## Table 3-30 State Power Regulations included in EPA Platform v6 Summer 2021 Reference Case

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
Alabama	Alabama Administrative Code Chapter 335-3-8	NOx	0.02 lbs/MMBtu for combined cycle EGUs which commenced operation after April 1, 2003; For combined-cycle electric generating units fired by natural gas: 4.0 ppmvd at 15% $O_2$ (0.0178 lbs/MMBtu), by fuel oil: 15.0 ppmvd at 15% $O_2$ : (0.0667 lbs/MMBtu)	2003	
Arizona	Title 18, Chapter 2, Article 7	Hg	90% removal of Hg content of fuel or 0.0087 lbs/GWh annual reduction for all non-cogen coal units > 25 MW	2017	
		NOx	9.68 MTons annual cap for list of entities in Appendix A of "Annual RECLAIM Audit Market Report for the Compliance Year 2005" (304 entities)		Since the Reclaim Trading Credits are applicable to entities besides
California	CA Reclaim Market	SO <sub>2</sub>	2.839 MTons in 2016, 2.474 in 2018, and 2.219 in 2020 onward annual cap for list of entities in Appendix A of "Annual RECLAIM Audit Market Report for the Compliance Year 2005" (304 entities)	1994	power plants, we approximate by hardwiring the NO <sub>x</sub> and SO <sub>2</sub> allowance prices for the calendar year 2006.
	CA AB 32	CO <sub>2</sub>	Power sector and Non-power Sector Cap in Million metric tons.	2012	Refer to Section 3.9.4 for details
	40 C.F.R. Part 60	Hg	2012 & 2013: 80% reduction of Hg content of fuel or 0.0174 lbs/GWh annual reduction for Pawnee Station 1 and Rawhide Station 101. 2014 through 2016: 80% reduction of Hg content of fuel or 0.0174 lbs/GWh annual reduction for all coal units > 25 MW 2017 onwards: 90% reduction of Hg content of fuel or 0.0087 lb/GWh annual reduction for all coal units > 25 MW	2012	
Colorado	Clean Air, Clean Jobs Act	NO <sub>x,</sub> SO <sub>2</sub> , Hg	Retire Arapahoe 3 by 2014; Cherokee 1 & 2 by 2012, Cherokee 3 by 2017; Cameo 1 & 2; Valmont 5 by 2018; W N Clark 55 & 59 by 2015  Convert following units to natural gas: Arapahoe 4 by 2015; Cherokee 4 by 2018  Install SCRs in Hayden 1 & 2 by 2016; SCR + FGD in Pawnee 1 [already installed]	2010	
		Hg	Comanche Units 1, 2, and 3 Combined Hg Limit - 0.000013 lbs/MWh	2012	
		NO <sub>x</sub>	Craig Station Unit 1 and Unit 3 NO <sub>x</sub> Limit - 0.28lbs/MMBtu	2012	
		NO <sub>x</sub>	Craig Station Unit 2 NO <sub>x</sub> Limit - 0.08 lbs/MMBtu	2012	
Connecticut	Executive Order 19 and Regulations of Connecticut State Agencies (RCSA) section 22a-174-22e*	NΟ <sub>x</sub>	0.15 lbs/MMBtu annual rate limit for all fossil units > 15 MW (Non-ozone season only)  Ozone season (Pre June 1, 2023)  Daily average limits for EGU Boilers: Gas: 0.20 lbs/MMBtu (non-cyclone boilers) 0.30 lbs/MMBtu (cyclone boilers) Residual oil: 0.25 lbs/MMBtu (non-cyclone boilers) 0.43 lbs/MMbtu (cyclone boilers) Other oil: 0.20 lbs/MMBtu (non-cyclone boilers) 0.43 lbs/MMbtu (cyclone boilers) Coal: 0.28 lbs/MMBtu  Daily average limits for simple cycle combustion turbines: Gas-fired: 55 ppm Oil-fired: 75ppm	2003	Daily average limits shown are "Phase 1" limits, which began on June 1, 2018, and remain in effect until June 1. 2023, at which time more stringent limits take effect.  *RCSA section 22a-174-22e was effective on 12/22/16 and replaced RCSA section 22a-174-22 (repealed on 6/1/19).

