMBtu)
Ozone season limit (5 month average)	0.10	0.20	0.10	0.15
Non-ozone season limit (7 month average)	0.15	0.15	0.15	0.15

(C) For Phase 2, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a boiler serving an EGU:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)	Coal-fired (lb/MMBtu)
Boiler serving an EGU	0.10	0.20	0.10	0.12

(D) For Phase 2, the following non-ozone season emissions limitation applies to the owner or operator of a boiler serving an EGU that is also an affected unit. The averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)	Coal-fired (lb/MMBtu)
Non-ozone season limit (7 month average)	0.15	0.15	0.15	0.15

(3) **ICI Boilers.**

(A) For Phase 1, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of an ICI boiler:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)
Boilers with a maximum rated capacity greater than or equal to 5 MMBtu/hr	0.20	0.25	0.20

(B) For Phase 1, the following ozone season and non-ozone season emissions limitations apply to the owner or operator of an ICI boiler that is also an affected unit. The averaging period for the ozone season limit is May 1 through September 30, and the averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)
Ozone season limit (5 month average)	0.10	0.20	0.15
Non-ozone season limit (7 month average)	0.15	0.15	0.15

(C) For Phase 2, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of an ICI boiler:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)
Boilers with a maximum rated capacity greater than or equal to 5 and less than 25 MMBtu/hr	0.20	0.25	0.20
Boilers with a maximum rated capacity greater than or equal to 25 MMBtu/hr and less than 100 MMBtu/hr	0.05	0.20	0.10
Boilers with a maximum rated capacity of greater than or equal to 100 MMBtu/hr	0.10	0.20	0.15

(D) For Phase 2, the following non-ozone season emissions limitation applies to the owner or operator of an ICI boiler that is also an affected unit. The averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired (lb/MMBtu)	Residual oil-fired (lb/MMBtu)	Other oil-fired (lb/MMBtu)
Non-ozone season limit (7 month average)	0.15	0.15	0.15

(4) **Simple cycle combustion turbines.**

(A) For Phase 1, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l)* of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a simple cycle combustion turbine:

	Gas-fired	Other oil-fired
Simple cycle combustion turbine	55 ppmvd	75 ppmvd

(B) For Phase 1, the following ozone season and non-ozone season emissions limitations apply to the owner or operator of a simple cycle combustion turbine that is also an affected unit. The averaging period for the ozone season limit is May 1 through September 30, and the averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired	Other oil-fired
Ozone season limit (5 month average)	50 ppmvd or 0.18 lb/MMBtu	50 ppmvd or 0.19 lb/MMBtu
Non-ozone season limit (7 month average)	0.15 lb/MMBtu	0.15 lb/MMBtu

(C) For Phase 2, the following emissions limitations, based on a daily block average for an

emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a simple cycle combustion turbine:

	Gas-fired	Other oil-fired
Simple cycle combustion turbine	40 ppmvd	50 ppmvd

(D) For Phase 2, the following non-ozone season emissions limitation applies to the owner or operator of a simple cycle combustion turbine that is also an affected unit. The averaging period for the non-ozone season limit is October 1 through April 30:

	Other oil-fired
Non-ozone season limit (7 month average)	0.15 lb/MMBtu

(5) **Combined cycle combustion turbines.**

(A) For Phase 1, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a combined cycle combustion turbine:

	Gas-fired	Other oil-fired
Combined cycle combustion turbine	42 ppmvd	65 ppmvd

(B) For Phase 1, the following non-ozone season emissions limitations apply to the owner or operator of a combined cycle combustion turbine that is also an affected unit. The averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired	Other oil-fired
Non-ozone season limit (7 month average)	0.15 lb/MMBtu	0.15 lb/MMBtu

(C) For Phase 2, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a combined cycle combustion turbine:

	Gas-fired	Other oil-fired
Combined cycle combustion turbine	25 ppmvd	42 ppmvd

(D) For Phase 2, the following non-ozone season emissions limitation applies to the owner or operator of a combined cycle combustion turbine that is also an affected unit. The averaging period for the non-ozone season limit is October 1 through April 30:

	Gas-fired	Other oil-fired
Non-ozone season limit (7 month average)	0.15 lb/MMBtu	0.15 lb/MMBtu

(6) **Reciprocating engines.**

(A) For Phase 1, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or

operator of a reciprocating engine:

	Gas-fired (g/bk hp-hr)	Other oil-fired (g/bk hp-hr)	Landfill gas or digester gas, alone or fired with gas (g/bk hp-hr)
Reciprocating engine	2.5	8.0	2.5

(B) For Phase 2, the following emissions limitations, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system, apply to the owner or operator of a reciprocating engine:

	Gas-fired (g/bk hp-hr)	Other oil-fired (g/bk hp-hr)	Landfill gas or digester gas, alone or fired with gas (g/bk hp-hr)
Rich burn reciprocating engine	1.5	1.5	2.0
Lean burn reciprocating engine	1.5	2.3	2.0

(7) For an emission unit subject to this section pursuant to subsection (b)(2) of this section, the owner or operator shall comply with the emissions limitations identified in subdivision (2) through subdivision (6) of this subsection as appropriate to the type of emission unit.

(8) For an emission unit of a unit type that is not identified in subsections (d)(2) through (d)(6) or (d)(9) of this section, which unit combusts fuel for heating materials including air, NOx emissions shall not exceed 180 ppmvd, corrected to 12% carbon dioxide, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system.

(9) For a fuel-burning emission unit of a type listed in subparagraphs (A) through (E) of this subdivision that is fired by a fuel other than a fuel identified with an emissions limitation in subdivision (2) through subdivision (6) of this subsection, NOx emissions shall not exceed 0.3 lb/MMBtu for Phase 1 and 0.1 lb/MMBtu for Phase 2, based on a daily block average for an emission unit with a NOx CEM system, or as determined by NOx emission testing pursuant to subsection (*l*) of this section for an emission unit without a NOx CEM system:

(A) A boiler serving an EGU;

(B) A simple cycle combustion turbine;

(C) A combined cycle combustion turbine;

(D) An ICI boiler; or

(E) A reciprocating engine.

(10) The owner or operator of an emission unit that is capable of firing two or more fuels for which a standard is designated in this subsection shall not cause or allow emissions of NOx from such emission unit in excess of the following:

(A) For fuel-burning equipment that simultaneously fires two or more fuels, an emissions limitation calculated as follows:

(i) Multiplying the heat input of each fuel combusted by the emissions limitation of this subsection for the particular emission unit and fuel used,

(ii) Summing those products, and

(iii) Dividing the sum by the total heat input; or

(B) For fuel-burning equipment that is capable of interchangeably firing two or more fuels, the emissions limitation of this subsection for the particular equipment and fuel used.

(11) The following averaging times for emissions limitations shall be applicable to the owner or operator of an emission unit that has or is required to have a CEM system for NOx:

(A) For a non-ozone season emissions limitation, the period from October 1 to April 30, inclusive, including all periods of operation, except as provided in subsection (m)(3) of this section;

(B) For an ozone season emissions limitation, the period from May 1 to September 30, inclusive, including all periods of operation, except as provided in subsection (m)(3) of this section;

(C) For any other emissions limitation, a daily block average, including all periods of operation, except as provided in subsection (m)(3) of this section;

(12) An owner or operator of an emission unit that does not monitor NOx emissions using a CEM system shall determine compliance with the emissions limita*t*ions of this subsection by p*e*rforming NOx emission testin*g* as required by subsection (*l*) of this section.

(13) The owner or operator of an emission unit for which construction commences on or after the effective date of this section shall achieve compliance with the applicable Phase 2 emissions limitations of this section upon the date of initial operation.

(14) The owner or operator of an emergency engine shall not operate the emergency engine for routine, scheduled testing or maintenance on any day for which the commissioner has forecast that ozone levels will be "moderate to unhealthy for sensitive groups" or greater. If, subsequent to the initial forecast of "moderate to unhealthy for sensitive groups" or greater, the forecast is revised to "moderate" or lower, the owner or operator is no longer prohibited from operating the engine for routine, scheduled testing or maintenance for the remainder of that day. An owner or operator of an emergency engine may rely on an ozone forecast of "moderate" or lower obtained after 3 PM on the preceding day. Subsequent changes to the ozone forecast after 3 PM that forecast ozone levels of "moderate to unhealthy for sensitive groups" or greater shall not obligate the owner or operator to refrain from operation of the emergency engine at the facility on the following day. The commissioner may exempt, by permit or order, the owner or operator of an emergency engine from this subdivision if such emergency engine is unattended and the testing is automated and cannot be modified from a remote location.

(15) For a combined cycle combustion turbine associated with a duct burner, the emissions from the turbine and duct burner system in aggregate, or either the turbine or duct burner if the turbine or duct burner operates alone, shall at all times be less than the applicable emissions limitations in subsection (d)(5) of this section.

(16) Emissions limitations in subsections (d)(4) and (d)(5) of this section quantified in units of ppmvd shall be corrected to fifteen percent (15%) oxygen.

(17) If an emission unit may be subject to an emissions limitation for more than one type of emission unit, the emission unit is subject to the more stringent emissions limitation.

(18) If the electricity generating unit in a combined heat and power system is a reciprocating engine, the emissions limitations in subsection (d)(6) of this section apply and if the electricity generating unit in a combined heat and power system is a combustion turbine, the emissions limitations in subsection (d)(5) of this section apply.

