State of California
AIR RESOURCES BOARD

Errata to Resolution 80-4

1. The second paragraph of page 4 of the Resolution is amended to read as follows:

> "That for new or modified sources reviewed pursuant to Rule 210.1 as amended by this Resolution, revising the accumulation date in Rule 210.1 for net changes in NOx emissions will tend to increase ambient levels of NO_2, ozone (oxidant) and total suspended particulates as a result of NOx emissions from steam generators which ~~receive~~ received Authority to Construct ~~after~~ before September 12, 1979 but after December 28, 1976;"

2. Subsection (A)(6) on page A-3 of Attachment A is amended to read as follows:

> "The date of an air quality change ... the most recent ~~discontinuance~~ discontinuous hourly exceedance."

3. Section 6 of Attachment B, found on page B-4, should read as follows:

> "6. Sections 5 B 9, 5 B 10, and 5 B 11 are renumbered to 5 B 10, 5 B 11, and 5 B 12, respectively."

State of California
AIR RESOURCES BOARD

Resolution 80-4

March 6, 1980

WHEREAS, Health and Safety Code Section 39602 designates the state board as the air pollution control agency for all purposes set forth in federal law and as the state agency responsible for preparation of the state implementation plan required by the Clean Air Act (42 U.S.C., Section 7401 et seq.) and provides that the state board shall coordinate the activities of all districts to comply with that Act; and

WHEREAS, Health and Safety Code Section 39602 further provides that the state implementation plan shall only include those provisions necessary to meet the requirements of the Clean Air Act; and

WHEREAS, Health and Safety Code Section 39605 authorizes the state board to provide any assistance to a district, and the Kern County Air Pollution Control Board has requested that the state board adopt for the District rules to control emissions of oxides of nitrogen (NOx); and

WHEREAS, Health and Safety Code Section 40001 provides that subject to the powers and duties of the state board, local districts shall adopt and enforce rules and regulations which assure that reasonable provision is made to achieve and maintain state ambient air quality standards and that districts shall also endeavor to achieve and maintain federal ambient air quality standards; and

WHEREAS, Section 110(a)(1) of the Clean Air Act requires each state to adopt and submit to the Administrator of the Environmental Protection Agency, within a specified time, a plan which provides for the implementation, maintenance, and enforcement of national primary ambient air quality standards in each air quality control region of the state; and

WHEREAS, Section 110(a)(2)(B) of the Clean Air Act requires that a state implementation plan contain provisions and measures necessary to insure the attainment and maintenance of national air quality standards; and

WHEREAS, Section 110(a)(2)(D) of the Clean Air Act requires that a state implementation plan include a permit program which assures that national ambient air quality standards are achieved and maintained; and

WHEREAS, Sections 21080.5 and 21081 of the Public Resources Code (California Environmental Quality Act, "CEQA") and Board regulations require that an activity not be adopted as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the action may have on the environment; and

WHEREAS, Kern County has been designated under Section 107(d)(1) of the Clean Air Act as "attainment" or "unclassified" for nitrogen dioxide (NO_2) and as "nonattainment" for ozone and total suspended particulates, and exceeds the state visibility standard and the state standards for oxidant, sulfate, and total suspended particulates; and

WHEREAS, the state board on September 12, 1979, adopted Resolution 79-68, which among other things amended Rule 210.1 of the Kern County Air Pollution Control District, Standard for Authority to Construct; and

WHEREAS, the Board hereby incorporates Resolution 79-68 in this Resolution; and

WHEREAS, Resolution 79-68 contains, among others, the following findings:

> The air quality monitoring data for Bakersfield indicate consistent yearly increases in ambient concentrations of NO_2 approaching the national ambient air quality standards (NAAQS) for that pollutant, and further indicate that if current trends continue the standard will likely be exceeded in the near future; and
>
> The exceedance of the NO_2 NAAQS would necessitate redesignation of Kern County as nonattainment for that pollutant and would further necessitate preparation of a revision to the state implementation plan in accordance with the Clean Air Act; and
>
> The analysis of current air quality data indicates that increased emissions of oxides of nitrogen (NOx) in Kern County will lead to aggravation of existing exceedances of the federal ozone standard and the state oxidant standards; and

WHEREAS, in response to requests from interested parties that the Board reconsider Rule 210.1, particularly as it affects control of emissions of NOx from steam generators used in oil production, the Board held a hearing on November 28, 1979, to consider, among other things, review and amendment of certain provisions of Rule 210.1; and