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State/Region	Bill	Emission Type	Daily average limits for combined cycle combustion turbines: Gas-fired: 42 ppm Oil-fired: 65 ppm  Ozone Season (June 1, 2023 onwards)  Daily average limits for EGU Boilers: Gas: 0.10 lbs/MMBtu Residual oil: 0.20 lbs/MMBtu Other oil: 0.10 lbs/MMBtu Coal: 0.12 lbs/MMBtu  Daily average limits for simple cycle combustion turbines: Gas-fired: 40 ppm Oil-fired: 50 ppm  Daily average limits for combined cycle combustion turbines:	Status	Notes
	Executive Order 19, RCSA 22a-198 & Connecticut General Statues (CGS) 22a- 174-19(a) & Connecticut General Statutes (CGS) section 22a- 198	SO <sub>2</sub>	Gas-fired: 25 ppm Oil-fired: 42 ppm  Combust fuel with a sulfur content < 3000 ppm; or Meet an average emission rate of < 0.33 lb SO <sub>2</sub> /MMBtu for each calendar quarter; or Meet an average emission rate of < 0.3 lb SO <sub>2</sub> /MMBtu for each calendar quarter if averaging the emissions from two or more units at a facility		
	CGS section 22a-199	Hg	90% removal of Hg content of fuel or 0.6 lbs/TBtu annual reduction for all coal-fired units	2008	
	Regulation 1148: Control of Stationary Combustion Turbine EGU Emissions	NO <sub>x</sub>	0.19 lbs/MMBtu ozone season ppmvd for stationary, liquid fuel fired CT EGUs >1 MW 0.39 lbs/MMBtu ozone season ppmvd for stationary, gas fuel fired CT EGUs >1 MW	2009	
		NO <sub>x</sub>	0.125 lbs/MMBtu rate limit of NO <sub>x</sub> annually for all coal and residual-oil fired units > 25 MW	2000	The following units have specific NO <sub>x</sub> , SO <sub>2</sub> , and Hg annual caps in
		SO <sub>2</sub>	0.26 lbs/MMBtu annual rate limit for coal and residual-oil fired units > 25 MW	2009	MTons: Edge Moor 3 - NO <sub>x</sub> : 0.773, SO <sub>2</sub> :
Delaware	Regulation No. 1146: Electric Generating Unit (EGU) Multi- Pollutant Regulation	Hg	2012: 80% removal of Hg content of fuel or 0.0174 lbs/GWh annual reduction for all coal units > 25 MW 2013 onwards: 90% removal of Hg content of fuel or 0.0087 lbs/GWh annual reduction for all coal units > 25 MW	2012	1.391, Hg: 0.000083 (2012), Hg: 0.000033 (2013 onward) Edge Moor 4 - NO <sub>x</sub> : 1.339, SO <sub>2</sub> : 2.41 Hg: 0.0000144 (2012), Hg: 0.000057 (2013 onward) Edge More 5 - NO <sub>x</sub> : 1.348, SO <sub>2</sub> : 2.427 Indian River 3 - NO <sub>x</sub> : 0.977, SO <sub>2</sub> : 1.759, Hg: 0.0000105 (2012), Hg: 0.0000042 (2013 onward) Indian River 4 - NO <sub>x</sub> : 2.032, SO <sub>2</sub> : 3.657 Hg: 0.0000219 (2012), Hg: 0.000087 (2013 onward) McKee Run 3 - NO <sub>x</sub> : 0.244, SO <sub>2</sub> : 0.439

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	Regulation 1108: Distillate Fuel Oil rule	SO <sub>2</sub>	Any relevant units are to use 0.3% sulfur distillate fuel oil		Fuel rule modeled through unit emission rates
Georgia	Multi-pollutant Control for Electric Utility Steam Generating Units	SCR, FGD, and Sorbent Injection Baghouse controls to be installed	The following plants must install controls: Bowen, Branch, Hammond, McDonough, Scherer, Wansley, and Yates	Implementation from 2008 through 2015, depending on plant and control type	
	Title 35, Section 217.706	NO <sub>x</sub>	0.25 lbs/MMBtu summer season rate limit for all fossil units > 25 MW	2003	
	Title 35, Part 225, Subpart B 225.230	Hg	90% removal of Hg content of fuel; or a standard of 0.0080 lb Hg/GWh for sources at or above 25 MW; If facility commenced operation on or before December 31, 2008, start date for implementation must be July 1, 2009	2009	Not Ameren Specific
		NOx	0.11 lbs/MMBtu annual rate limit or a rate equivalent to 52% of base annual NO <sub>x</sub> emissions (whichever is more stringent) and 0.11 lbs/MMBtu ozone season rate limit or a rate equivalent to 80% of base ozone season NO <sub>x</sub> emissions (whichever is more stringent) for all coal steam units > 25 MW	2012	
	Title 35 Part 225 Subpart B 225.233	SO <sub>2</sub>	2015 onwards: 0.25 lbs/MMBtu annual rate limit for all coal steam units > 25 MW or a rate equivalent to 35% of the base SO <sub>2</sub> emissions (whichever is more stringent)	2015	Not Ameren Specific
		Hg	90% removal of Hg content of fuel or 0.008 lbs/GWh annual reduction for all coal units > 25 MW	2015	
Illinois		NOx	0.11 lbs/MMBtu annual rate limit and ozone season rate limit for Ameren coal steam units > 25 MW	2012	
	Title 35 Part 225 Subpart B 225.233 (MPS Ameren specific)	SO <sub>2</sub>	2015 & 2016 onwards: 0.35 lbs/MMBtu annual rate limit for all Ameren coal steam units > 25 MW 2020 onwards: 0.23 lbs/MMBtu annual rate limit for all Ameren coal steam units > 25 MW System-wide mass emissions limit of 327,996 tons for 10/1/2013-12/31/2020	2015 (as modified by board orders 11/2013)	
		NOx	0.11 lbs/MMBtu group average annual and ozone season emission rates	2012	
	Title 35 Part 225 Subpart B 225.291-299 (Combined pollutant standard)	SO <sub>2</sub>	Group average annual emission rates of 0.44 lbs/MMBtu in 2013, 0.41 lbs/MMBtu in 2014, 0.38 lbs/MMBtu in 2015 and 2016, 0.15 lbs/MMBtu in 2017, 0.13 lbs/MMBtu in 2018 and 0.11 lbs/MMBtu in 2019 and after, and annual system wide mass SO2 emissions limits of no more than 57,000 tons in 2013, 54,000 tons in 2014, 39,000 tons in 2015, and 37,000 tons in 2016	2013	Applies to Midwest Generation's Coal-Fired Boilers as of 7/1/2006: Crawford (7 & 8), Fisk (19), Joliet (6, 7 & 8), Powerton (5 & 6), Waukegan (6, 7 & 8) and Will
	, p	Hg	90% removal of Hg content of fuel or 0.0080 lbs/GWh, compliance determined on a rolling 12-month basis	2015	County (1, 2, 3 & 4)
	Illinois Pollution Control Board - Amendments To 35	NO <sub>x</sub> – Ozone Season	The Board incorporates the amendments suggested by the IEPA in its testimony and comments. The IEPA proposed mass-based caps of 11,500 tons for NO <sub>x</sub> for the ozone season.	2019	https://pcb.illinois.gov/documents/dsweb/Get/Document-100685  The amendments also require
	III. Adm. Code 225.233, Multi- Pollutant Standard	NO <sub>x</sub>	The Board incorporates the amendments suggested by the IEPA in its testimony and comments. The IEPA proposed mass-based caps of 19,000 tpy for NO <sub>x</sub> .	2019	reduction of at least 2,000 megawatts (MW) of electric generation by coal fired EGUs in

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
		SO <sub>2</sub>	The Board incorporates the amendments suggested by the IEPA in its testimony and comments. The IEPA proposed mass-based caps of 34,500 tpy for SO <sub>2</sub> .	2019	the MPS no later than December 31, 2019 and adjust the allocation amounts for transfers, permanent shutdown, and temporary shutdown; and clarify the language of the rule.