(e) "**Emergency" and "emergency engine"**.

On and after the effective date of this section, an individual permit or order issued to the owner or operator of an emission unit subject to this section that uses any of the following terms shall be read as follows:

(1) For "emergency" or "emergency engine" as defined in former RCSA section 22a-174-22, the owner or operator shall substitute "emergency" or "emergency engine" as defined in subsection (a) of this section;

(2) If the phrase "emergency engine as defined in RCSA section 22a-174-22" is used, the owner or operator shall substitute "emergency engine as defined in RCSA section 22a-174-22e(a);" and

(3) If the definition of "emergency engine" or "emergency" as defined in RCSA section 22a-174-22 is replicated, the owner or operator shall substitute the language of the appropriate term as defined in subsection (a) of this section.

(f) **Permanent cessation of operation.**

(1) Except as provided in subdivision (2) of this subsection, the owner or operator of an existing emission unit subject to this section who is unable to comply with an emissions limitation of subsection (d) of this section at the beginning of the Phase 1 or the Phase 2 period and who has not submitted a plan pursuant to subsection (g) or a demonstration pursuant to subsection (h) of this section shall cease operation as of the first day of the Phase 1or Phase 2 period, as applicable. The owner or operator of the emission unit shall also perform one of the following actions:

(A) If the emission unit is operating pursuant to a permit or registration, submit a request to the commissioner to revoke such permit or registration. Such a request shall be submitted no later than the first day of the Phase 1 or Phase 2 period, as applicable; or

(B) If the emission unit is not operating pursuant to a permit or registration, render the unit physically inoperable no later than the first day of the Phase 1 or Phase 2 period, as applicable, and submit a statement to the commissioner signed by a responsible official and certified in accordance with RCSA section 22a-174-2a stating that the emission unit has been rendered physically inoperable. Such a statement shall be submitted no later than the first day of the Phase 1 or Phase 2 period, as applicable.

(2) An owner or operator may enter into a legally enforceable cease operation agreement with the commissioner that includes a date no later than May 31, 2019 for a Phase 1 emissions limitation on which operation shall cease.

(g) **Compliance options.**

(1) The owner or operator of an existing emission unit subject to this section who is unable to operate the emission unit in accordance with an applicable emissions limitation of subsection (d) of this section and for which the owner or operator does not intend to submit a demonstration pursuant to subsection (h) of this section or cease operation as provided in subsection (f) of this section shall submit a plan to the commissioner to operate such emission unit in accordance with a compliance option identified in this subsection. Such a plan shall be submitted to the commissioner no later than September 1, 2017, for a Phase 1 emissions limitation, or September 1, 2020, for a Phase 2 emissions limitation. A compliance option provided in this subsection shall be established by the commissioner through the issuance of an order or permit modification to the owner or operator of such emission unit or units.

(2) The owner or operator of a boiler serving an EGU may operate the boiler serving the EGU in compliance with one of the options listed in this subdivision in lieu of complying with the applicable emissions limitations of subsection (d) of this section. The options are available as an alternative to any Phase 1 or Phase 2 emissions limitation set out in subsection (d) of this section, unless otherwise specified. The actions specified in a compliance plan for a Phase 1 emissions limitation shall be implemented no later than June 1, 2018 or, for a Phase 2 emissions limitation, no later than June 1, 2022, unless otherwise specified in this subdivision:

(A) For a Phase 1 emissions limitation, reduce the lb/MMBtu average emission rate from the subject emission unit by at least 40% from a 2014 baseline average emission rate, as determined by a CEM system according to former section 22a-174-22 of the RCSA and excluding periods of startup, shutdown or malfunction, or if the subject emission unit does not have a CEM system, by the most recent emission test performed pursuant to former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(B) For a Phase 2 emissions limitation, reduce the lb/MMBtu average emission rate from the

subject emission unit by at least 40% from a 2019 baseline emission rate, as determined by a CEM system according to subsection (m) of this section, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed either pursuant to subsection (*l*) of this section or former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(C) For a Phase 1 emissions limitation, use existing, banked, NOx DERCs to comply with the applicable emissions limitations of subsection (d) of this section in accordance with an order or permit modification issued by the commissioner;

(D) For the Phase 1 emissions limitations in subparagraphs (A) and (B) of subsection (d)(2) of this section, accept an enforceable cap on mass emissions or hours of operation. The enforceable cap shall achieve the lower of a 40% reduction in subject emission unit 2014 allowable emissions or the average of the actual emissions for the two non-overlapping consecutive 12-month periods between January 1, 2014 and March 1, 2017 with the highest actual emissions, determined as follows:

(i) Measured by a CEM system according to former section 22a-174-22 of the RCSA, or,

(ii) If the subject emission unit does not have a CEM system, calculated from the most recent emissions test performed pursuant to former section 22a-174-22 of the RCSA;

(E) For the Phase 2 emissions limitations in subparagraphs (C) and (D) of subsection (d)(2) of this section, accept an enforceable cap on mass emissions or hours of operation. The enforceable cap shall achieve the lower of a 40% reduction in subject emission unit 2019 allowable emissions or the actual emissions over the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest actual emissions, determined as follows:

(i) Measured by a CEM system according to subsection (m) of this section, or,

(ii) If the subject emission unit does not have a CEM system, calculated from the most recent emissions test performed pursuant to former section 22a-174-22 of the RCSA or subsection (*l*) of this section, whichever applies;

(F) For a Phase 1 emissions limitation, commit to combust only gas if a permit or registration for the boiler serving an EGU allows the boiler to combust either gas or residual oil or other oil. This option is only available if operation on gas results in quantifiable annual NOx emissions equal to or less than the NOx emissions expected if the boiler serving an EGU operated in compliance with the applicable emissions limitations of subsection (d) of this section by combusting residual oil or other oil and gas. This compliance option shall be implemented no later than September 1, 2018. An owner or operator operating under this option may enter into an interruptible supply agreement with the gas supplier. If the supply of gas is curtailed in accordance with that agreement, the owner or operator may operate the emission unit on an alternative fuel for the period of the curtailment if the emission unit is operated to minimize emissions for that fuel type; or

(G) Commit to retire another unit or units located at the same facility as the boiler serving an EGU. The unit or units to be retired shall cease operations no earlier than [*date of proposal of this section*] and no later than June 1, 2018 for a Phase 1 emissions limitation or no earlier than [*date of proposal of this section*] and no later than June 1, 2022 for a Phase 2 emissions limitation. This option shall result in a reduction in maximum allowable mass emissions equal to or greater than the NOx emissions reduction that would be achieved if:

(i) For a Phase 1 emissions limitation, the boiler serving an EGU and the retired unit or units complied with the applicable Phase 1 emissions limitations of subsection (d) of this section during the consecutive 12-month period between January 1, 2014 and March 1, 2017 with the highest aggregate actual emissions for the boiler serving an EGU and the unit or units to be retired, or,

(ii) For a Phase 2 emissions limitation, the boiler serving an EGU and the retired unit or units complied with the applicable Phase 2 emissions limitations in subsection (d) of this section during the

consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest aggregate actual emissions for the boiler serving an EGU and the unit or units to be retired.

(iii) An emission reduction from a retirement used as a Phase 1 compliance option shall not be used as a Phase 2 compliance option.

(3) The owner or operator of an ICI boiler may operate the ICI boiler in compliance with one of the options listed in this subdivision in lieu of complying with the applicable emissions limitations of subsection (d) of this section. The options are available as an alternative to any Phase 1 or Phase 2 emissions limitation set out in subsection (d) of this section unless otherwise specified. The actions specified in a compliance plan for a Phase 1 emissions limitation shall be implemented no later than June 1, 2018 or, for a Phase 2 emissions limitation, no later than June 1, 2022:

(A) For a Phase 1 emissions limitation, reduce the lb/MMBtu average emission rate from the subject emission unit by at least 40% from a 2014 baseline average emission rate, as determined by a CEM system according to former section 22a-174-22 of the RCSA and excluding periods of startup, shutdown or malfunction, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed pursuant to former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(B) For a Phase 2 emissions limitation, reduce the lb/MMBtu average emission rate from the subject emission unit by at least 40% from a 2019 baseline average emission rate, as determined by a CEM system according to subsection (m) of this section, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed either pursuant to subsection (*l*) of this section or former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(C) For a Phase 1 emissions limitation, use existing, banked, NOx DERCs to comply with the applicable emissions limitation of subsection (d) of this section in accordance with an order or permit modification issued by the commissioner;

(D) For the Phase 1 emissions limitations in subparagraphs (A) and (B) of subsection (d)(3) of this section, accept an enforceable cap on mass emissions or hours of operation. The enforceable cap shall achieve the lower of a 40% reduction in subject emission unit 2014 allowable emissions or the average of the actual emissions for the two non-overlapping consecutive 12-month periods between January 1, 2014 and March 1, 2017 with the highest actual emissions, determined as follows:

(i) Measured by a CEM system according to former section 22a-174-22 of the RCSA, or,

(ii) If the subject emission unit does not have a CEM system, calculated from the most recent emissions test performed pursuant to former section 22a-174-22 of the RCSA;

(E) For the Phase 2 emissions limitations in subparagraphs (C) and (D) of subsection (d)(3) of this section, accept an enforceable cap on mass emissions or hours of operation. The enforceable cap shall achieve the lower of a 40% reduction in subject emission unit 2019 allowable emissions or the actual emissions over the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest actual emissions, determined as follows:

