WOOD[1] COMBUSTION FACILITY AIR PERMITTING PATHWAY			
TYPE	CAPACITY	APPROVAL	EMISSION STANDARDS[2]
Wood-burning steam-electric plant	Nameplate electric generating capacity ≥ 1 megawatt	Comprehensive plan approval per 310 CMR 7.02(5)	Best Available Control Technology (BACT) Guidance for Biomass Projects, April 2007 http://www.mass.gov/dep/air/laws/policies.htm
Wood furnace/boiler	Fuel input ≥ 1 million Btu per hour (mmBtu/hr) (hand-fired), ≥ 3 mmBtu/hr (automatic feed)	Comprehensive plan approval per 310 CMR 7.02(5)	Best Available Control Technology: case-by-case analysis should consider top-case as fabric filter for PM, particulate hazardous air pollutant (HAP) control; oxidation catalyst for carbon monoxide and volatile HAP control, selective catalytic reduction (SCR) for nitrogen oxides control
Clean wood furnace/boiler for central heating	Fuel input < 1 mmBtu/hr (hand-fired), < 3 mmBtu/hr (automatic feed)	Exempt from plan approval	No emissions standards provided no nuisance or visible emission results from operation
Commercial outdoor hydronic heater (clean wood boiler)	Output > 350,000 Btu/hr, Fuel input < 1 mmBtu/hr	Exempt from plan approval	0.32 lb particulate matter (PM) /mmBtu output 20 grams (g) PM per hour (manufacturer test) visible emissions limitations (310 CMR 7.26(50) et seq)
Residential outdoor hydronic heater (clean wood boiler)	Output ≤ 350,000 Btu/hr	Exempt from plan approval	0.32 lb PM/mmBtu output 18 g PM/hr (manufacturer test) visible emissions limitations (310 CMR 7.26(50) et seq)
Residential clean wood stove	Fuel input < 1 mmBtu/hr (hand-fired), < 3 mmBtu/hr (automatic feed)	Exempt from plan approval	4.1 g PM/ hour (with catalytic combustor) 7.5 g PM/hr (without catalytic combustor) (weighted average of manufacturer test – 40 CFR 60 Subpart AAA)

[1] included but not limited to trees, cord wood, logs, lumber, saw dust, and wood from: manufacturing processes (but offs, shavings, turnings, sander dust, etc.), wood pellets, slabs, bark, chips, waste pallets, boxes, etc; not including materials which are chemically treated with any preservative, paint, or oil.

[2] nuisance and visible emission requirements apply.

BIOMASS TO ENERGY FACILITY AIR PERMITTING PATHWAY			
TYPE	CAPACITY	APPROVAL	EMISSION STANDARDS[3]
Wood combustion facility	*See attached WOOD COMBUSTION FACILITY AIR PERMITTING PATHWAY*		
Biofuel-fired CHP[4] plant	Rated power outputs: reciprocating (or "piston") internal combustion engine (RICE) ≥ 50 kilowatt (kW) or combustion turbine ≤ 10 megawatt (MW)	Comprehensive plan approval per 310 CMR 7.02(5)(c)	Per 310 CMR 7.26(43)(b); eligible for compliance emission credits under 310 CMR 7.26(45)
Combustion turbine burning biofuel (liquid or gas)	Rated power output > 10 MW	Comprehensive plan approval per 310 CMR 7.02(5)	Best Available Control Technology no less stringent than 40 CFR 60 Subpart KKKK
Combustion turbine burning biofuel (liquid or gas)	Rated power output ≤ 10 MW	Comprehensive plan approval per 310 CMR 7.02(5) or ERP (310 CMR 7.26(43))	Best Available Control Technology no less stringent than 40 CFR 60 Subpart KKKK (NSPS) or (under ERP): NSPS and Output-based NO_x, PM, CO and CO_2 standards per 310 CMR 7.26(43)(b)

[3] nuisance and visible emission requirements apply.

[4] Under 310 CMR 7.26(40-45), Combined Heat and Power (CHP) means "a system consisting of an engine or turbine in combination with a heat recovery system such as a boiler that sequentially produces both electric power and thermal energy for use." CHP may also be used as a synonym for cogeneration, or the use of a heat engine or a power station to simultaneously generate both electricity and useful heat in a variety of configurations.

BIOMASS TO ENERGY FACILITY AIR PERMITTING PATHWAY			
TYPE	CAPACITY	APPROVAL	EMISSION STANDARDS[3]
RICE burning biofuel (liquid or gas)	Rated power output ≥ 50 kW	Comprehensive plan approval per 310 CMR 7.02(5) or ERP (310 CMR 7.26(43)	Best Available Control Technology no less stringent than 40 CFR 60 Subparts IIII (compression ignition), JJJJ (spark ignition); 40 CFR 63 Subpart ZZZZ Output-based NO_x, PM, CO and CO_2 standards per 310 CMR 7.26(43)
RICE burning biofuel (liquid or gas)	Rated power output < 50 kW	Exempt from plan approval and Engine/Turbine ERP (310 CMR 7.26(43)	40 CFR 60 and 63 standards above
Gaseous or liquid "biofuel" production from clean wood or other biomass crop feedstock (non-combustion process)	Potential emissions ≥ 1 ton any air contaminant per 12-month period	Plan approval per 310 CMR 7.02	Best Available Control Technology
Gaseous or liquid "biofuel" production from clean wood or other biomass crop feedstock (non-combustion process)	Potential emissions < 1 ton any air contaminant per 12-month period	Exempt from plan approval	No emissions standards provided no nuisance or visible emission results from operation
Non-wood solid biomass outdoor hydronic heater	Fuel input < 1 mmBtu/hr	Exempt from plan approval	For biomass fuels as approved by the department: Same emissions standards as apply to wood-firing (310 CMR 7.26(50) et seq)
Non-wood solid biomass (energy crop) stove, furnace or boiler	Fuel input < 1 mmBtu/hr (hand-fired), < 3 mmBtu/hr (automatic feed)	Exempt from plan approval	No emissions standards provided no nuisance or visible emission results from operation