WHEREAS, at its November 28, 1979 hearing, a committee of the Board was designated to prepare a report and recommendation to the Board concerning Rule 210.1 and an overall control strategy for the control of NOx emissions in Kern County; and

WHEREAS, the Board Committee have prepared their report and recommendation, and Board staff have also prepared a report and recommended proposal for control of NOx emissions in Kern County; and

WHEREAS, Board Member Laurence Caretto, pursuant to Board direction, has worked closely with the Kern County Air Pollution Control District and industry representatives and this has been regarded by the District and industry as a useful relationship; and

WHEREAS, the operation of steam generators provides great opportunity for cogeneration which could result in a useful saving of the nation's energy resources; and

WHEREAS, the District has committed to modifying their New Source Review rule to encourage cogeneration projects; and

WHEREAS, the Board has held a public hearing and considered the reports and recommendations prepared by both the Board Committee and Board staff as well as oral and written testimony from interested persons; and

WHEREAS, the Board finds:

That ambient levels of NO_2 in Kern County have generally increased since at least 1973, and are closely approaching the state and national standards;

That NOx emissions from steam generators used in thermally enhanced oil recovery operations in Kern County contribute significantly to ambient NO_2 levels;

That steam generators which will commence operation in the future and which are necessary for the extraction of the large reserves of heavy crude oil located in Kern County to meet national energy needs will necessarily increase NOx emissions;

That unless such increases in NOx emissions are mitigated, state and national ambient NO_2 standards will likely be exceeded in Kern County in the near future;

That under Rule 210.1 as adopted September 12, 1979, accumulated emissions from December 28, 1976 from steam generators which had not received preliminary approval for Authority to Construct by that date are required to be fully offset;

That oil producers have raised substantial concerns regarding their ability to obtain NOx offsets for new oil field steam generators in the manner required under the existing rule;

That in order to meet these concerns it is necessary to change the accumulation date in Rule 210.1 for net changes in emissions from December 28, 1976 to September 12, 1979, and provide an alternative method for mitigation of emissions increases associated with such a change;

That certain oil producers who own existing sources have indicated a willingness to make emission offsets available to other producers who have no offsets of their own;

That emission mitigation requirements contained in existing regulations of the Kern County Air Pollution Control District together with amendments to District rules adopted in this Resolution are adequate to insure that no increases in ambient levels of ozone (oxidant), total

suspended particulates, and sulfur dioxide will result from the change in the emissions accumulation date in Rule 210.1 adopted by this Resolution and the concommitant increase in emissions of hydrocarbon and sulfur dioxide (SO_2) and directly emitted particulates;

That revising the accumulation date in Rule 210.1 for net changes in NOx emissions will tend to increase ambient levels of NO_2, ozone (oxidant) and total suspended particulates as a result of NOx emissions from steam generators which receive Authority to Construct after September 12, 1979;

That in order to mitigate the effect of these NOx emissions increases on ambient concentrations of NO_2, ozone (oxidant) and total suspended particulates, it is necessary under Sections 110 and 172 of the Clean Air Act and under CEQA to require reductions of NOx emissions from steam generators permitted before September 12, 1979;

That requiring an increased level of NOx control on Kern County oil field steam generators which received an Authority to Construct on or before September 12, 1979, together with the requirements of Rule 210.1, will result in a reduction of NOx emissions sufficient to permit the construction and operation of new steam generators without adversely affecting air quality;

That the reductions in NOx emissions required under Rule 425 are sufficiently greater than the increases in NOx emissions allowed by altering Rule 210.1 so that the attainment and maintenance of state and national ambient air quality standards for ozone (oxidant), total suspended particulates, and NO_2 will be assured;

That the NOx emissions reductions from oil field steam generators required by the proposed Rule 425 are technically feasible and economically reasonable and can be accomplished by the dates required by the rule;

That under some circumstances, the revisions to the Kern County Air Pollution Control District's Rules and Regulations adopted in this Resolution may result in temporary increases in NOx emissions, thereby increasing ambient concentrations of NO_2, ozone (oxidant), and particulates;

That the air quality monitoring and associated retrofit provisions of Rule 425 will insure that any such increases in ambient NO_2, ozone (oxidant), or total suspended particulate concentrations will, in fact, be short term and will be fully mitigated within eighteen months of such increase;

NOW THEREFORE BE IT RESOLVED, that the Air Resources Board hereby adopts Rule 425 (Oxides of Nitrogen Emissions from Steam Generators Used in Thermally Enhanced Oil Recovery) for the Kern County Air Pollution Control District to read in its entirety as set forth in Attachment A to this Resolution;