(i) Measured by a CEM system according to subsection (m) of this section, or,

(ii) If the subject emission unit does not have a CEM system, calculated from the most recent emissions test performed pursuant to former section 22a-174-22 of the RCSA or subsection (*l*) of this section, whichever applies;

(F) For an ICI boiler subject to 40 CFR 63, Subpart DDDDD, operate as a “unit designed to burn gas 1 subcategory”, as defined in 40 CFR 63.7575 or, for an ICI boiler subject to 40 CFR 63, Subpart JJJJJJ, operate as a “gas-fired boiler”, as defined in 40 CFR 63.11237. This option is only available if operation on gas results in quantifiable annual NOx emissions equal to or less than the NOx

emissions expected if the ICI boiler operated in compliance with the applicable emissions limitations of subsection (d) of this section by combusting residual oil or other oil and gas; or

(G) Commit to retire another unit or units located at the same facility as the ICI boiler. The unit or units to be retired shall cease operations no earlier than [*date of proposal of this section*] and no later than June 1, 2018 for a Phase 1 emissions limitation or no earlier than [*date of proposal of this section*] and no later than June 1, 2022 for a Phase 2 emissions limitation. This option shall result in a reduction in maximum allowable mass emissions equal to or greater than the NOx emissions reduction that would be achieved if:

(i) For a Phase 1 emissions limitation, the ICI boiler and the retired unit or units complied with the applicable Phase 1 emissions limitations of subsection (d) of this section during the consecutive 12-month period between January 1, 2014 and March 1, 2017 with the highest aggregate actual emissions for the ICI boiler and the unit or units to be retired, or,

(ii) For a Phase 2 emissions limitation, the ICI boiler and the retired unit or units complied with the applicable Phase 2 emissions limitations in subsection (d) of this section during the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest aggregate actual emissions for the ICI boiler and the unit or units to be retired.

(iii) An emission reduction from a retirement used as a Phase 1 compliance option shall not be used as a Phase 2 compliance option.

(4) The owner or operator of a simple cycle combustion turbine may operate the simple cycle combustion turbine in compliance with one of the options listed in this subdivision in lieu of complying with the applicable emissions limitations of subsection (d) of this section. The options are available as an alternative to any Phase 1 or Phase 2 emissions limitation set out in subsection (d) of this section unless otherwise specified. The actions specified in a compliance plan for a Phase 1 emissions limitation shall be implemented no later than June 1, 2018 or, for a Phase 2 emissions limitation, no later than June 2, 2022:

(A) To satisfy the non-ozone season emissions limitations in subsections (d)(4)(B) and (d)(4)(D) of this section, install and operate water injection technology. Water injection technology shall be operated at all times the simple cycle combustion turbine is operating, and the water-to-fuel ratio shall be continuously monitored. The water-to-fuel ratio that is acceptable during operation shall be established during the initial performance test, or, if the emission unit has a CEM system, during the initial relative accuracy test audit;

(B) For a Phase 1 emissions limitation, reduce the lb/MMBtu average emission rate or ppmvd average emission concentration from the subject emission unit by at least 40% from a 2014 baseline average emission rate or concentration, as determined by a CEM system according to former section 22a-174-22 of the RCSA and excluding periods of startup, shutdown or malfunction, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed pursuant to former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(C) For a Phase 2 emissions limitation, reduce the lb/MMBtu average emission rate or ppmvd average emission concentration from the subject emission unit by at least 40% from a 2019 baseline average emission rate or concentration, as determined by a CEM system according to subsection (m) of this section, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed either pursuant to subsection (*l*) of this section or former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(D) For a Phase 1 emissions limitation, use existing, banked, NOx DERCs to comply with the applicable emissions limitations of subsection (d) of this section in accordance with an order or permit modification issued by the commissioner;

(E) Limit the operations of the simple cycle combustion turbine only to Action 6 events implemented by ISO New England pursuant to ISO New England Operating Procedure No. 4 - Action During a Capacity Deficiency, effective June 24, 2015, or subsequent revisions thereof; or

(F) Commit to retire another unit or units located at the same facility as the simple cycle combustion turbine. The unit or units to be retired shall cease operations no earlier than [*date of proposal of this section*] and no later than June 1, 2018 for a Phase 1 emissions limitation or no earlier than [*date of proposal of this section*] and no later than June 1, 2022 for a Phase 2 emissions limitation. This option shall result in a reduction in maximum allowable mass emissions equal to or greater than the NOx emissions reduction that would be achieved if:

(i) For a Phase 1 emissions limitation, the simple cycle combustion turbine and the retired unit or units complied with the applicable Phase 1 emissions limitations of subsection (d) of this section during the consecutive 12-month period between January 1, 2014 and March 1, 2017 with the highest aggregate actual emissions for the simple cycle combustion turbine and the unit or units to be retired, or,

(ii) For a Phase 2 emissions limitation, the simple cycle combustion turbine and the retired unit or units complied with the applicable Phase 2 emissions limitations in subsection (d) of this section during the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest aggregate actual emissions for the simple cycle combustion turbine and the unit or units to be retired.

(iii) An emission reduction from a retirement used as a Phase 1 compliance option shall not be used as a Phase 2 compliance option.

(5) The owner or operator of a combined cycle combustion turbine may operate the combined cycle combustion turbine in compliance with one of the options listed in this subdivision in lieu of complying with the applicable emissions limitations of subsection (d) of this section. The options are available as an alternative to any Phase 1 or Phase 2 emissions limitation set out in subsection (d) of this section unless otherwise specified. The actions specified in a compliance plan for a Phase 1 emissions limitation shall be implemented no later than June 1, 2018 or, for a Phase 2 emissions limitation, no later than June 1, 2022, unless otherwise specified in this subdivision:

(A) For a Phase 1 emissions limitation, use existing, banked, NOx DERCs to comply with the applicable emissions limitation of subsection (d) of this section in accordance with an order or permit modification issued by the commissioner;

(B) Commit to combust only gas if a permit or registration for the combined cycle combustion turbine allows the turbine to combust either gas or other oil. This option is only available if operation on gas results in quantifiable annual NOx emissions equal to or less than the NOx emissions expected if the combined cycle combustion turbine operated in compliance with the applicable emissions limitations of subsection (d) of this section by combusting other oil and gas. For a Phase 1 emissions limitation, this option shall be implemented no later than September 1, 2018. An owner or operator operating under this option may enter into an interruptible supply agreement with the gas supplier. If the supply of gas is curtailed in accordance with that agreement, the owner or operator may operate the emission unit on an alternative fuel for the period of the curtailment if the emission unit is operated to minimize emissions for that fuel type; or

(C) Commit to retire another unit or units located at the same facility as the combined cycle combustion turbine. The unit or units to be retired shall cease operations no earlier than [*date of proposal of this section*] and no later than June 1, 2018 for a Phase 1 emissions limitation or no earlier than [*date of proposal of this section*] and no later than June 1, 2022 for a Phase 2 emissions limitation. This option shall result in a reduction in maximum allowable mass emissions equal to or greater than the NOx emissions reduction that would be achieved if:

(i) For a Phase 1 emissions limitation, the combined cycle combustion turbine and the retired unit or units complied with the applicable Phase 1 emissions limitations of subsection (d) of this section

during the consecutive 12-month period between January 1, 2014 and March 1, 2017 with the highest aggregate actual emissions for the combined cycle combustion turbine and the unit or units to be retired, or,

(ii) For a Phase 2 emissions limitation, the combined cycle combustion turbine and the retired unit or units complied with the applicable Phase 2 emissions limitations in subsection (d) of this section during the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest aggregate actual emissions for the combined cycle combustion turbine and the unit or units to be retired.

(iii) An emission reduction from a retirement used as a Phase 1 compliance option shall not be used as a Phase 2 compliance option.

(6) The owner or operator of a reciprocating engine may operate the reciprocating engine in compliance with one of the options listed in this subdivision in lieu of complying with the applicable emissions limitations of subsection (d) of this section. The options are available as an alternative to any Phase 1 or Phase 2 emissions limitation of subsection (d) of this section unless otherwise specified. The actions specified in a compliance plan for a Phase 1 emissions limitation shall be implemented no later than June 1, 2018 or, for a Phase 2 emissions limitation, no later than June 1, 2022:

(A) For a Phase 1 emissions limitation, reduce the g/bk hp-hr average emission rate from the subject emission unit by at least 40% from a 2014 baseline average emission rate, as determined by a CEM system according to former section 22a-174-22 of the RCSA and excluding periods of startup, shutdown or malfunction, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed pursuant to former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(B) For a Phase 2 emissions limitation, reduce the g/bk hp-hr average emission rate from the subject emission unit by at least 40% from a 2019 baseline average emission rate, as determined by a CEM system according to subsection (m) of this section, or, if the subject emission unit does not have a CEM system, by the most recent emission test performed either pursuant to subsection (*l*) of this section or former section 22a-174-22 of the RCSA. An owner or operator may request an alternative baseline year if the emissions in the alternative year are more representative of typical unit operations;

(C) For a Phase 1 emissions limitation, use existing, banked, NOx DERCs to comply with the applicable emissions limitations of subsection (d) of this section in accordance with an order or permit modification issued by the commissioner;

(D) Limit the operations of the reciprocating engine only to Action 6 events implemented by ISO New England pursuant to ISO New England Operating Procedure No. 4 - Action During a Capacity Deficiency, effective June 24, 2015, or subsequent revisions thereof; or

(E) Commit to retire another unit or units located at the same facility as the reciprocating engine. The unit or units to be retired shall cease operations no earlier than [*date of proposal of this section*] and no later than June 1, 2018 for a Phase 1 emissions limitation or no earlier than [*date of proposal of this section*] and no later than June 1, 2022 for a Phase 2 emissions limitation. This option shall result in a reduction in maximum allowable mass emissions equal to or greater than the NOx emissions reduction that would be achieved if:

(i) For a Phase 1 emissions limitation, the reciprocating engine and the retired unit or units complied with the applicable Phase 1 emissions limitations of subsection (d) of this section during the consecutive 12-month period between January 1, 2014 and March 1, 2017 with the highest aggregate actual emissions for the reciprocating engine and the unit or units to be retired, or,

(ii) For a Phase 2 emissions limitation, the reciprocating engine and the retired unit or units

complied with the applicable Phase 2 emissions limitations in subsection (d) of this section during the consecutive 12-month period between June 1, 2018 and March 1, 2020 with the highest aggregate actual emissions for the reciprocating engine and the unit or units to be retired.

