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## Massachusetts DEP Final Emissions Regulations

On August 11, 2017, the Massachusetts Department of Environmental Protection (MassDEP) published six new regulations and amendments to limit greenhouse gas (GHG) emissions from various source categories in Massachusetts. This document provides an overview of the six final regulations. In a separate Issue Brief, we provide a more in-depth discussion of the final regulations that address emissions from electric generators.

### Background

On May 17, 2016, the Supreme Judicial Court of Massachusetts issued a decision in *Kain v. Department of Environmental Protection* finding that section 3(d) of the GWSA requires MassDEP to “promulgate regulations that address multiple sources or categories of sources of greenhouse gas emissions, impose a limit on such emissions that may be released, limit the aggregate greenhouse gas emissions that are released from each group of regulated sources or categories of sources, set greenhouse gas emissions limits for each year, and set limits that decline on an annual basis.” In response to the decision, on September 16, 2016, Governor Baker issued Executive Order 569, directing MassDEP to establish regulations to meet requirements of section 3(d) as well as meet the 2020 emission reduction goals set out under the GWSA.

In response to these actions, MassDEP developed six final regulations related to (1) the electric sector (emissions caps and Clean Energy Standard), (2) sulfur hexafluoride emissions from gas-insulated switchgear emissions, (3) methane emissions from natural gas distribution mains and services, and (4) the transportation sector.

### 310 CMR 7.72 Reducing Sulfur Hexafluoride Emissions from Gas-Insulated Switchgear

As required by existing regulations adopted in 2014, all new gas-insulated switchgear (GIS) equipment in Massachusetts (put into use after January 1, 2015) is required to demonstrate a maximum sulfur hexafluoride (SF<sub>6</sub>) leak rate of 1 percent, and National Grid and Eversource must comply with a declining annual emission rate limit for all active GIS. The maximum annual leak rate is reduced to 1 percent by 2020 and remains at that level for each year thereafter. The regulations retain the rate limits that were previously in place. Mass DEP has now amended 310 CMR 7.72 to establish mass-based emission limits for all active GIS equipment owned or operated by National Grid and Eversource (see Table 1). The *Kain v. DEP* decision required that the regulation impose a mass-based annual declining SF<sub>6</sub> emissions limit on the “aggregate” of all existing and potentially new GIS equipment at the facilities of regulated sources (National Grid and Eversource).

**Table 1. Maximum Allowable SF<sub>6</sub> Emissions by Year (Pounds)**

Calendar Year	National Grid	Eversource	Aggregate
2018	2,644	3,115	5,759
2019	2,082	2,800	4,882
2020 and after	1,457	2,460	3,917

The GIS owners have the option to exempt a particular release from their annual rate or mass limits under the Emergency Event Exemption. Qualifying emergencies would include unforeseeable events such as acts of vandalism, flood, fire, or earthquakes, as well as those releases necessary in order to avoid an immediate electrical system outage.

### 310 CMR 7.73 Reducing Methane Emissions from Natural Gas Distribution Mains and Services

All gas operators in Massachusetts with an approved Gas System Enhancement Plan are now required to meet aggregate annually declining emission limits in order to reduce methane (CH<sub>4</sub>) emissions in the natural gas distribution pipeline system in the state. Emission limits by operator are detailed in Table 2, along with the available aggregate emissions set-aside. Mass DEP has set aside additional emissions quantities for each year for gas operators that submit a petition and acquire approval to modify their limits due to a change in pipeline miles or number of services beyond those currently included under the regulation.

