



clean essential energy

[Safety Power Inc.](#) recently commissioned an emission control system for a two (2) mega-watt natural gas engine in Massachusetts. The project was sold in early 2015 and commissioned before the end of 2015. The local municipality that owns and operates the system required compliance with the very strict MASSDEP emission limits.

We provided our compact ecoCUBE® design with SCR catalyst and CO catalyst in the same “CUBE” shape. The requirement was ultra-low NOx outlet of ≤ 7 ppmvd over the guarantee period. Ultra low ammonia-slip (NH3 slip) was requested and delivered for this project. The natural gas engine is housed in an enclosure along with our control panel, air compressor and urea storage tank. The urea tank is double walled, insulated and heat-traced to prevent the solution from freezing during the cold winter months in the Northeast. An independent third (3rd) party environmental testing organization performed the required emissions testing.

Example of ecoCUBE® being loaded prior to shipping.



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MassDEP TOP CASE BEST AVAILABLE CONTROL TECHNOLOGY (BACT) GUIDELINES – COMBUSTION SOURCES

RECIPROCATING INTERNAL COMBUSTION ENGINES (June, 2011)				
Source Type	Fuel	Air Contaminant	Emission Limitations	BACT Determination
IC Engines equal to or > 50 kW (On or after 1/1/08)	Natural Gas	NOx	0.3 lbs/MW-hr	310 CMR 7.26(43)(b): Table 2 and 4 IPS Regulations
		CO	2 lbs/MW- hr	
		CO ₂	1900 lbs/MW-hr	
IC Engines equal to or > 50 kW (On or after 1/1/08)	Ultra Low Sulfur Distillate 0.0015 %	NOx	0.3 lbs/MW-hr	310 CMR 7.26(43)(b): Table 2 and 4 IPS Regulations
		PM	0.07 lbs/MW-hr	
		CO	2 lbs/MW- hr	
IC Engines equal to or > 50 kW (On or after 1/1/12)	Natural Gas	NOx	0.15 lb/MW-hr	310 CMR 7.26(43)(b): Table 2 and 4 IPS Regulations
		PM	0.03 lb/MW-hr	
		CO	1 lb/MW-hr	
		CO ₂	1650 lb/MW-hr	
IC Engines equal to or > 50 kW (On or after 1/1/12)	Ultra Low Sulfur Distillate 0.0015 %	NOx	0.15 lb/MW-hr	310 CMR 7.26(43)(b): Table 2 and 4 IPS Regulations
		PM	0.03 lb/MW-hr	
		CO	1 lb/MW-hr	
		CO ₂	1650 lb/MW-hr	
IC Engines equal to or > 37 kW (Emergency Engines)	Natural Gas or Ultra Low Sulfur Distillate 0.0015 %	Must comply with the applicable emission limitations set by US EPA for non-road engines at 40 CFR 89.		310 CMR 7.26(42)(b)1. IPS Regulations

Source: MASS DEP Emission Limits

<http://www.mass.gov/eea/agencies/massdep/air/approvals/best-available-control-technology-bact.html>