(iii) An emission reduction from a retirement used as a Phase 1 compliance option shall not be used as a Phase 2 compliance option.

(7) A plan to operate in accordance with a compliance option provided in this subsection shall include the following information:

(A) Legal name(s), address(es) and telephone number(s) of the owner and operator of the emission unit that is the subject of the compliance option. If the owner or operator is a corporation or a limited partnership transacting business in Connecticut, provide the exact name as registered with the Secretary of State;

(B) Location address of the premises where the emission unit is located;

(C) Make and model of the emission unit;

(D) Actual emissions data, if available, or the manufacturer's estimates of emissions, if available;

(E) Identification of the compliance option that is the subject of the request and an explanation of the actions that will be taken to operate in compliance with that option. If the chosen option requires physical modification of an emission unit at the facility, a schedule for the modifications;

(F) An estimate of the NOx emissions reductions achieved through compliance with the chosen option including baseline emissions and the anticipated reduction achieved and a comparison of the NOx emissions reductions achieved through compliance with the chosen option to the NOx emissions reductions that would have occurred if the emission unit complied with the emissions limitations in subsection (d) of this section; and

(G) Any other information requested by the commissioner upon reviewing the request.

(8) If a compliance option requires a new or modified permit pursuant to section 22a-174-3a of the RCSA, the owner or operator shall not commence an activity to implement the compliance option until the owner or operator has applied for and been issued the required permit or modification, except as otherwise authorized in section 22a-174-2a(e)(3)(C) of the RCSA subsequent to submission of a permit application.

(9) If the actions in a Phase 1 compliance plan do not require the owner or operator to either use NOx DERCs or apply for and obtain a permit under section 22a-174-3a of the RCSA, the owner or operator may take actions described in the plan no less than 60 days after submitting the plan.

(10) Any use of NOx DERCs for the purpose of this subsection shall be:

(A) Consistent with the provisions of 40 CFR 51, Subpart U and the U.S. Environmental Protection Agency's "Improving Air Quality with Economic Incentive Programs," (EPA-452/R-01-001: January 2001); and

(B) Any NOx DERC shall be used for the purpose of compliance with this section within five calendar years from the year of generation.

(11) Every compliance option provided in this subsection shall expire no later than May 1, 2028, by which date the subject emission unit shall comply with the applicable emissions limitations of this section or cease operation.

(h) **Case-by-case RACT demonstration.**

(1) An owner or operator may request the commissioner's approval for a case-by-case emissions limitation for an emission unit if the owner or operator demonstrates to the commisioner's satisfaction that an emissions limitation of subsection (d) of this section is not economically or technically feasible for the emission unit. In such a request for a case-by-case RACT determination, the owner or operator shall:

(A) Demonstrate that:

(i) The use of available emissions control technology is either technologically or economically

infeasible for the emission unit that is the subject of the demonstration,

(ii) Each compliance option designated in subsection (g) of this section is either technologically or economically infeasible for the emission unit that is the subject of the demonstration, and

(iii) For the purposes of this subsection, economic feasibility is determined on a dollar/ton basis, where any value determined using a method approved by the commissioner that is equal to or less than $13,118/ton NOx reduced for a Phase 1 demonstration or $13,635/ton NOx reduced for a Phase 2 demonstration is presumed economically feasible;

(B) Recommend a case-by-case RACT emissions limitation that represents the lowest emissions limitation reasonable for the emission unit. An owner or operator may also recommend additional actions that will reduce facility NOx emissions such as an operational standard, work practices, a requirement to use air pollution control technology on another unit at the facility or an energy efficiency improvement; and

(C) Calculate the NOx emission reduction achievable by implementation of the recommended emissions limitation and additional actions, if any, including the method used and a comparison of the NOx emissions reductions achieved, if any, through the recommended emissions limitation to the NOx emissions reductions that would have occurred if the emission unit complied with the emissions limitations in subsection (d) of this section. A case-by-case RACT demonstration shall provide a net air quality benefit including real and quantifiable reductions in NOx emissions from the facility at which the emission unit is located.

(2) A request for a case-by-case RACT determination shall be submitted to the commissioner for review no later than June 1, 2017 for a Phase 1 emissions limitation or January 1, 2020 for a Phase 2 emissions limitation. For a Phase 1 emissions limitation, an owner or operator who has submitted a request and case-by-case RACT demonstration may operate in accordance with the recommendations in the case-by-case RACT demonstration on and after June 1, 2018 to comply with the applicable Phase 1 emissions limitation if the commissioner has not approved the demonstration and if the actions recommended in a Phase 1 case-by-case RACT demonstration do not require the owner or operator to apply for and obtain a permit under RCSA section 22a-174-3a. Such an owner or operator may continue to operate in accordance with the recommendations in the demonstration until the earlier of the date the commissioner issues a final decision on the submitted demonstration or June 1, 2022.

(3) A case-by-case RACT emissions limitation or additional actions shall be established in and apply to the emission unit or units in an order or permit issued by the commissioner to the owner or operator of such emission unit or units. The commissioner shall submit such order or permit to the Administrator for approval.

(4) Unless otherwise specified in an order or permit, operations in accordance with an approved or case-by-case demonstration shall expire no later than May 1, 2028, at which time the owner or operator shall operate the subject emission unit or units in compliance with the applicable emissions limitations and other requirements of this section or cease operation.

(5) A case-by-case RACT demonstration submitted pursuant to this subsection shall be made on forms provided by the commissioner and performed according to procedures identified by the commissioner. A case-by-case RACT demonstration shall include the following steps:

(A) Identify all NOx emission control alternatives available for use on the emission unit that is the subject of the demonstration. Available control alternatives include lower emitting practices and processes such as the use of control techniques and work practices, use of add-on control technologies or improvement in the performance of installed control technologies, or a combination of lower emitting practices/processes and add-on control technologies;

(B) Eliminate infeasible options from further consideration after identifying the physical, chemical or engineering circumstance that would preclude successful use of the control option;

(C) Evaluate the control effectiveness of feasible alternatives in terms of NOx emissions reduced;

(D) Evaluate the cost of each feasible control alternative sing a method approved by the commissioner. Cost shall be evaluated on an annualized full load basis (8760 hours/year) unless the hours of operation of the emission unit are subject to a practicably enforceable limitation; and

(E) Evaluate the cost effectiveness of each feasible control alternative on an annualized basis as the cost in US dollars per ton of NOx reduced ($/ton).

(6) The owner or operator submitting a request for a case-by-case RACT determination shall, prior to submitting the request:

(A) Publish notice of such request in a newspaper of general circulation in the area in which the emission unit operates; and

(B) Notify the chief elected official of the municipality in which the emission unit that is the subject of the request is located.

(7) The owner or operator shall include a copy of the notice as it appeared in the newspaper in the submission to the commissioner of the case-by-case RACT demonstration and a signed statement certifying that the owner or operator notified the chief elected official of the municipality in which the emission unit that is the subject of the request is located.

(8) The owner or operator submitting a request for a case-by-case RACT determination shall hold an informational hearing at which the owner or operator shall explain the purpose of and basis for the request, if a request to hold such hearing is made to the owner or operator no later than 14 days after the date of publication of the notice required pursuant to subdivision (6) of this subsection. The scheduled date for the hearing shall be no earlier than 30 days from the date of publication of the notice required pursuant to subdivision (6) of this subsection. If no request for the informational hearing is made within the 14 day period, the owner or operator may cancel the informational hearing. The notice shall identify the method and time for announcing that the hearing has been cancelled and provide a telephone number for the public to call to determine if the public hearing will occur as noticed or is cancelled. Within ten business days of the scheduled date of the public hearing, the owner or operator shall submit to the commissioner a certification that either the hearing was held as scheduled or that the hearing was cancelled for lack of a request. If a hearing is held, the certification shall be accompanied by a list of attendees and a summary of all comments made.

(9) The notice required pursuant to subdivision (6) of this subsection shall include the following information:

(A) A description of the demonstration sufficient for an interested person to understand the technical and economic basis for the elements of the demonstration and the resulting request to the Department, including the emission rate requested and the emissions limitation that would apply to the emission unit for which the demonstration is made if the request is not granted;

(B) Identification of the name of the owner or operator; a description of the emission unit to which the demonstration applies including the make and model, capacity and purpose; the location of the emission unit; and the name, address and telephone number of a person from whom more information about the demonstration may be obtained;

(C) The name, telephone number and electronic mail address of an individual from whom an interested person may obtain a copy of the demonstration;

(D) The date, time and location of the public informational hearing, if a request for such hearing is submitted within 14 days of the date of publication of the notice, and the address to send a request for such hearing; and

(E) If no request for the informational hearing is made to the owner or operator by the date designated in the notice, the method and time for announcing that the hearing has been cancelled and a telephone number for the public to call to determine if the public hearing will occur as noticed or is cancelled.