Indiana	A.B. Brown Generating Station Consent Order dated 1/11/2016	SO <sub>2</sub>	(A) When Unit 1 is operating alone: (i) 2152.2 lbs/hr, 1-hour average or 0.855 lbs/MMBtu 1-hour average; and (ii) 1831.6 lbs/hr, 24-hour average or 0.727 lbs/MMBtu 24-hour average; (B) When Units 1 & 2 are both in operation, both units shall not exceed the following combined emission rates: (i) 2152.2 lbs/hr, 1-hour average or 0.426 lbs/MMBtu 1-hour average; and (ii) 1831.6 lbs/hr, 24-hour average or 0.363 lbs/MMBtu 24-hour average; (C) When Unit 2 is operating alone: (i) 1745.7 lbs/hr, 1-hour average or 0.690 lbs/MMBtu 1-hour average; and (ii) 1485.59 lbs/hr, 24-hour average or 0.588 lbs/MMBtu 24-hour average;	2016	https://www.regulations.gov/docum ent?D=EPA-R05-OAR-2016-0090- 0005
	Clifty Creek Generating Station Consent Order dated 2/1/2016	SO <sub>2</sub>	Units 1-6 - 2624.5 lbs SO₂/hr on a 720-hr rolling average	2016	
Kansas	NO <sub>x</sub> Emission Reduction Rule, K.A.R. 28-19-713a. (Nearman Unit 1)	NO <sub>x</sub>	Annual rate limit for Nearman Unit 1: 0.26 lbs/MMBtu	2012	
Nansas	NO <sub>x</sub> Emission Reduction Rule, K.A.R. 28-19-713a. (Quindaro Unit 2)	NOx	Annual rate limit for Quindaro Unit 1: 0.20 lbs/MMBtu	2012	
Louisiana	Title 33 Part III - Chapter 22, Control of Nitrogen Oxides	NOx	For units >/= 80 MMBtu/hr, rate limit: Coal-fired: 0.21 lbs/MMBtu Oil-fired: 0.18 lbs/MMBtu All others (gas or liquid): 0.1 lbs/MMBtu Stationary Sources >/= 10 MMBtu/hr, rate limit: Oil-fired: 0.3 lbs/MMBtu Gas-fired: 0.2 lbs/MMBtu	2005	Applicable for all units in Baton Rouge Nonattainment Area & Region of Influence.  Willow Glenn, located in Iberville, obtained a permit that allows its gas-fired units to maintain a cap. These units are separately modeled.
	Title 33, Part III - Chapter 15, Emission Standards for Sulfur Dioxide	SO <sub>2</sub>	1.2 lbs/MMBtu ozone season ppmvd for all single point sources that emit or have the potential to emit 5 tons or more of SO <sub>2</sub>	2005	
Maine	Chapter 145 NO <sub>x</sub> Control Program	NO <sub>x</sub>	0.22 lbs/MMBtu annual rate limit for all fossil fuel units > 25 MW built before 1995 with a heat input capacity < 750 MMBtu/hr. 0.15 lbs/MMBtu annual rate limit for all fossil fuel units > 25 MW built before 1995 with a heat input capacity > 750 MMBtu/hr. 0.20 lbs/MMBtu annual rate limit for all fossil fuel fired indirect heat exchangers, primary boilers, and resource recovery units with heat input capacity > 250 MMBtu/hr	2005	

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	38 MRSA Section 603-A Low Sulfur in Fuel Rule	SO <sub>2</sub>	All fossil units require the use of 0.5% sulfur residual oil [0.52 lbs/MMBtu]	2018	Fuel rule modeled through unit emission rates
	Statue 585-B Title 38, Chapter 4: Protection and Improvement of Air	Hg	25 lbs annual cap for any facility including EGUs (0.0000125 MTons)	2010	
	Maryland Healthy Air Act (COMAR 26.11.27)	NOx	The annual NOx tonnage limitations: 1/2009-12/31/2011 - 20.216 MTons 1/1/2012 onward - 16.324 MTons (16.7 MTons minus the tonnage for R. Paul Smith units 3 and 4 which are retired)  The ozone season NOx tonnage limitations: 5/1/2009-9/30/2011 - 8.9 MTons 5/1/2012 onward - 7.197 MTons (7.227 MTons minus the tonnage for R. Paul Smith units 3 and 4 which are retired)	2009	
	(00,000,000,000,000,000,000,000,000,000	SO <sub>2</sub>	1/1/2010-12/31/2012 - 48.618 MTons  1/1/2013 onward - 36.467 MTons (37.235 minus the tonnage for R. Paul Smith units 3 and 4 which are retired)		
		Hg	1/1/2010-12/31/2012 - 80% removal of Hg content of fuel for 15 specific existing coal steam units 1/1/2013 onward - 90% removal of Hg content of fuel for 15 specific existing coal steam units		
Maryland			Phase 1: requires all of the affected units to minimize $NO_x$ emissions every day of the ozone season (5/1-9/30) by optimizing the pollution controls that are already in place.		
iviai yiai u			Phase 2: requires the owner or operator of units that have not installed SCR (H. A. Wagner Unit 2, C. P. Crane Units 1 and 2, Chalk Point Unit 2, and Dickerson Units 1, 2 and 3) to choose from the following:		Affected EGUs are all coal-fired EGUs owned by Raven Power Finance LLC (Raven Power) and NRG Energy, Inc. (NRG) in Maryland.
