

RULE 4405 OXIDES OF NITROGEN EMISSIONS FROM EXISTING STEAM GENERATORS USED IN THERMALLY ENHANCED OIL RECOVERY - CENTRAL AND WESTERN KERN COUNTY FIELDS (Adopted May 21, 1992, Amended December 17, 1992)

1.0 Purpose

The purpose of this rule is to limit NO_x emissions from oil field steam generators. This rule also specifies an implementation schedule.

2.0 Applicability

The provisions of this rule shall apply to existing steam generators used in thermally enhanced oil recovery in Central and Western Kern County Fields.

3.0 Definitions

3.1 Existing Steam Generator: a steam generator which has been operated within the County prior to August 22, 1986 and has a current Permit to Operate.

3.2 Large Steam Generator: a steam generator which has a heat input capacity of thirty-five million BTUs per hour or greater.

3.3 Small Producer: a person, including any business entity which on March 6, 1980 had petroleum business interests solely in drilling and producing crude oil and gas and has a total maximum steam generator heat input of less than or equal to 500 million BTU/hour.

3.4 Small Steam Generator: a steam generator which has a heat input capacity greater than fifteen million but less than thirty-five million BTUs per hour.

3.5 Stationary Source: a stationary source as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.6 Steam Generator: a combustion device which has a heat input capacity greater than 15 million BTUs per hour and which converts water to dry steam or to a mixture of water vapor and steam, with an absolute pressure of more than thirty pounds per square inch, and which is used in thermally enhanced oil recovery.

4.0 NO_x Emission Limits

4.1 Oil fuel fired units: after September 30, 1988, unless another date is prescribed by the provisions of Section 42301.5 California Health and Safety Code, the owner or operator of an existing steam generator shall limit the NO_x emissions from such units to:

- 4.1.1 For large steam generators operated by small producers, no more than 0.35 pounds of NO_x per million BTU of heat input.
- 4.1.2 For large steam generators operated by producers other than small producers, no more than 0.20 pounds of oxides of nitrogen per million BTU of heat input.
- 4.1.3 For all small steam generators, no more than 0.38 pounds of oxides of nitrogen per million BTU of heat input.
- 4.2 Natural gas fired units: after September 30, 1988, unless another date is prescribed by the provisions of Section 42301.5 California Health and Safety Code, the owner or operator of an existing steam generator shall limit the emissions of oxides of nitrogen from such units to:
 - 4.2.1 For large steam generators operated by small producers, no more than 0.14 pounds of oxides of nitrogen per million BTU of heat input.
 - 4.2.2 For large steam generators operated by producers other than small producers, no more than 0.14 pounds of oxides of nitrogen per million BTU of heat input.
 - 4.2.3 For all small steam generators, no more than 0.18 pounds of oxides of nitrogen per million BTU of heat input.
- 5.0 Alternate Emission Limit
 - 5.1 If an existing steam generator equipped with a "Coen" Low NO_x Burner, installed on or before August 22, 1986 with approved staged combustion oxides of nitrogen control equipment is operated and maintained using good engineering practices to minimize oxides of nitrogen emissions and source tests indicate the emission rates are greater than those allowed by this rule, the APCO may upon petition, establish for that steam generator an alternate emission limit that is not greater than 0.02 pounds per million BTU of heat input above the limits specified in Section 4.0.
 - 5.2 The APCO may grant the alternate emission limit allowed by this section provided the emission increases above the requirements of Section 4.0 of this rule are offset by an equivalent decrease below the requirements of Section 4.0 from other existing steam generators in the same Kern County Fields.
 - 5.3 The alternate emission limit and the emission limit to provide the offset shall be included as Operating Conditions in the appropriate Permits to Operate.
- 6.0 Increments of Progress - Central Kern County Fields

- 6.1 The owner or operator of an existing steam generator subject to this rule shall comply with each of the increments of progress:
 - 6.1.1 By October 1, 1987, submit to the air pollution control officer a compliance plan for achieving compliance with this rule. The compliance plan shall identify each steam generator subject to this rule and shall indicate the specific control technique(s) and the resulting emission rate for each such steam generator. The compliance plan shall include applications for Authority to Construct these modifications.
 - 6.1.2 By February 1, 1988, submit to the air pollution control officer documentation of the purchase of all equipment needed to comply with this rule.
 - 6.1.3 By May 1, 1988, submit a report on the status of the compliance plan to the APCO.
 - 6.1.4 By August 31, 1988, complete construction.
 - 6.1.5 By September 30, 1988, be in full compliance.
- 6.2 Notwithstanding the increments of progress for the Central Kern County Fields, the owner or operator of an existing steam generator subject to this rule and temporarily exempt under the provisions of Section 42301.5 of the California Health and Safety Code shall be in full compliance six (6) months after the expiration of the five (5) year "grace period" and shall comply with each of the following increments of progress:
 - 6.2.1 By October 1, 1987, submit to the APCO a compliance plan for achieving compliance with this rule. The compliance plan shall identify each steam generator subject to this rule and shall indicate the specific control technique(s) and the resulting emission rate for each such steam generator. The compliance plan shall include applications for Authority to Construct these modifications.
 - 6.2.2 Six (6) months prior to the compliance date, submit to the APCO documentation of the purchase of all equipment needed to comply with this rule.
 - 6.2.3 One (1) month prior to the compliance date, complete construction.
 - 6.2.4 Six (6) months after the expiration of the five (5) year "grace period" be in full compliance.

7.0 Increments of Progress - Western Kern County Fields

- 7.1 The owner or operator of an existing steam generator subject to this rule shall comply with each of the increments of progress:
 - 7.1.1 Within six (6) months after the effective date of this rule, submit to the APCO a compliance plan for achieving compliance with this rule. The compliance plan shall identify each steam generator subject to this rule and shall indicate specific control technique(s) and the resulting emission rate for each such steam generator. The compliance plan shall include applications for Authority to Construct these modifications.
 - 7.1.2 Within ten (10) months after the effective date of this rule, submit to the APCO documentation of the purchase of all equipment needed to comply with this rule.
 - 7.1.3 Within 12 months after the effective date of this rule, submit a report on the status of the compliance plan to the APCO.
 - 7.1.4 Within 17 months after the effective date of this rule, complete construction.
 - 7.1.5 Within 18 months after the effective date of this rule, be in full compliance.
- 7.2 Notwithstanding the increments of progress for the Central Kern County Fields, the owner or operator of an existing steam generator subject to this rule and temporarily exempt under the provisions of Section 42301.5 of the California Health and Safety Code shall be in full compliance six (6) months after the expiration of the five (5) year "grace period" and shall comply with each of the following increments of progress:
 - 7.2.1 Within six (6) months after the effective date of this rule, submit to the APCO a compliance plan for achieving compliance with this rule. The compliance plan shall identify each steam generator subject to this rule and shall indicate specific control technique(s) and the resulting emission rate for each such steam generator. The compliance plan shall include applications for Authority to Construct these modifications.
 - 7.2.2 Six (6) months prior to the compliance date, submit to the APCO documentation of the purchase of all equipment needed to comply with this rule.
 - 7.2.3 One (1) month prior to the compliance date, complete construction.

7.2.4 Six (6) months after the expiration of the five (5) year "grace period" be in full compliance.

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