BE IT FURTHER RESOLVED, that the Rules and Regulations of the Kern County Air Pollution Control District, Rule 210.1, Standard for Authority to Construct, is amended to read as set forth in Attachment B to this Resolution;

BE IT FURTHER RESOLVED, that the revisions to Rule 210.1 and the provisions of Rule 425 are integral and non-severable, and in the event that any portion of either Rule 210.1 or Rule 425 is found to be invalid either administratively or in a court of law, it is the Board's intention that the provisions of both Rule 210.1 and Rule 425 as adopted by this Resolution be rescinded and the provisions of Rule 210.1 as adopted September 12, 1979 be reinstated;

BE IT FURTHER RESOLVED, that the aforesaid amendments shall be effective immediately and shall be enforced by the Kern County Air Pollution Control District in accordance with Section 41504 of the Health and Safety Code;

BE IT FURTHER RESOLVED, that the Board directs the Executive Officer forthwith to submit Rules 210.1 and 425 as adopted in this Resolution to the Environmental Protection Agency for incorporation in the California State Implementation Plan;

BE IT FURTHER RESOLVED, that the Board encourages the District to expedite the adoption of appropriate provisions in its New Source Review rule which will further the use of cogeneration;

BE IT FURTHER RESOLVED, that the Board acknowledges the problem faced by those oil producers lacking existing sources from which to obtain emission reductions to use as tradeoffs or for banking and suggests that in developing a system of banking regulations, the APCD seek to develop a solution to these problems;

BE IT FURTHER RESOLVED, that the District is encouraged to include in a system of banking regulations a provision to insure that the use of banked reductions will not interfere with the attainment and maintenance of state and national ambient air quality standards;

BE IT FURTHER RESOLVED, that the Board commits to the continuation of an active working relationship between Member Caretto and the District and affected industries.

I certify that the above is a true and correct copy of Resolution 80-4 as passed by the Air Resources Board.

Sally Rump
Board Secretary

ATTACHMENT A

Rule 425
Oxides of Nitrogen Emissions from Steam Generators used in Thermally Enhanced Oil Recovery

A. Definitions

For the purposes of this rule:

1. "Steam generator" means an oil-fuel-fired combustion device which has a heat input capacity greater than fifteen million British thermal units (Btu's) 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.
2. "Existing steam generator" means a steam generator for which an Authority to Construct was issued prior to September 12, 1979.
3. "Stationary source" means a stationary source as defined in Rule 210.1.
4. "NO_2 concentration" means the concentration of gaseous nitrogen dioxide recorded by an ARB or EPA approved analyzer which is calibrated against one of the two alternative EPA calibration methods. NO_2 concentrations recorded from instruments calibrated by the Saltzman procedure shall be multiplied by 0.87 prior to the use of such NO_2 concentrations in the determination of an air quality change.
5. "Moving average concentration" means the average of all representative

monthly average concentrations for any 12 consecutive month period at a monitoring site. Data used to construct a moving average concentration shall meet the following requirements:

a) At least two representative monthly averages are required for each calendar quarter;

b) At least nine representative monthly averages are required for each 12 month moving average;

c) At least 548 hourly averages during a calendar month are required to calculate a representative monthly average

If a monthly average is not representative or is otherwise unavailable the 12 month moving average shall be calculated by substituting the corresponding representative monthly average for the most recent year, or if this information is unavailable, the 12 month moving average shall be calculated by substituting the representative monthly average for the month nearest in time to the month in question.

6. "Air quality change" means a second or third stage air quality change as defined in the following table:

monthly average concentrations for any 12 consecutive month period at a monitoring site. Data used to construct a moving average concentration shall meet the following requirements:

a) At least two representative monthly averages are required for each calendar quarter;

b) At least nine representative monthly averages are required for each 12 month moving average;

c) At least 548 hourly averages during a calendar month are required to calculate a representative monthly average

If a monthly average is not representative or is otherwise unavailable the 12 month moving average shall be calculated by substituting the corresponding representative monthly average for the most recent year, or if this information is unavailable, the 12 month moving average shall be calculated by substituting the representative monthly average for the month nearest in time to the month in question.

6. "Air quality change" means a second or third stage air quality change as defined in the following table:

Second Stage Air Quality Change	Third Stage Air Quality Change
The occurrence of a 12 month moving average NO_2 concentration which exceeds 0.045 parts per million or the occurrence of an hourly average NO_2 concentration which exceeds 0.20 parts per million for three or more discontinuous station-hours, separated by at least 18 hours, within any consecutive 36 month period.	The occurrence of a 12 month moving average NO_2 concentration which exceeds 0.053 parts per million or the occurrence of an hourly average NO_2 concentration which equals or exceeds 0.25 parts per million for two or more discontinuous station-hours within any consecutive 12 month period.