	COMAD 00 44 20		Option 1—By June 1, 2020, install and operate an SCR control system that can meet a NO <sub>x</sub> emission rate of 0.09 lbs/MMBtu during the ozone season based on a 30-day rolling average;	Phase 1: May 1,	Plants that are part of the Raven system include Brandon Shores Units 1 and 2, H. A. Wagner Units 2
	COMAR 26.11.38 Control of NOx Emissions from Coal-Fired Electric	NO <sub>x</sub>	Option 2—By June 1, 2020, permanently retire the unit;	2015	and 3, and C. P. Crane Units 1 and 2.
	Generating Units		Option 3—By June 1, 2020, switch fuel permanently from coal to natural gas and operate the unit on natural gas; or	Phase 2:2020	Plants that are part of the NRG
			Option 4—By June 1, 2020, meet a system wide, daily $NO_x$ tonnage cap of 21 tons per day for every day of the ozone season or meet a system wide $NO_x$ emission rate of 0.13 lbs/MMBtu as a 24-hour block average. The rate and the cap in option 4 are consistent with levels assuming SCR controls on all units. If option 4 is selected, deeper reductions starting in May 2016, 2018 and 2020 must also be achieved.		system include: Morgantown Units 1 and 2, Chalk Point Units 1 and 2, and Dickerson Units 1, 2 and 3.  The Crane units were sold on or around 2/16/2016 and are no longer part of the Raven System.
			2016—Meet a 30-day system wide rolling average NO <sub>x</sub> emission rate of 0.13 lbs/MMBtu during the ozone season.  2018—Meet a 30-day system wide rolling average NO <sub>x</sub> emission rate of 0.11 lbs/MMBtu during the ozone season.		gs. parts. als haron openii.

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			2020—Meet a 30-day system wide rolling average NO <sub>x</sub> emission rate of 0.09 lbs/MMBtu during the ozone season.		
			Without option 4, the allowable 30-day system wide rolling average NO <sub>x</sub> emission rate is 0.15 lbs/MMBtu during the ozone season.		
			Option 4 also includes provisions to ensure that the reliability of the electrical system is maintained.		
		NO <sub>x</sub>	1.5 lbs/MWh annual GPS for Brayton Point, Mystic Generating Station, Mount Tom, Canal, and Salem Harbor		
		SO <sub>2</sub>	3.0 lbs/MWh annual GPS for Brayton Point, Mystic Generating Station, Mount Tom, Canal, and Salem Harbor		
	310 CMR 7.29	Hg	2012: 85% removal of Hg content of fuel or 0.0000025 lbs/MWh annual GPS for Brayton Point, Mystic Generating Station, Mount Tom, Canal, and Salem Harbor 2013 onwards: 95% removal of Hg content of fuel or 0.0000025 lbs/MWh annual GPS for Brayton Point, Mystic Generating Station, Mount Tom, Canal, and Salem Harbor	2006	Brayton Point, Salem Harbor and MT Tom have permanently retired.
Massachusetts	310 CMR 7.04	SO <sub>2</sub>	Sulfur in Fuel Oil Rule requires the use of 0.5% sulfur residual oil [0.28lbs/MMBtu] after July 1, 2018 for units greater than 250 MMBtu energy input; all residual oil units except for those located in the Berkshire APCD are affected.	2014	Fuel rule modeled through unit emission rates
	310 CMR 7.74: Reducing CO2 Emissions from Electricity Generating Facilities	CO <sub>2</sub>	The regulation sets the existing facility aggregate CO <sub>2</sub> emissions limit, and new facility aggregate CO <sub>2</sub> emissions limit as the following:  Total Aggregate CO <sub>2</sub> Emissions Limits - The total aggregate CO <sub>2</sub> emissions limit for 2018 and 2019 are 9,149,979 metric tons of CO <sub>2</sub> and 8,731,175 metric tons of CO <sub>2</sub> respectively.  The total aggregate CO <sub>2</sub> emissions limit declines by 223,876 metric tons each year thereafter until it reaches 8,507,299 metric tons of CO <sub>2</sub> in 2020 and 1,791,019 metric tons of CO <sub>2</sub> in 2050.	2018	https://www.mass.gov/doc/fact- sheet-massdep-electricity-sector- regulations/download
	Part 18 Rules – R 336.1801 (2) (a)	NO <sub>x</sub>	For all fossil units > 25 MW, and annual PTE of NO <sub>x</sub> >25 tons,0.25 lbs/MMBtu ozone season rate, OR 65% NO <sub>x</sub> reductions from 1990 levels	2004	
			SO <sub>2</sub> ppmvd rates in 50% excess air for units in Wayne county - Pulverized coal: 550; Other coal: 420; Distillate oil Nos. 1 & 2: 120; Used oil: 300; Crude and Heavy oil: 400		
Michigan	Part 4 Rules – R 336.1401	SO <sub>2</sub>	For all other units, with 0-500,000 lbs Steam per Hour Plant Capacity: 2.5 SO <sub>2</sub> ppmvd rates at 50% excess air for solid fuel is 890 and for liquid fuel is 630; the pounds of SO <sub>2</sub> per MMBtu of heat input for solid fuel is 2.5 and 1.67 for liquid fuel with >500,000 lbs Steam per Hour Plant Capacity: 1.67 SO <sub>2</sub> ppmvd rates at 50% excess air for solid fuel is 590 and for liquid fuel is 420; the pounds of SO <sub>2</sub> per MMBtu of heat input for solid fuel is 1.67 and 1.11 for liquid fuel	2012	Not modeled in IPM as limits are within SIP rates
	Part 15. Emission Limitations and Prohibitions - Mercury	Hg	90% removal of Hg content of fuel annually for all coal units > 25 MW An affected EGU is defined in Part 15 as unit with a nameplate capacity of greater than 25 MW producing electricity for sale.	2015	

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			An out-put based emission standard of 0.008 lb of Hg per gigawatts hour on a 12-month rolling average as determined at the end of each calendar month		
Minnesota	Minnesota Hg Emission Reduction Act	Hg	90% removal of Hg content of fuel annually for all coal facilities > 500 MW combined; Dry scrubbed units must implement by December 31, 2010; Wet scrubbed units must implement by December 31, 2014.	2006	
Montana	Montana Mercury Rule Adopted 10/16/06	Hg	0.90 lbs/TBtu annual rate limit for all non-lignite coal units 1.50 lbs/TBtu annual rate limit for all lignite coal units	2010	
	RSA 125-O: 11-18	Hg	80% reduction of aggregated Hg content of the coal burned at the facilities for Merrimack Units 1 & 2 and Schiller Units 4, & 6	2012	Unit 5 is no longer subject because PSNH installed a new unit.