**Table 2. Maximum Allowable CH<sub>4</sub> Emissions by Operator (Metric Tons of Carbon Dioxide Equivalent)**

Gas Operator	2018	2019	2020
Boston Gas Company and Colonial Gas Company	117,709	113,372	108,647
Bay State Gas Company	28,800	26,599	24,399
The Berkshire Gas Company	3,901	3,683	3,490
Fitchburg Gas and Electric Light Company	2,158	2,064	1,981
Liberty Utilities	6,317	5,881	5,445
NSTAR Gas Company	28,606	26,983	25,358
<b>Annual Total</b>	<b>187,491</b>	<b>178,582</b>	<b>169,320</b>
<b>Available Set-Aside</b>	<b>40,417</b>	<b>39,972</b>	<b>39,509</b>

The final rule also requires a program review beginning no later than December 31, 2020 and will include the opportunity for public comment, including whether to require the use of feasible technologies to detect and measure gas leaks.

### 310 CMR 7.74 Reducing Carbon Dioxide Emissions from Electricity Generating Facilities Program

The final regulations establish mass-based emissions caps for electric generating facilities in Massachusetts. The final emissions caps remain largely similar to those proposed in the November 2016 draft, though the final requirement is applicable to carbon dioxide (CO<sub>2</sub>) emissions only, as opposed to all GHG emissions. The aggregate cap for new and existing facilities totals 8,955,051 metric tons of CO<sub>2</sub> in 2018, with 1.5 million tons set aside for new facilities. Beginning in 2019 and through 2050, the cap will decline annually by a constant 223,876 tons, which is equal to 2.5 percent of the 2018 aggregate cap, until reaching a final cap of 1,791,019 metric tons in 2050. Facilities covered under the final rule include electric generating sources that are located within the state of Massachusetts and are required to report to the Massachusetts CO<sub>2</sub> Budget Trading Program at 310 CMR 7.70(8).

In an effort to address reliability concerns, an Emergency Deferred Compliance option has been made available for affected units such that they may run in the case of an emergency reliability situation in-state that occurs in the last 45 days of a given year. The owner or operator may defer the compliance obligation for a year, provided that emissions will be offset in the next year on a two for one basis. Additionally, limited banking of allowances is allowed under the condition that total CO<sub>2</sub> emitted by all facilities in any year is less than the aggregate emissions

cap for the prior year. The owner or operator of any facility failing to hold sufficient allowances in their allowance registry account by March 1 will be required to transfer three additional allowances for every one ton of CO<sub>2</sub> emissions that have not been offset with allowances.

Beginning this September, MassDEP will begin a new stakeholder process to consider and design a potential auction mechanism for allowance distribution to be implemented in 2019. Until then, unit-specific allocation has been allotted for 2018 (see Table 3), similar to the allocations in the draft proposed rule. The final rule also requires periodic program reviews beginning no later than December 31, 2021, and every ten years thereafter.

**Table 3. Existing Facilities and 2018 GHG Emissions Caps (Metric Tons of CO<sub>2</sub>)**

<b>Facility Name</b>	<b>2018</b>
ANP Bellingham	860,250
ANP Blackstone	787,429
Bellingham	233,789
Berkshire Power	437,049
Braintree Electric	24,425
Canal Station	101,922
Cleary Flood	50,453
Dartmouth Power	48,348
Dighton	330,396
Fore River Energy Center	1,243,593
Kendall Square	502,191
MASSPOWER	304,108
Medway Station	1,603
Milford Power, LLC	148,912
Millennium Power	662,129
Mystic	1,516,066
Pittsfield Generating	79,959
Stony Brook	68,844
Tanner Street	36,655
Waters River	1,587
West Springfield	15,343
<b>2018 Total</b>	<b>7,455,051</b>

### **310 CMR 7.75 Clean Energy Standard**

MassDEP also finalized a Clean Energy Standard (CES) requiring the procurement by retail electric suppliers of new clean energy as a percentage of their electricity sales. The CES has been designed to complement the state’s existing renewable portfolio standard (RPS) of 15% in 2020, the Regional Greenhouse Gas Initiative (RGGI), and the final generator CO<sub>2</sub> emissions caps. Beginning in 2018 and applicable through 2050, a minimum percentage of total annual retail sales in Massachusetts, as listed in 310 CMR 7.75 Table A, must be met with “clean generation attributes”. For all retail sellers, with the exception of Municipal Electric Departments (MEDs) and Municipal Light Boards (MLBs), a CES of 16 percent must be met in 2018, increasing by two percentage points each year to 80 percent in 2050 and each year thereafter. In order to qualify as a “clean generation attribute”, a

unit must possess an RPS Class I statement of qualification or emit less than 50 percent of the lifecycle emissions of a new natural gas combined cycle facility, have a commercial in-service date after December 31, 2010, and not be committed to any control area other than ISO New England, with some exceptions.