(i) **Tune-up requirements.**

(1) Except as provided in subdivision (2) of this subsection, the owner or operator of an emission unit subject to this section shall conduct an inspection and tune-up of the emission unit a minimum of once per calendar year beginning with year 2018. Each subsequent annual tune-up shall be performed no earlier than 180 days after the previous tune-up conducted under this section. The inspection and tune-up of the emission unit shall be conducted according to the manufacturer's recommended procedures, or, if the manufacturer's recommendations are no longer available, according to best available practices.

(2) The owner or operator of an emission unit that is subject to 40 CFR 60 or 40 CFR 63 and required to conduct a periodic tune-up by the applicable requirements of 40 CFR 60 or 40 CFR 63 may conduct tune-ups according to the schedule and procedures of the applicable requirements of 40 CFR 60 or 40 CFR 63. If the period between tune-ups in the applicable requirements of 40 CFR 60 or 40 CFR 63 is greater than 60 months, a tune-up shall be conducted at least once every 60 months.

(j) **Record keeping.**

(1) The owner or operator of an emission unit shall retain all records and reports produced pursuant to this section for five years. Such records and reports shall be available for inspection at reasonable hours by the commissioner or the Administrator. Such records and reports shall be retained at the premises, unless the commissioner approves in writing the use of another location in Connecticut.

(2) The owner or operator of an emission unit shall make and keep the following records on and after May 1, 2018:

(A) For an emergency engine not subject to 40 CFR 63 Subpart ZZZZ, records of total monthly operating hours of such engine, identifying the dates and operating hours of non-emergency use and the reason for non-emergency operation. For an emergency engine subject to 40 CFR 63 Subpart ZZZZ, records shall be those required by 40 CFR 63.6655;

(B) The date and work performed for repairs, replacement of parts and other maintenance;

(C) Records of the dates and times of all emission testing required by this section, the persons performing the measurements, the testing methods used, the operating conditions at the time of testing, and the results of such testing;

(D) For an emission unit that has or is required to have a CEM system for NOx:

(i) Records of all performance evaluations, calibration checks and adjustments on such monitor,

(ii) A record of maintenance performed,

(iii) All data necessary to complete the quarterly reports required under subsection (k)(3) of this section, and

(iv) Charts, electronically stored data, and printed records produced by such CEM system;

(E) For each tune-up, for each emission unit, conducted pursuant to subsection (i) of this section:

(i) The date on which the emission unit is tuned-up; the name, title and affiliation of the person performing the tune-up, and a description of work performed, and

(ii) The procedures used to inspect and perform adjustments;

(F) Copies of all documents submitted to the commissioner pursuant to this section; and

(G) Any other records or reports required by an order or permit issued by the commissioner pursuant to this section.

(k) **Reporting.**

(1) Not more than 60 days after the completion of emission tests conducted under subsection (*l*) of this section, the owner or operator of such emission unit shall submit a written report of the results of such testing to the commissioner.

(2) Not more than 60 days after the completion of a certification test conducted under the requirements of subsection (m) of this section, the owner or operator of such emission unit shall

submit a written report of the results of such testing to the commissioner.

(3) The owner or operator of any emission unit that has or is required to have a CEM system for NOx shall submit to the commissioner, on forms provided by the commissioner, written quarterly reports of excess emissions and CEM system malfunctions. Such reports shall be submitted to the commissioner on or before January 30, April 30, July 30 and October 30 and shall include:

(A) All hourly data, in a format acceptable to the commissioner, for the three calendar month period ending the month before the due date of the report;

(B) The date and time of commencement and completion of each period of excess emissions;

(C) The magnitude and suspected cause of the excess emissions;

(D) Actions taken to correct the excess emissions;

(E) The date and time when each malfunction of the CEM system commenced and ended;

(F) Actions taken to correct each malfunction; and

(G) If no excess emissions or CEM system malfunctions occur during a quarter, the owner or operator shall indicate that no excess emissions or malfunctions occurred during the quarter.

(*l*) **Emission testing.**

(1) The owner or operator of an emission unit subject to this section shall demonstrate compliance with the applicable emissions limitations of this section by one of the following means:

(A) Conducting periodic emissions testing in accordance with this subsection;

(B) For an emission unit subject to 40 CFR 60 Subpart KKKK, conducting periodic emissions testing in accordance with Subpart KKKK;

(C) For an emission unit subject to any other New Source Performance Standard in 40 CFR 60, conducting periodic emissions testing in accordance with the applicable New Source Performance Standard in 40 CFR 60, except as provided in subdivision (2) of this subsection with respect to frequency and subdivision (7) of this subsection with respect to load; or

(D) Installing and operating a CEM system for NOx in accordance with subsection (m) of this section.

(2) If an owner or operator is conducting testing in accordance with subdivision (1)(C) of this subsection and the applicable New Source Performance Standard does not identify a periodic test frequency, then the frequency of periodic emissions testing shall be determined according to the provisions of subdivision (4) of this subsection for Phase 1 and the provisions of subdivision (5) of this subsection for Phase 2.

(3) The owner or operator of an emission unit constructed after the effective date of this section shall conduct an initial emission test to demonstrate compliance with the Phase 2 emission limitations of this section no later than one hundred eighty (180) days after the emission unit commences operation.

(4) The owner or operator of an existing emission unit shall conduct an initial emissions test on a date during Phase 1 that is no more than 63 calendar months following the date of the last emission test performed pursuant to former section 22a-174-22(k) of the RCSA.

(5) The owner or operator of an existing emission unit subject to this section shall conduct the emission test following the initial emissions test on a date after May 31, 2022 and no later than June 1, 2024. An owner or operator shall conduct subsequent emission tests within every 63 calendar months following the date the previous emission test was conducted or the date the previous emission test was required to be conducted, whichever is earlier.

(6) Each emission test shall be conducted in accordance with section 22a-174-5 of the RCSA and compliance with the emissions limitations of this section shall be determined based on the average of three one-hour tests, each performed over a consecutive 60-minute period except as follows:

(A) As otherwise specified in an applicable New Source Performance Standard in 40 CFR 60; or

(B) If the commissioner determines that three one-hour tests are not reasonable given the location,

configuration or operating conditions of an emission unit, the commissioner may approve testing where compliance with the emissions limitations of this section shall be determined based on the average of test runs shorter than a one-hour period. Approval of the commissioner for a shorter than one-hour test run shall be received prior to testing by submission of a request to the commissioner at least 120 days prior to the scheduled testing, requesting a specific test run duration and describing why a shorter time period is necessary.

(7) An owner or operator shall demonstrate compliance with the emissions limitations of this section using sampling and analytical procedures under 40 CFR 60, Appendix A or, for affected units, under 40 CFR 75, or under alternative procedures approved by the commissioner. Sampling shall be conducted when the emission unit is at normal operating temperature and, unless allowed otherwise by the commissioner in a permit or order, is operating at or above 90 percent of maximum capacity, except as follows:

(A) If the commissioner determines that operating at or above 90 percent of maximum capacity for an emission unit during sampling is not reasonable given the location, configuration or operating conditions of an emission unit, the commissioner may approve testing of an emission unit at an alternative maximum capacity where compliance with the emissions limitations of subsection (d) of this section shall be determined based on operating at or above 90 percent of the alternative maximum capacity approved by the commissioner; and

(B) Any emission unit that has operated in excess of 100 percent of its maximum capacity at any time since the most recent performance test performed pursuant to this section shall be tested when the emission unit is operating at or above 90 percent of its highest operating rate since the most recent performance test performed pursuant to this section.

(8) If an emission unit owner or operator is unable to conduct scheduled emission testing required by this subsection due to force majeure, the owner or operator shall conduct the required emission testing as soon as practicable after the force majeure event occurs.

(m) **Monitoring.**

(1) The owner or operator of any emission unit that emits more than 100 tons of NOx from a single stack during any calendar year shall install, calibrate, maintain, operate and certify a CEM system for NOx for each such stack in accordance with section 22a-174-4 of the RCSA. For an emission unit subject to this section with a CEM system for NOx installed for any purpose prior to adoption of this section, the owner or operator shall calibrate, maintain, operate and certify such CEM system to demonstrate compliance with this section.

(2) If an owner or operator uses a CEM system to monitor NOx emissions, the owner or operator shall collect quality assured CEM data for all emission unit operating conditions. Data collection shall include periods of startup or shutdown, monitoring system malfunctions, out-of-control periods, while conducting maintenance or repairs, and periods of required monitoring system quality assurance or quality control activities, such as calibration checks and required zero and span adjustments.

(3) Emissions data used to determine compliance with the applicable emissions limitations of subsection (d) of this section shall not include data collected during the following periods:

(A) When the monitoring system is out-of-control as specified in the facility-specific monitoring plan;

(B) While conducting required monitoring system quality assurance or quality control activities, including calibration checks and required zero and span adjustments;

(C) While conducting maintenance or repairs of the monitoring system to prevent or correct a malfunction; or

(D) When the emission unit is not operating.