New Hampshire	ENV-A2900 Multiple pollutant annual budget trading and banking program Daily Limits from Env-A 1303.06	NO <sub>x</sub>	Emission Caps: 2.40 MTons summer cap for all fossil steam units > 250 MMBtu/hr operated at any time in 1990 and all new units > 15 MW 3.64 MTons annual cap for Merrimack 1 & 2, Newington 1, and Schiller 4 through 6 24-hour limits:  Merrimack 1 & 2 - 0.22lbs NO <sub>x</sub> /MMBtu Newington 1 – 0.25 lbs NO <sub>x</sub> /MMBtu	Caps implemented in 2007 24-hour limits implemented in 2018	
		SO <sub>2</sub>	7.29 MTons annual cap for Merrimack 1 & 2, Newington 1, and Schiller 4 through 6		
	Env -A 2300 - Mitigation of Regional Haze	SO <sub>2</sub>	90% SO <sub>2</sub> control at Merrimack 1 & 2; 0.5 lb SO <sub>2</sub> /MMBtu 30 day rolling average at Newington 1	2013	
	N.J. A. C. Title 7, Chapter 27, Subchapter 9, Low Sulfur Fuel Rule	SO <sub>2</sub>	15 ppm for No. 2 and lighter fuel 2,500 ppm for No. 4 fuel	July 1 2016 (No. 2. And lighter), July1,2014 (No. 4)	
	N.J. A. C. Title 7, Chapter 27, Subchapter 10.2	SO <sub>2</sub>	0.15 (30 day rolling average) lbs/MMBtu and 0.25 (24-hour) lbs/MMBtu	2012	
	N.J.A.C. 7:27-27.5, 27.6, 27.7, and 27.8	Hg	90% removal of Hg content of fuel annually for all coal-fired units or <= 3.0 mg/MWh (net) 95% removal of Hg content of fuel annually for all MSW incinerator units or <= 28 ug/dscm	2007	
New Jersey	N.J. A. C. Title 7, Chapter 27, Subchapter 19, Table 3	NOx	1.50 lbs/MWh for Boilers firing coal and serving electric generating units     2.00 lbs/MWh for Boilers firing heavier than No. 2 fuel oil and serving electric generating units     1.00 lbs/MWh for Boilers firing No. 2 and lighter fuel oil and serving electric generating units     1.00 lbs/MWh for Boilers firing gas only and serving electric generating units	05/01/2015	Operative on and after May 1, 2015
	N.J. A. C. Title 7, Chapter 27, Subchapter 19, Table 7; High Electricity demand Day (HEDD) unit	NOx	1.00 lbs/MWh for gas-burning simple cycle combustion turbine units     1.60 lbs/MWh for oil-burning simple cycle combustion turbine units     0.75 lbs/MWh for gas-burning combined cycle CT or regenerative cycle CT units     1.20 lbs/MWh for oil-burning combined cycle CT or regenerative cycle CT units  On and after May 1, 2015, the owner or operator of a stationary combustion turbine that is a HEDD unit or a stationary combustion turbine that is capable of generating 15 MW or more and that commenced operation on or after May 1, 2005 shall comply with limits outlines "in Table 7 during operation on high electricity demand days, regardless of the fuel combusted,	2007	Not modeled as these rates are applicable only during HEDD.

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			unless combusting gaseous fuel is not possible due to gas curtailment."		
New York	Subpart 227-3	NOx	Ozone Season NO <sub>x</sub> Emission Limits for Simple Cycle and Regenerative Combustion Turbines:  For SCCTs with a nameplate capacity of 15 megawatts or greater that inject power into the transmission or distribution systems:  Beginning 5/1/2023, the first phase of NO <sub>x</sub> emission limits will be implemented during the ozone season and SCCTs will be limited to averaging with other SCCTs, storage or renewable energy resources. The first phase of emission limits will be:  All SCCTs: 100 ppmvd  Beginning 5/1/2025, the second and final phase of NO <sub>x</sub> emission limits will be implemented during the ozone season as follows:  Gaseous fuels: 25 ppmvd  Distillate oil or other liquid fuel: 42 ppmvd  Notes: Parts per million on a dry volume basis at fifteen percent oxygen.	2023 and 2025	https://www.dec.ny.gov/regulations/ 116175.html
New York	Part 225	SO <sub>2</sub>	Owners and/or operators of any stationary combustion installation that fires solid fuels are limited to the firing of solid fuel with a sulfur content listed in the table below on or after July 1, 2014:  Solid fuel (pounds of sulfur/millionBtu) New York City: 0.2 MAX. Nassau, Rockland and Westchester Counties: 0.2 MAX. Suffolk County: Towns of Babylon, Brookhaven, Huntington, Islip, and Smith Town: 0.6 MAX. Erie and Niagara Counties: 1.7 MAX, 1.4 AVG. Remainder of State: 2.5 MAX, 1.9 AVG  Owners and/or operators of a stationary combustion installation that fires distillate oil other than number two heating oil are limited to the purchase of distillate oil with 0.0015 percent sulfur by weight or less on or after July 1, 2014.  Owners and/or operators of any stationary combustion installation that fires distillate oil including number two heating oil are limited to the firing of distillate oil with 0.0015 percent sulfur by weight or less on or after July 1, 2016.	2014 and 2016	