The date of an air quality change shall be the last date of the applicable 12 month moving average or the date of the most recent discontinuance hourly exceedance.

7. "Small producer" means a person, including any business entity, which, on March 6, 1980, had petroleum business interests solely in drilling and producing crude oil and gas.

8. "Approved air quality monitoring station" means an air monitoring station which meets applicable state and federal criteria for quality assurance and which is approved in writing by the Kern County Air Pollution Control District for use in determining whether an air quality change has occurred. At a minimum, all air monitoring stations operated by the District, the Air Resources Board, or by any person pursuant to any federal, state or district law, rule, order, permit or regulation, shall be approved by the district.

B. NOx Emission Standards

1. After July 1, 1982, the owner or operator of an existing steam generator shall limit the emissions of oxides of nitrogen (NOx) from such units to:

   a) For small producers, no more than 0.35 pounds of oxides of nitrogen per million Btu of heat input.

   b) For producers other than small producers, no more than 0.30 pounds of oxides of nitrogen per million Btu of heat input.

2. 18 months after a second stage air quality change, the NOx emissions standard which is prescribed in subsection (B)(1) shall be superseded by the following emission standard: the owner or operator of an existing steam generator shall limit the emissions of oxides of nitrogen from such unit to no more than 0.25 pounds per million Btu of heat input.

3. 18 months after a third stage air quality change, the NOx emission standard which is prescribed in subsection (B)(1) or (B)(2), whichever applies, shall be superseded by the following emission standard: the owner or operator of an existing steam generator shall limit the emissions of oxides of nitrogen from such unit to no more than 0.14 pounds per million Btu of heat input.

C. Banking of Emission Reductions

1. Oxides of nitrogen emission reductions which are required pursuant to subsection (B)(1), but which are not required by any other federal, state, or district law, rule, order permit or regulation, may be used as offsets or banked for use in future projects, provided that prior to a second or third stage air quality change, the applicant has completed the installation of all necessary control equipment and has notified the air pollution control officer in writing of the start-up of such equipment and requested the District to perform the source test(s) required for issuance of a permit to operate, and that subsequently a permit to operate for such source is issued.

2. Oxides of nitrogen emission reductions which are required pursuant to Subsection (B)(2), but which are not required by any other federal, state, or district law, rule, order, permit, or regulation may be used as offsets or banked for use in future projects, provided that prior to a second or third stage air quality change, the applicant has completed the installation of all necessary control equipment and has notified the air pollution control district in writing of the start-up of such equipment and requested the district to perform the source test(s) required for issuance of a permit to operate, and that subsequently a permit to operate for such source is issued.
3. Oxides of nitrogen emission reductions which are required pursuant to Subsection (B)(3), but which are not required by any other federal, state, or district law, rule, order, permit, or regulation may be used as offsets or banked for use in future projects, provided that prior to a third stage air quality change, the applicant has completed the installation of all necessary control equipment and has notified the air pollution control district in writing of the start-up of such equipment and requested the district to perform the source test(s) required for issuance of a permit to operate, and that subsequently a permit to operate for such source is issued.
4. The use of emissions reductions as offsets or in a banking system pursuant to this Section C shall be contingent upon verification of those reductions in a permit to operate issued for the modified equipment.

D. Records for NO_2 Concentrations

No later than 90 days after the last day of each calendar month, the Air Pollution Control Officer shall publish a complete update of the moving average NO_2 concentrations and maximum hourly average NO_2 concentrations for each approved air quality monitoring station.

E. Averaging

The owner or operator of two or more steam generators may satisfy the requirements of Section (B) by demonstrating to the satisfaction of the Air Pollution Control Officer that the average emissions of oxides of nitrogen from all of his or her existing steam generators which are located within the same stationary source shall not exceed the emission standards prescribed in Section (B). Twelve months prior to any compliance date specified in this rule, the owner or operator shall provide plans to the District showing how compliance will be achieved.

F. Small Producer Exemption

Section (B)(2) and (B)(3) of this rule shall not apply to small producer's existing steam generators up to a total heat input of 200 mm Btu/hour.

ATTACHMENT B

Amendments to the Kern County Air Pollution Control District Rule 210.1
(Changes are underlined)

1. Add the following definition to Section 1 of the Kern County Air Pollution Control District Rule 210.1:

N. Heavy oil means crude oil having an American Petroleum Institute gravity of 20 degrees or less.

2. