

Rule Development Handout:
Regulation 7 Corrections & Clarifications
Reciprocating Internal Combustion Engines – State-wide

Regulation 7 Corrections & Clarifications

Summary

- Outline for entire Regulation – inserted as first page
- II.A.4 corrected to include full definition of condenser (carry-over into II.A.5), and corresponding numbering changes.
- II.A.17 definition of ozone non-attainment area inserted
- II.F Removed – Gates Rubber no longer operating
- VI.B.2.c.(2)(B)(i) Storage of Petroleum Liquid- Inspection frequency clarified for consistency
- VII.A.2. crude oil exemptions clarified to include sections XII and XVII
- VIII.C.2.a.(3), (4) and (5) numbering corrected
- XVII.E. Renamed “State-only Statewide Enforceable Engine Requirements”, description and table clarified

Reciprocating Internal Combustion Engines – State-wide

- Applicability
 - Existing RICE (<6/1/04)
 - Permit required (threshold depends on attainment status)
 - Manufacturer’s design-rated >500 hp
 - Statewide
- Emissions Controls: same as new RICE in NAA (Section XVI)
 - Non-selective catalytic reduction with air:fuel ratio controller by 5/1/10
 - \$5,000 off-ramp (apply by 8/1/09)
- Discussion

XVII.E. Control of emissions from new and relocated natural gas fired reciprocating internal combustion engines.

XVII.E.1. THE REQUIREMENTS OF THIS SECTION XVII.E. SHALL NOT APPLY TO ANY ENGINE HAVING ACTUAL UNCONTROLLED EMISSIONS THAT ARE EXEMPT FROM OBTAINING A CONSTRUCTION PERMIT UNDER REGULATION No.3, PART B.

XVII.E.2. NEW AND MODIFIED NATURAL GAS FIRED RECIPROCATING INTERNAL COMBUSTION ENGINES

XVII.E.2.A. Except as provided in SECTION XVII.E.2.B. below, the owner or operator on any natural gas fired reciprocating internal combustion engine that is either constructed or relocated to the state of Colorado from another state, ON OR after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in SECTION XVII.E.2.B.'S TABLE 1, below.

XVII.E.2.B. ACTUAL EMISSIONS FROM NATURAL GAS FIRED RECIPROCATING INTERNAL COMBUSTION ENGINES SHALL NOT EXCEED THE EMISSION PERFORMANCE STANDARDS IN TABLE 1 BELOW AS EXPRESSED IN UNITS OF GRAMS PER HORSEPOWER-HOUR (G/HP-HR).

TABLE 1				
Maximum Engine Hp	Construction or Relocation Date	Emission Standards (G/hp-hr)		
		NOx	CO	VOC
< 100 Hp	ANY	NA	NA	NA
>100 Hp AND < 500 Hp	ON OR AFTER January 1, 2008	2.0	4.0	1.0
	ON OR AFTER January 1, 2011	1.0	2.0	0.7
≥ 500 Hp	ON OR AFTER July 1, 2007	2.0	4.0	1.0
	ON OR AFTER July 1, 2010	1.0	2.0	0.7

XVII.E.3. EXISTING NATURAL GAS FIRED RECIPROCATING INTERNAL COMBUSTION ENGINES

XVII.E.3.A. EXCEPT AS PROVIDED IN SECTION XVII.E.3.B., ALL RICH BURN RECIPROCATING INTERNAL COMBUSTION ENGINES WITH A MANUFACTURER'S DESIGN RATE GREATER THAN 500 HORSEPOWER SHALL INSTALL AND OPERATE BOTH A NON-SELECTIVE CATALYST REDUCTION AND AN AIR FUEL CONTROLLER BY MAY 1, 2010. A RICH BURN RECIPROCATING INTERNAL COMBUSTION ENGINE IS ONE WITH A NORMAL EXHAUST OXYGEN CONCENTRATION OF LESS THAN 2% BY VOLUME.

XVII.E.3.B. ANY RICH BURN RECIPROCATING INTERNAL COMBUSTION ENGINE OPERATING PRIOR TO JUNE 1, 2004, FOR WHICH THE OWNER OR OPERATOR DEMONSTRATES TO THE DIVISION THAT RETROFIT TECHNOLOGY CANNOT BE INSTALLED AT A COST OF LESS THAN \$ 5,000 PER TON OF VOC EMISSION REDUCTION IS EXEMPT COMPLYING WITH SECTION XVII.E.3.A. INSTALLATION

COSTS AND THE BEST INFORMATION AVAILABLE FOR DETERMINING CONTROL EFFICIENCY SHALL BE CONSIDERED IN DETERMINING SUCH COSTS. IN ORDER TO QUALIFY FOR SUCH EXEMPTION, THE OWNER OR OPERATOR MUST SUBMIT AN APPLICATION MAKING SUCH A DEMONSTRATION, TOGETHER WITH ALL SUPPORTING DOCUMENTS, TO THE DIVISION BY AUGUST 1,2009.