	Part 243	NO <sub>x</sub>	5,135 tons NO <sub>x</sub> Ozone season budget for fossil fuel units greater than 25 MW.	2017	
	Part 244	NOx	16,081 tons NO <sub>x</sub> annual budget for fossil fuel units greater than 25 MW.	2017	
	Part 245	SO <sub>2</sub>	27,556 tons SO <sub>2</sub> annual budget for fossil fuel units greater than 25MW	2017	
	Part 237	NO <sub>x</sub>	39.91 MTons non-ozone season cap for fossil fuel units > 25 MW	2004	Repealed
	Part 238	SO <sub>2</sub>	131.36 MTons annual cap for fossil fuel units > 25 MW	2005	Repealed
	Mercury Reduction Program for Coal-Fired Electric Utility	Hg	786 lbs annual cap through 2014 for all coal fired boiler or CT units >25 MW after Nov. 15, 1990. For facilities identified in Table 1 of Part 246 and	2010	https://govt.westlaw.com/nycrr/Bro wse/Home/NewYork/NewYorkCode

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
	Steam Generating Units		includes 40 lbs set aside.  0.60 lbs/TBtu annual rate limit for all coal units > 25 MW developed after November 15, 1990 for new units and existing facilities – effective January 1, 2015.		sRulesandRegulations?guid=lc303 9690b5a011dda0a4e17826ebc834 &originationContext=documenttoc& transitionType=Default&contextDat a=%28sc.Default%29
	Subpart 227-2 Reasonably Available Control Technology (RACT) For Major Facilities of Oxides Of Nitrogen (NO <sub>x</sub> )	NOx	Annual rate for very large boilers >250 MMBtu/hr on or after July 1, 2014  Gas only, tangential & wall fired: 0.08 lbs/MMBtu Gas/oil tangential & wall fired: 0.15 lbs/MMBtu; cyclone: 0.2 lbs/MMBtu Coal Wet Bottom, tangential & wall fired: 0.12 lbs/MMBtu; cyclone: 0.2 lbs/MMBtu Coal Dry Bottom, tangential & wall fired: 0.12 lbs/MMBtu; stokers: 0.08 lbs/MMBtu Annual rate for large boilers between 100 and 250 MMBtu/hr on or after July 1, 2014;  Gas Only: 0.06 lbs/MMBtu Gas/Oil: 0.15 lbs/MMBtu Pulverized Coal: 0.20 lbs/MMBtu Coal (Overfeed Stoker/FBC): 0.8 lbs/MMBtu Annual rate for mid-size boilers between 25 and 100 MMBtu/hr on or after July 1, 2014;  Gas Only: 0.05 lbs/MMBtu Distillate Oil/Gas: 0.08 lbs/MMBtu Residual Oil/Gas: 0.20 lbs/MMBtu	2004	
			Combined cycle and cogeneration combustion turbines must have an approved case by case RACT determination from the Department by July 1, 2014.  Simple cycle combustions turbines are required to meet 50 ppm on natural gas and 100 ppm on distillate oil.		Compliance with these emission limits must be determined with a one-hour average during the ozone season and a 30-day average during the non-ozone season unless the owner or operator chooses to use a CEMS under the provisions of section 227- 2.6(b) of this Subpart.

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
			Stationary internal combustion engines having a maximum mechanical output => 200 brake horsepower in a severe ozone nonattainment area or having a maximum mechanical output rating => 400 brake horsepower outside a severe ozone nonattainment area must comply with one of the emission limits in paragraph (1), (2), or (3) of this subdivision or a case-by-case RACT determination made pursuant to paragraph (4) of this subdivision, as applicable:  (1) For internal combustion engines fired solely with natural gas: 1.5 grams per brake horsepower-hour.  (2) For internal combustion engines fired with landfill gas or digester gas (solely or in combination with natural gas): 2.0 grams per brake horsepower-hour.  (3) For internal combustion engine fired with distillate oil (solely or in combination with other fuels): 2.3 grams per brake horsepower-hour.  (4) For stationary internal combustion engines fired primarily with fuels not listed above, the owner or operator must submit a proposal for RACT to be implemented that includes descriptions of:  (i) the available NO <sub>x</sub> control technologies, the projected effectiveness of the technologies considered, and the costs for installation and operation for each of the technologies; and (ii) the technology and the appropriate emission limit selected as RACT considering the costs for installation and operation of the technology.  (5) Any stationary internal combustion engine may rely on an emission limit that reflects a 90 percent or greater NO <sub>x</sub> reduction from the engine's actual 1990 baseline emissions, if such emissions baseline exists.  (6) Emergency power generating stationary internal combustion engines, and engine test cells at engine manufacturing facilities that are used for either research and development purposes, reliability testing, or quality assurance performance testing are exempt from the requirements of this subdivision.		