(4) The owner or operator shall notify the commissioner in writing at least 30 days prior to

conducting any performance or quality assurance testing of any CEM for NOx. Any such testing shall be conducted in accordance with a testing protocol approved by the commissioner. Any CEM for NOx shall be installed, calibrated and operated in accordance with the performance and quality assurance specifications contained in section 22a-174-4 of the RCSA and 40 CFR 60, Subpart A, Appendix B and Appendix F, or, for affected units, 40 CFR 75.

(5) Compliance with the seasonal limits of subsection (d) of this section shall be determined using emissions and operating data for the entire five-month period for an ozone season emissions limitation or for the entire seven-month period for a non-ozone season emissions limitation, except as follows:

(A) For the 2018 or 2022 ozone season, compliance shall be determined based on data collected June 1 through September 30; or

(B) If an emission unit commences initial operation during the ozone season or non-ozone season, compliance shall be determined based only on the portion of the season in which the unit operated.

Sec. 2. **The Regulations of Connecticut State Agencies are amended by the addition of section 22a-174-22f, as follows:**

(NEW) Sec. 22a-174-22f. High daily NOx emitting units at non-major sources of NOx.

(a) **Definitions.** For the purposes of this section, the following definitions apply. Any term not defined shall be as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies:

(1) "Affected unit" means a fossil fuel-fired:

(A) Stationary source that serves a generator with a nameplate capacity of 15 MW or more; or

(B) Boiler or indirect heat exchanger with a maximum heat input capacity of 250 MMBtu/hr or more.

(2) "Boiler serving an electric generating unit" or "boiler serving an EGU" means a steam generating unit used for generating electricity.

(3) "Combined cycle combustion turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator, that recovers heat from the turbine exhaust gases to generate steam that drives a steam turbine that drives an additional electric generator.

(4) "Combined heat and power system" means a steam-generating unit that simultaneously produces both electric power and useful thermal energy from the same primary energy source.

(5) "Combustion turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator or other industrial equipment.

(6) "Electric generating unit" or "EGU" means a combustion or steam generating source used for generating electricity that delivers all or part of its power to the electric power distribution grid for commercial sale.

(7) "Electricity supplier" means "electric supplier" as defined in section 16-1(a)(30) of the Connecticut General Statutes, and "municipal electric utility" as defined in section 7-233b(8) of the Connecticut General Statutes.

(8) "Emergency" means "emergency" as defined in section 22a-174-22e of the Regulations of Connecticut State Agencies.

(9) "Emergency engine" means "emergency engine" as defined in section 22a-174-22e of the Regulations of Connecticut State Agencies

(10) "Gas" or "gaseous fuel" means natural gas, propane, or any other fuel that is in the gaseous state under standard conditions, except for landfill gas or digester gas.

(11) "Industrial/commercial/institutional boiler" or "ICI boiler" means an indirect heat exchanger that heats water to supply heat to an industrial, commercial, or institutional operation.

(12) "Other oil" means a fuel that is liquid at standard conditions and is not residual oil.

(13) "Ozone forecast" means the eight-hour ozone forecast issued as an air quality index one or more days in advance by the commissioner and posted on the Department's website or otherwise provided by the Department for the regulated community.

(14) "Reciprocating engine" means an internal combustion engine in which a rotating crankshaft is driven by reciprocating motion of piston or pistons.

(15) "RCSA" means Regulations of Connecticut State Agencies.

(16) "Simple cycle combustion turbine" means a combustion turbine that does not recover heat from its exhaust gases.

(17) "Solid fuel" means coal, other solid fossil fuel, wood or other solid biomass.

(18) "Tune-up" means adjustments made to an emission unit to improve efficiency with respect to combustion operations.

(b) **Applicability.**

(1) This section applies to the owner or operator of a boiler serving an EGU or an ICI boiler located at a facility that is not a major stationary source of NOx and that meets any one of the following criteria:

(A) The boiler is gas-fired and has a maximum rated capacity:

(i) Greater than 76 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 38 MMBtu/hr and is located in a severe non-attainment area for ozone;

(B) The boiler is residual oil-fired and has a maximum rated capacity:

(i) Greater than 30 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 15 MMBtu/hr and is located in a severe non-attainment area for ozone;

(C) The boiler is other oil-fired and has a maximum rated capacity:

(i) Greater than 72 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 36 MMBtu/hr and is located in a severe non-attainment area for ozone; or

(D) The boiler is solid fuel-fired and has a maximum rated capacity:

(i) Greater than 6 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 3 MMBtu/hr and is located in a severe non-attainment area for ozone.

(2) This section applies to the owner or operator of a reciprocating engine located at a facility that is not a major stationary source of NOx and that meets any one of the following criteria:

(A) The engine is gas-fired and has a maximum rated capacity:

(i) Greater than 4 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 2 MMBtu/hr and is located in a severe non-attainment area for ozone; or

(B) The engine is other oil-fired and has a maximum rated capacity:

(i) Greater than 2 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 1 MMBtu/hr and is located in a severe non-attainment area for ozone.

(3) This section applies to the owner or operator of a simple cycle combustion turbine located at a facility that is not a major stationary source of NOx and that meets any one of the following criteria:

(A) The turbine is gas-fired and has a maximum rated capacity:

(i) Greater than 32 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 16 MMBtu/hr and is located in a severe non-attainment area for ozone; or

(B) The turbine is other oil-fired and has a maximum rated capacity:

(i) Greater than 12 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 6 MMBtu/hr and is located in a severe non-attainment area for ozone.

(4) This section applies to the owner or operator of a combined cycle combustion turbine located at a facility that is not a major stationary source of NOx and that meets any one of the following

criteria:

(A) The turbine is gas-fired and has a maximum rated capacity:

(i) Greater than 32 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 16 MMBtu/hr and is located in a severe non-attainment area for ozone;

(B) The turbine is other oil-fired and has a maximum rated capacity:

(i) Greater than 12 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 6 MMBtu/hr and is located in a severe non-attainment area for ozone; and

(C) When determining the maximum rated capacity of a combined cycle combustion turbine, the owner or operator shall include the maximum capacity of all supplemental burners.

(5) This section applies to the owner or operator of a fuel-burning emission unit located at a facility that is not a major stationary source of NOx and that combusts fuel for heating materials including air if any one of the following criteria are met:

(A) The emission unit is gas-fired and has a maximum rated capacity:

(i) Greater than 76 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 38 MMBtu/hr and is located in a severe non-attainment area for ozone; or

(B) The emission unit is other oil-fired and has a maximum rated capacity:

(i) Greater than 72 MMBtu/hr and is located in a serious non-attainment area for ozone, or

(ii) Greater than 36 MMBtu/hr and is located in a severe non-attainment area for ozone.

(6) This section applies to any affected unit located at a source that is not a major stationary source of NOx.

(7) If a dual-fuel unit is subject to this section for one fuel based on subdivisions (1) through (5) of this subsection, the emission unit is subject to this section for all operations.

(c) **Exemptions.**

(1) The following emission units are exempt from this section:

(A) An emission unit that is located at a major source of NOx;

(B) An emission unit that is a type of incinerator for which an emissions guideline has been issued under Section 129 of the Act;

(C) An emission unit used to test and provide emergency power or alternative power for safety-related structures, systems, and components or other Nuclear Regulatory Commission mandated systems at an electric generating facility licensed under 10 CFR 50;

(D) An emission unit that is located at a hospital or health care facility and that is used to meet standards of The Joint Commission or the National Fire Protection Association for emergency electrical power systems; or

(E) A reciprocating engine operated by an EAS Participant, as defined in 47 CFR 11.2, to meet the equipment operational readiness requirements of 47 CFR 11.35.

(2) The exemptions provided in subparagraphs (C), (D) and (E) of subdivision (1) of this subsection are not available to the owner or operator of either:

(A) A reciprocating engine or combustion turbine for which the owner or operator is party to an agreement to sell electrical power from such reciprocating engine or simple cycle combustion turbine to an electricity supplier; or

(B) A reciprocating engine or combustion turbine for which the owner or operator receives any reduction in the cost of electrical power for agreeing to produce power during periods of reduced voltage or reduced power availability.

(3) The owner or operator of an emission unit that is operating in accordance with RCSA section 22a-174-22e pursuant to subsection (e)(2) of this section shall no longer be subject to the requirements of subsections (f), (g) and (h) of this section.

(d) **Emergency engines.**

(1) The owner or operator of an emergency engine subject to this section shall maintain records as

required by subsection (g) of this section and comply with subdivisions (2) and (3) of this subsection. No other provisions of this section apply to the owner or operator of an emergency engine.

(2) The owner or operator of an emergency engine shall not operate the emergency engine for routine, scheduled testing or maintenance on any day for which the commissioner has forecast that ozone levels will be "moderate to unhealthy for sensitive groups" or greater. If, subsequent to the initial forecast of "moderate to unhealthy for sensitive groups" or greater, the forecast is revised to "moderate" or lower, the owner or operator is no longer prohibited from operating the engine for routine, scheduled testing or maintenance for the remainder of that day. An owner or operator of an emergency engine may rely on an ozone forecast of "moderate" or lower obtained after 3 PM on the preceding day. Subsequent changes to the ozone forecast after 3 PM that forecast ozone levels of "moderate to unhealthy for sensitive groups" or greater shall not obligate the owner or operator to refrain from operation of the emergency engine at the facility on the following day. The commissioner may exempt, by permit or order, the owner or operator of an emergency engine from this subdivision if such emergency engine is unattended and the testing is automated and cannot be modified from a remote location.