As a form of compliance banking, beginning in 2021, clean generation attributes produced within the previous two compliance years may be used toward compliance, with some restrictions, in any given year. Additionally, renewable generation or alternative compliance credits used for compliance with RPS Class I may also be used to comply with the CES in a given year. MassDEP will review options in 2017 for addressing existing resources with a commercial operation date prior to the end of 2010, as well as compliance options for municipal utilities. The final rule also requires periodic program reviews beginning no later than December 31, 2021 and will include the opportunity for public comment.

**310 CMR 60.05 Global Warming Solutions Act Requirements for Transportation**

The final regulations include amendments to 310 CMR 60.05, including requirements for the Massachusetts Department of Transportation (MassDOT) to meet enforceable limits on CO<sub>2</sub> emissions from the combustion of fuels in mobile equipment owned by MassDOT and the Massachusetts Bay Transportation Authority (MBTA) and of heating fuels at MassDOT and MBTA facilities, as detailed in Table 4. In addition, the regulation requires MassDOT to report on the CO<sub>2</sub> emissions from Massachusetts’ multimodal surface transportation system, including the highway and transit networks. However, unlike the regulations for electricity generators, there is no enforceable regulatory system proposed to address transportation sector related emissions. Mass-based annual declining limits also apply to the transportation system, as detailed in Table 4.

**Table 4. Maximum Annual Aggregate Emissions (Million Metric Tons of CO<sub>2</sub>)**

Calendar Year	MassDOT Limits	Transportation Limits
2018	0.303	24.582
2019	0.298	24.122
2020	0.293	23.682

MassDOT is required to quantify and report emissions annually by March 1 to demonstrate compliance. Any exceedance of the limits must be addressed by implementing supplemental measures, such as decreasing vehicle miles traveled, increasing electric vehicle use, and increasing energy efficiency at MassDOT and MBTA facilities. The quantification and reporting of aggregate transportation emissions by July 1 is also the responsibility of MassDOT, which is in charge of coordination and consultation for the transportation plans and improvement programs across planning organizations and agencies.

**310 CMR 60.06 CO<sub>2</sub> Emission Limits for State Fleet Passenger Vehicles**

As a new regulation intended to drive emissions reductions toward the targets set out in the GWSA, 310 CMR 60.06 establishes annually declining CO<sub>2</sub> emission limits beginning in 2018 for passenger vehicles owned or leased by the state’s Executive Offices that have 30 or more passenger vehicles. Individual Executive Office emission limits are listed in 310 CMR 60.06 Tables 1 through 5 for offices subject to the rule, with the aggregate limits detailed below in Table 5.

**Table 5. Aggregate Emission Limits from Executive Office Passenger Vehicles (Metric Tons of CO<sub>2</sub>)**

Calendar Year	Total
2018	8,249
2019	8,040

2020	7,832
2021	7,699
2022	7,600
2023	6,968
2024	6,147
2025 and after	5,668

A maximum set-aside of up to 31,734 tons is also available in each year for offices that submit a petition and acquire approval to modify their limits. Petitions to modify emission limits may be submitted because complete information was not provided at the time of the rule promulgation, the office believes a mathematical error was made, the passenger fleet is expected to increase due to unforeseen circumstances or new requirements, or the fleet increases to 30 or more passenger vehicles and the office now meets the threshold of applicability under the rule. Each Executive Office is also required to comply with monitoring and recording keeping requirements.

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