	Part 242 CO₂ Budget Trading Program	CO₂	Any unit that, at any time on or after January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe shall be a CO <sub>2</sub> budget unit, and any source that includes one or more such units shall be a CO <sub>2</sub> budget source, subject to the requirements of this Part.  (a) The CO <sub>2</sub> Budget Trading Program base budget is 35,228,822 tons, for the 2014 allocation year. (b) The CO <sub>2</sub> Budget Trading Program base budget is 34,348,101 tons, for the 2015 allocation year. (c) The CO <sub>2</sub> Budget Trading Program base budget is 33,489,399 tons, for the 2016 allocation year. (d) The CO <sub>2</sub> Budget Trading Program base budget is 32,837,536 tons for the 2017 allocation year. (e) The CO <sub>2</sub> Budget Trading Program base budget is 32,016,597 tons for the 2018 allocation year. (f) The CO <sub>2</sub> Budget Trading Program base budget is 31,216,182 tons, for the 2019 allocation year. (g) The CO <sub>2</sub> Budget Trading Program base budget is 30,435,778 tons, annually for the 2020 allocation year and each succeeding allocation year.	2015	Full Rule Link: https://govt.westlaw.com/nycrr/Bro wse/Home/NewYork/NewYorkCode sRulesandRegulations?guid=lafc5f 680d5e011ddb477e8e3dda68a63& originationContext=documenttoc&tr ansitionType=Default&contextData =%28sc.Default%29&bhcp=1  Part 242-2 CO2 Allowance Allocations Link: https://govt.westlaw.com/nycrr/Bro wse/Home/NewYork/NewYorkCode sRulesandRegulations?guid=ldb97 d060dbeb11dd9768bd0e013d693a &originationContext=documenttoc& transitionType=Default&contextDat a=%28sc.Default%29

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes	
	Part 251 CO₂ Performance Standards for Major Electric Generating Facilities	CO₂	Owners and operators of major electric generating facilities (those which sell power to the grid and utilize boilers, combustion turbines, waste to energy sources, and/or stationary internal combustion engines to produce electricity with a generating capacity of at least 25 MW) that provide more than 10 percent of their annual electric output to the grid must meet CO <sub>2</sub> emission rates.  For New Sources and modified existing sources that are boilers permitted to fire at greater than 70% fossil fuel, combined cycle combustion turbines, or stationary internal combustion engines that fire only gaseous fuels are required to meet an emission rate of 925 lbs. of CO <sub>2</sub> per MWh gross electrical output or 160 lbs. of CO <sub>2</sub> per million BTU of input	2020		
		For new or modified simple cycle turbines or stationary internal combustion engines that fire either liquid and gaseous fuel simultaneously are required to meet an emission rate of 1450 lbs. of CO <sub>2</sub> per MW hour gross electrical output or 160 lbs. of CO <sub>2</sub> per million BYU of input  Non-Modified Existing sources are required to meet an emission rate of 1800 lbs. of CO <sub>2</sub> per MW gross electrical output or 180 lbs. of CO <sub>2</sub> per million BTU of input for each fossil fuel combusted				
	NC Clean Smokestacks Act: Statute 143-215.107D	NO <sub>x</sub>	25 MTons annual cap for Progress Energy coal plants > 25 MW and 31 MTons annual cap for Duke Energy coal plants > 25 MW	2007		
North Carolina		SO <sub>2</sub>	2012: 100 MTons annual cap for Progress Energy coal plants > 25 MW and 150 MTons annual cap for Duke Energy coal plants > 25 MW 2013 onwards: 50 MTons annual cap for Progress Energy coal plants > 25 MW and 80 MTons annual cap for Duke Energy coal plants > 25 MW	2009		
North Carolina	SECTION .2500 – Mercury Rules for Electric Generators	Hg	Coal-fired electric steam >25 MW to comply with the mercury emission caps of 1.133 tons (36,256 ounces) per year between 2010 and 2017 inclusive and 0.447 tons (14,304 ounces) per year for 2018 and thereafter	2010	Vacated	
	15A NCAC 02D .2511	Hg	Duke Energy and Progress Energy Hg control plans submitted on January 1, 2013 and are awaiting approval. All control technologies and limitations must be implemented by December 31, 2017.	2017		
	Oregon Administrative Rules, Chapter 345, Division 24	CO <sub>2</sub>	675 lbs/MWh annual rate limit for new combustion turbines burning natural gas with a CF >75% and all new non-base load plants (with a CE <= 75%) emitting CO <sub>2</sub>	1997		
Oregon	Oregon Utility Mercury Rule - Existing Units	Hg	90% removal of Hg content of fuel reduction or 0.6 lbs/TBtu limitation for all existing coal units >25 MW	2012		
	Oregon Utility Mercury Rule - Potential Units	Hg	25 lbs limit for all potential coal units > 25 MW	2009		
	Senate Bill 7 Chapter 101	SO <sub>2</sub>	273.95 MTons cap of SO <sub>2</sub> allowances allocated annually for all grandfathered units built before 1971 and electing units in East Texas Region	2003		
	•	NO <sub>x</sub>	Annual cap for all grandfathered units built before 1971 in MTons: 84.50 in East Texas, 18.10 in West Texas, 1.06 in El Paso Region			
Texas	Chapter 117	NO <sub>x</sub>	East and Central Texas annual rate limits in lbs/MMBtu for units that came online before 1996: Gas fired units: 0.14 lbs/MMBtu heat input Coal fired units: 0.165 lbs/MMBtu heat input Stationary gas turbines: 0.14 lbs/MMBtu heat input System cap: tons per year according to §117.3020(c)	2007	Units are also allowed to comply by reducing the same amount of NO <sub>x</sub> on a monthly basis using a system cap or by purchasing credits.  East and Central Texas, Dallas/Fort	
						Worth Area, Beaumont-Port Arthur region units are assumed to be in

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
			Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area limits for utility boilers, auxiliary steam boilers, and stationary gas turbines used in an electric power generating system:  Utility boilers:		compliance based on their reported 2011 ETS rates. The regulations for these regions are not modeled.