(3) If an owner or operator operates a model year 2013 or later emergency engine in compliance with the Tier 4 engine NOx emission standards of 40 CFR 1039, subpart B, such engine is exempt from the restriction of subdivision (2) of this subsection.

(e) **Emission units that are not emergency engines.**

(1) The owner or operator of an emission unit subject to this section that is not an emergency engine or an affected unit shall comply with the tune-up requirements of subsection (f) of this section, the record keeping requirements of subsection (g) of this section and the reporting requirements of subsection (h) of this section. If the owner or operator of an emission unit subject to this section that is not an emergency engine or is not an affected unit requests an enforceable emission limitation to a level below the daily NOx emission thresholds of subdivision (2) of this subsection and the commissioner grants such a request, the owner or operator is no longer required to operate the emission unit in compliance with subsections (f), (g) and (h) of this section. Such enforceable limitation on daily NOx emissions shall be issued in an order or modification to an existing permit.

(2) On and after May 1, 2018, if an emission unit subject to this section that is not an emergency engine or an affected unit emits NOx at levels equal to or greater than the applicable level identified in subparagraph (A) or (B) of this subdivision on any day from May 1 to September 30, inclusive, the owner or operator shall thereafter operate the emission unit in compliance with section 22a-174-22e of the Regulations of Connecticut State Agencies:

(A) One hundred thirty-seven (137) pounds of NOx, if such emission unit is located in a severe nonattainment area for ozone; or

(B) Two hundred seventy-four (274) pounds of NOx, if such emission unit is located in a serious nonattainment area for ozone.

(3) The owner or operator of an emission unit that is not an emergency engine or an affected unit that exceeds a NOx emission threshold in subsection (e)(2) of this section shall submit the notification required by subsection (h) of this section within 60 days of the day on which the threshold is first exceeded and shall operate the emission unit in compliance with RCSA section 22a-174-22e no later than 270 days after the day on which the threshold is first exceeded.

(4) The owner or operator of an affected unit shall operate the unit in compliance with RCSA section 22a-174-22e. An affected unit that commences initial operation prior to the effective date of this section shall operate in compliance with RCSA section 22a-174-22e as of the effective date of this section. An affected unit that commences initial operation after the effective date of this section shall operate in compliance with RCSA section 22a-174-22e as of the date of initial operation.

(f) **Tune-up requirements.**

(1) Except as provided in subdivision (2) of this subsection, the owner or operator of an emission unit subject to this section that is not an emergency engine shall conduct an inspection and tune-up of the emission unit a minimum of once per calendar year beginning with year 2018. Each subsequent annual tune-up shall be performed no earlier than 180 days after the previous tune-up conducted under this section. The inspection and tune-up of the emission unit shall be conducted according to the manufacturer's recommended procedures, or, if the manufacturer's recommendations are not available, according to best available practices.

(2) The owner or operator of an emission unit that is subject to 40 CFR 60 or 40 CFR 63 and required to conduct a periodic tune-up by the applicable requirements of 40 CFR 60 or 40 CFR 63 may conduct tune-ups according to the schedule and procedures of the applicable requirements of 40 CFR 60 or 40 CFR 63. If the period between tune-ups in the applicable requirements of 40 CFR 60 or 40 CFR 63 is greater than 60 months, a tune-up shall be conducted at least once every 60 months.

(g) **Record keeping.**

(1) The owner or operator of an emission unit subject to this section shall retain all records and reports produced pursuant to this section for five years. Such records and reports shall be available for inspection at reasonable hours by the commissioner or the Administrator. Such records and reports shall be retained at the premises, unless the commissioner approves in writing the use of another location in Connecticut.

(2) The owner or operator of an emission unit that is not an emergency engine shall make and keep the following records on and after May 1, 2018:

(A) During the period from May 1 to September 30, inclusive, records sufficient to determine the NOx emissions (lbs) per day;

(B) A calculation of NOx emissions on each day of operation, performed no later than the second day of each month for every day of operation in the preceding month;

(C) The method used to calculate daily NOx emissions and the information used to determine the NOx emissions rate, chosen from the following options:

(i) If data are available from continuous emissions monitoring equipment installed, operated, and certified in accordance with a permit or order, or regulation issued or administered by the commissioner or the Administrator, or a commissioner approved voluntarily installed continuous emissions monitor, such data shall be used to determine the rate of emissions,

(ii) If the data in subparagraph (C)(i) of this subdivision are not available and stack testing data are available, such stack testing data shall be used to determine the rate of emissions, provided such testing was conducted in accordance with protocols approved in writing by the commissioner in advance of testing,

(iii) If the data in subparagraph (C)(i) or (C)(ii) of this subdivision are not available, the rate of emissions shall be calculated using data supplied by the manufacturer of the emission unit, which data were derived from EPA-approved emissions testing of such unit performed by or for the manufacturer,

(iv) If the data in subparagraph (C)(i), (C)(ii) or (C)(iii) of this subdivision are not available, the rate of emissions shall be calculated using the data or emissions estimation techniques that result in the highest rate of emissions from the following EPA publications:

1. Compilation of Air Pollutant Emission Factors (AP-42),
2. AIRS Facility Subsystem Emission Factors, or
3. The Emission Inventory Improvement Program (EIIP), or

(v) If the data in subparagraph (C)(i), (C)(ii), (C)(iii) or (C)(iv) of this subdivision are not available, the emission rate shall be calculated using another source of emissions data that is approved by the commissioner;

(D) The date and work performed for repairs, replacement of parts and other maintenance;

(E) For each emission unit for each tune-up conducted pursuant to subsection (f) of this section, the date on which the emission unit is tuned-up; the name, title and affiliation of the person performing the tune-up, and a description of work performed, and

(F) Copies of all documents submitted to the commissioner pursuant to this section.

(3) The owner or operator of an emergency engine shall make and keep the following records:

(A) For an emergency engine not subject to 40 CFR 63 Subpart ZZZZ, daily records of the operating hours of such engine, identifying the operating hours of emergency and non-emergency use and the reason for each period of emergency or non-emergency operation. For an emergency engine subject to 40 CFR 63 Subpart ZZZZ, records required by 40 CFR 63.6655;

(B) The date and work performed for repairs, replacement of parts and other maintenance; and

(C) Copies of all documents submitted to the commissioner pursuant to this section.

(h) **Reporting.**

If an emission unit exceeds a daily NOx emissions threshold pursuant to subsection (e), the owner or operator shall submit a notification to the Compliance Analysis and Coordination Unit, Bureau of Air Management. Such a notification shall be submitted no later than 60 days after the date on which the daily NOx emissions thresholds were exceeded and shall include the following information:

(1) Legal name(s), address(es) and telephone number(s) of the emission unit owner and operator. If the owner or operator is a corporation or a limited partnership transacting business in Connecticut, provide the exact name as registered with the Secretary of State;

(2) Location address of the premises where the emission unit is located;

(3) Make and model of the emission unit;

(4) Each fuel type combusted in the emission unit;

(5) NOx emissions data for the subject emission unit, including emission rates or emissions factors, if available, or the manufacturer's estimates of emissions;

(6) If the emission unit is operated pursuant to a new source review permit or a registration, the type of license and license number;

(7) The longitude and latitude of the emission unit, in decimal degrees format;

(8) The location address in Connecticut where records required to demonstrate compliance with this section are maintained;

(9) The date on which NOx emissions exceeded the threshold;

(10) A statement that the emission unit will be operated pursuant to the applicable requirements of section 22a-174-22e of the Regulations of Connecticut State Agencies; and

(11) A certification as follows signed by a person authorized by the owner or operator to execute and deliver such a submission on behalf of the owner or operator:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Sec. 3. Subdivisions (5) and (6) of subsection (a) of section 22a-174-3b of the Regulations of Connecticut State Agencies are amended as follows:

(5) "Emergency" means "emergency" as defined in section [22a-174-22] 22a-174-22e of the Regulations of Connecticut State Agencies;

(6) "Emergency engine" means "emergency engine" as defined in section [22a-174-22] 22a-174-22e of the Regulations of Connecticut State Agencies;

Sec. 4. Subsection (j)(6) of section 22a-174-18 of the Regulations of Connecticut State Agencies is amended to read as follows:

(6) The owner or operator of any stationary reciprocating internal combustion engine that is an emergency engine, as defined in [subsection (a)(2) of section 22a-174-22]section 22a-174-22e of the Regulations of Connecticut State Agencies and has a maximum continuous brake horsepower output rating, as specified by the manufacturer, greater than or equal to 175 bhp shall not be subject to the particulate matter emissions standards of subsection (e) of this section.

Sec. 5. Subsection (g)(1) of section 22a-174-33 of the Regulations of Connecticut State Agencies is amended as follows:

(1) An application for a Title V permit shall be made on forms prescribed by the commissioner. The application shall contain the following:

(A) The legal name and business address of the applicant and of the applicant's agent for service of process and, if the applicant is not the owner of the subject source, the legal name and business address of such owner and of the owner's agent for service of process, and names and telephone numbers of the plant site manager and other individuals designated by the applicant to answer questions pertaining to such application;

(B) All information required by section 22a-3a-5 of the Regulations of Connecticut State Agencies, including an executive summary;

(C) A compliance plan pursuant to subsection (i) of this section meeting the requirements of 40 CFR 70.5(c)(8);

(D) A compliance certification pursuant to subsection (q)(2) of this section meeting the requirements of 40 CFR 70.5(c)(9);

(E) The information required by this subsection for each alternative operating scenario that the applicant has included in the Title V permit application;

(F) An identification and description of any alternative means of compliance with sections [22a-174-22] 22a-174-22e or 22a-174-32 of the Regulations of Connecticut State Agencies issued by order, permit or certification. In addition, a copy of such order, permit or certification shall be submitted with the application; and

(G) A certification pursuant to section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies.