			Large utility systems:  0.033 lb/MMBtu heat input rolling 24-hour (March - October) and rolling		
			30-day (November, December, January, February);  □ 0.033 lb/MMBtu heat input, system-wide heat input weighted average		
			Small utility systems: 0.06 lb/MMBtu heat input rolling 24-hour (March -		
			October) and rolling 30-day (November, December, January, February)     0.50 lb/MWh annual output		
			'		
			Auxiliary steam boilers:  Natural gas or combination of natural gas and waste oil: 0.26 lb/MMBtu heat input rolling 24-hour and 0.20 lb/MMBtu heat input rolling 30-day  Fuel oil: 0.30 lb/MMBtu heat input rolling 24-hour		
			Mixture of natural gas and fuel oil: heat input weighted average of applicable (above) specifications rolling 24-hour according to §117.1310(a)(2)(C)     Or applicable NSPS NOx emission limit in Subparts D, Db, or Dc		
			Stationary gas turbines:  • Non-peaking units ≥ 30 MW (annual MWh ≥ 2500 hours X unit MW rating):  □ Natural gas: 42 ppmv (15% O2, dry) block one-hour  □ Fuel oil: 65 ppmv (15% O2, dry) block one-hour		
			Peaking units (annual MWh < 2500 hours X unit MW rating):     □ Natural gas: 0.20 lb/MMBtu heat input block one-hour		
			☐ Fuel oil: 0.30 lb/MMBtu heat input block one-hour  Houston-Galveston-Brazoria Eight-Hour Ozone Nonattainment Area annual	-	
			Mass Emissions Cap and Trade (MECT) Program for EGUs and non-EGUs. EGUs include utility boilers, auxiliary steam boilers, stationary gas turbines, and duct burners used in turbine exhaust ducts used in an electric power generating system:		
			39.99 MTons NOx allowances allocated annually to all MECT sources (EGUs and Non-EGUs combined); 17.57 MTons NOx allowances allocated annually to all MECT sources (EGUs)		
			Beaumont-Port Arthur Area limits for utility boilers, auxiliary steam boilers, and stationary gas turbines used in an electric power generating system: Utility boilers:		
			0.10 lbs/MMBtu heat input daily average     System cap in lb/day based on rolling 30-day cap and maximum daily cap according to §117.1020(c)(1)-(2)		
			Auxiliary steam boilers:  • Natural gas or combination of natural gas and waste oil: 0.26 lb/MMBtu		
			heat input rolling 24-hour and 0.20 lb/MMBtu heat input rolling 30-day  • Fuel oil: 0.30 lb/MMBtu heat input rolling 24-hour		
			Mixture of natural gas and fuel oil: heat input weighted average of		
			applicable (above) specifications rolling 24-hour according to §117.1005(d)  Or applicable NSPS NOx emission limit in Subparts D, Db, or Dc		

State/Region	Bill	Emission Type	Emission Specifications	Implementation Status	Notes
			Stationary gas turbines:  • Non-peaking units ≥ 30 MW (annual MWh ≥ 2500 hours X unit MW rating):  □ Natural gas: 42 ppmv (15% O₂, dry) block one-hour  □ Fuel oil: 65 ppmv (15% O₂, dry) block one-hour  • Peaking units (annual MWh < 2500 hours X unit MW rating):  □ Natural gas: 0.20 lb/MMBtu heat input block one-hour  □ Fuel oil: 0.30 lb/MMBtu heat input block one-hour		
Utah	R307-424 Permits: Mercury Requirements for Electric Generating Units	Hg	90% removal of Hg content of fuel annually or 0.65 lbs/MMBtu for all coal units > 25 MW	2013	
Washington	Washington State House Bill 3141	CO <sub>2</sub>	\$1.45/MTons cost (2004\$) for all new fossil-fuel power plant	2004	
	Washington State House Bill 5769	CO <sub>2</sub>	970 lbs/MWh rate limit for new coal plants	2011	
Wisconsin	NR 428 Wisconsin Administration Code	NOx	Annual rate limits for coal fired boilers > 1,000 MMBtu/hr:  Wall fired, tangential fired, cyclone fired, and fluidized bed: 0.10 lbs/MMBtu (2013 onward) Arch fired: 0.18 lbs/MMBtu (2009 onward)  Annual rate limits for coal fired boilers between 500 and 1,000 MMBtu/hr:  Wall-fired with a heat release rate => 17,000 Btu per cubic feet per hour: 0.17 lbs/MMBtu (2013 onward); if heat input is lesser: Tangential fired: 0.15 lbs/MMBtu (2009 onward) Cyclone fired: 0.15 lbs/MMBtu (2013 onward) Fluidized bed: 0.10 lbs/MMBtu (2013 onward) Arch fired: 0.18 lbs/MMBtu (2009 onward)  Annual rate limits for coal fired boilers between 250 and 500 MMBtu/hr:  Same as for coal fired boilers between 500 and 1000 MMBtu/hr, in addition; Stoker Fired: 0.20 lbs/MMBtu  Annual rate limits for coal fired boilers between 50 and 250 MMBtu/hr:  Same as for coal boiled between 500 and 1000 MMBtu/hr, in addition; Stoker Fired: 0.25 lbs/MMBtu  Annual rate limits for Combustion Turbines:  Natural gas CTs > 50 MW: 0.11 lbs/MMBtu Distillate oil CTs > 50 MW: 0.15 lbs/MMBtu Biologically derived fuel CTs > 50 MW: 0.15 lbs/MMBtu Distillate oil CTs between 25 and 49 MW: 0.19 lbs/MMBtu Biologically derived fuel CTs between 25 and 49 MW: 0.15 lbs/MMBtu Biologically derived fuel CTs between 25 and 49 MW: 0.15 lbs/MMBtu	2009	

		Annual rate limits for Combined Cycle:  Natural gas CCs > 25 MW: 0.04 lbs/MMBtu Distillate oil CCs > 25 MW: 0.18 lbs/MMBtu Biologically derived fuel CCs > 25 MWs: 0.15 lbs/MMBtu Natural gas CCs between 10 and 24 MW: 0.19 lbs/MMBtu		
Chapter NR 44.12/446.13 Control of Mercury Emissions	Hg	Large (150MW capacity or greater) or small (between 25 and 150 MW) coal fired EGU, 2015 onwards: 90% removal of Hg content of fuel or 0.0080 lbs/GWh reduction in coal fired EGUs > 150 MW	2015	
Chapter NR 446.14 Multi- pollutant reduction alternative for coal-fired electrical generating units	Hg	All Coal>25MW; 70% reduction in fuel, or 0.0190 lbs per GW-hr from CY 2015 – CY 2017 (0.00005568 lbs/MMBtu) 80% reduction in fuel, or 0.0130 lbs per GW-hr from CY2018 – CY 2020 (0.0000381 lbs/MMBtu) 90% reduction in fuel, or 0.0080 lbs per GW-hr from January 1, 2021 onwards (0.00000234 lbs/MMBtu)	2015	Alternative already modeled in IPM
	SO <sub>2</sub>	All Coal>25MW; 0.10 lbs/MMBtu by January 1, 2015		
	NO <sub>x</sub>	All Coal>25MW; 0.07 lbs/MMBtu by January 1, 2015		