Sec. 6. The definitions of "emergency" and "emergency generator" in subsection (a) of section 22a-174-42 of the Regulations of Connecticut State Agencies are amended as follows:

(a) **Definitions.** For purposes of this section, the following definitions shall apply:

"Certification" means documentation that a distributed generator will comply with the applicable emissions standards and certification requirements of this section when installed as supplied and operated and maintained according to the manufacturer's instructions.

"Certifying entity" means a person issuing a certification that satisfies the requirements of subsection (e) of this section.

"Combined heat and power system" or "CHP system" means a distributed generator that sequentially produces both electric power and thermal energy from a single source.

"Design system efficiency" means, for a CHP system, the sum of the full load design thermal output and electric output divided by the heat input.

"Distributed generator" means any new or existing generator with a nameplate capacity less than 15 MW that generates electricity for other than emergency use. Electricity generated may be used either on-site or for sale under an agreement with a utility, other market participant or system operator. Such a generator may also generate electricity for use during an emergency but is not defined as an emergency generator. Such a generator may burn two fuels simultaneously but is not defined as a dual-fuel generator.

"Dual-fuel generator" means a distributed generator that has the capacity to be fired by either a gaseous fuel, or a liquid fuel, such as diesel or No. 2 grade oil, but not by both a gaseous fuel and a liquid fuel simultaneously.

"Effective date" means the date on which this section is adopted in accordance with the provisions of chapter 54 of the Connecticut General Statutes.

"Emergency" means "emergency" as defined in section [22a-174-22(a)] 22a-174-22e(a) of the Regulations of Connecticut State Agencies.

"Emergency generator" means "emergency engine" as defined in section [22a-174-22(a)] 22a-174-22e(a) of the Regulations of Connecticut State Agencies.

"Existing" means, for a generator, installed prior to the effective date of this section.

"Flared fuel" means gases that are emitted directly into the ambient air or burned without generating electricity or useful mechanical or thermal energy.

"Gaseous fuel" means natural gas and other fossil fuels that are in a gaseous state when used to fuel a generator.

"Generator" means any equipment that converts primary fuel, including fossil fuel and renewable fuel, into electricity or electricity and thermal energy.

"Installed" means the date on which a generator is first capable of generating electricity.

"ISO" means the International Organization for Standardization.

"Motor vehicle diesel fuel" means on-road diesel fuel that meets sulfur limits in 40 CFR 80.29, 80.500(a) and 80.520(a) and (b).

"New" means, for a generator, installed on or after the effective date of this section.

"Power-to-heat ratio" means, for a CHP system, the design electrical output divided by the design recovered thermal output, where both outputs are measured in consistent units.

"Reciprocating engine" means a stationary internal combustion engine having a crankshaft turned by linearly reciprocating pistons.

"Supplier" means a person who manufactures, assembles or otherwise makes distributed generators available to owners and operators.

"System operator" means a person responsible for managing a geographical region's electric bulk power generation and transmission systems.

Sec. 7. Section 22a-174-22 of the Regulations of Connecticut State Agencies is repealed as of June 1, 2018.

Statement of Purpose.

1. *The purpose of the proposal, including the problems, issues or circumstances that the proposal is intended to address:*

Section 22a-174-22e of the Regulations of Connecticut State Agencies (RCSA) is proposed to address the U.S. Environmental Protection Agency's (EPA's) reasonably available control technology (RACT) requirements under the 2008 and 2015 ozone national ambient air quality standard (NAAQS). Under sections 182(a) and (b) and 184(b) of the Clean Air Act, Connecticut is required to adopt and update RACT-based emissions limitations for all major sources of the air pollutant nitrogen oxides (NOx). Connecticut currently regulates NOx emissions from fuel-burning equipment (boilers, turbines and engines) through RCSA section 22a-174-22, but the emissions limits are not consistent with the emissions limits achievable with current NOx emissions controls in widespread use. Thus, the current emissions limits are not RACT. Proposed section 22a-174-22e, which for major sources of NOx will replace current RCSA section 22a-174-22, includes more stringent NOx emissions limits that are consistent with emissions limits achievable now and that are now required in other states such as New York and New Jersey.

RCSA section 22a-174-22f is proposed as a companion regulation to RCSA section 22a-174-22e, and the two regulations together will replace current RCSA section 22a-174-22. Although EPA only requires that RACT-based emission limits apply to major sources of NOx, which DEEP is achieving by proposing RCSA section 22a-174-22e, DEEP has determined that NOx emitting equipment at non-major sources of NOx must also be limited if the equipment emits NOx at a high rate. Such equipment often operates on peak electricity demand days, which are typically the hottest days of summer. The hot days of summer are the days on which Connecticut experiences the highest monitored ozone levels of the year, often exceeding the national ambient air quality standards (NAAQS) for ozone. Since NOx is a precursor of ozone, emissions of NOx on these hot days of summer contribute to Connecticut's continued inability to comply with the NAAQS for ozone. High ozone levels are a public health concern, particularly for children, the elderly and people with pre-existing respiratory conditions. RCSA section 22a-174-22f will require owners of NOx emitting equipment at non-major sources of NOx to track daily emissions during the ozone season, and, if the unit exceeds a certain amount of NOx emissions, to limit NOx emissions as required in RCSA section 22a-174-22e. Owners of emission units that maintain low daily NOx emission levels will continue to operate under RCSA section 22a-174-22f and have fewer compliance responsibilities than owners of equipment at major sources of NOx.

In conjunction with RCSA section 22a-174-22e, RCSA section 22a-174-22f creates clarity in the applicability of the rule requirements. By combining the short-term high emitting equipment and the equipment at major sources into a single regulation (RCSA section 22a-174-22), the resulting applicability statement is very confusing. Two separate regulations with separate applicability statements makes it much easier for regulated industries to understand what equipment is regulated and what requirements apply. The two separate sections also allow DEEP to apply streamlined requirements to the owners of equipment at non-major sources of NOx if the daily NOx emissions are low. In replacing RCSA section 22a-174-22, DEEP also eliminates a state-only NOx emissions trading program that perpetuates continued high NOx emissions from antiquated, uncontrolled emission units.

In addition, the more stringent NOx emissions limitations and other requirements will reduce NOx emissions from fuel-burning equipment and assist Connecticut in attaining the 2008 and 2015 ozone NAAQS.

2. *A summary of the main provisions of the regulation:*

RCSA section 22a-174-22e. The regulation limits NOx emissions from boilers, turbines and engines located at major sources of NOx through emissions limits specific to each type of equipment for each fuel type. The emissions limits are implemented in two phases, with a more stringent second phase, to allow adequate compliance time for the installation of emissions controls or changes in operation. As an alternative to compliance with the emissions limits, the regulation also includes a menu of compliance options and the ability to apply for an alternative emission limit if the application of control equipment is not technically or economically feasible for a particular emission unit at a particular facility. Emission monitoring and testing, record keeping and reporting are included to allow the owner or operator to demonstrate and DEEP to verify compliance with the emissions limitations.

RCSA section 22a-174-22f. The section requires the owner of equipment at non-major sources of NOx to maintain the equipment in proper operating condition and track daily emissions during the summer months, when NOx emissions are particularly harmful. If the equipment exceeds a certain daily level of NOx emissions, the owner must reduce the rate of emissions as required by RCSA section 22a-174-22e.

The proposed adoption of RCSA sections 22a-174-22e and 22a-174-22f is set out in sections 1 and 2 of this proposal. The repeal of RCSA section 22a-174-22 is set out in section 7 of the proposal. Sections 3 through 6 of the proposal adjust references to RCSA section 22a-174-22 in other sections of the air quality regulations.

3. *The legal effects of the regulation, including all the ways the regulation would change existing regulations or other law:*

For the owners and operators of regulated equipment at major sources of NOx, RCSA section 22a-174-22e changes the emissions limitations and other requirements for the control of NOx emissions and thus will require many owners and operators to take actions such as adding or optimizing emissions control equipment to continue to operate existing equipment.

New section 22a-174-22f requires little change of the owners and operators of regulated equipment. Such owners and operators will continue to track daily NOx emission in the summer months as required by current section 22a-174-22, which will be repealed as of June 1, 2018. The new requirement added by section 22a-174-22f is a requirement to perform an annual tune-up, an action that many operators may now perform to maintain equipment in good working condition and maintain efficient fuel use.

For Connecticut, RCSA section 22a-174-22e satisfies the RACT obligation for NOx from major sources for the 2008 ozone NAAQS and may serve to satisfy the RACT obligation for the 2015 ozone NAAQS. In addition, RCSA sections 22a-174-22e and 22a-174-22f will be necessary components of the state's attainment plan for the 2008 ozone NAAQS. In addition, the adoption of RCSA section 22a-174-22f allows DEEP to satisfy EPA's anti-backsliding requirements under section 110(l) of the Clean Air Act in that no provision of previously approved NOx control requirements for stationary sources are removed or relaxed.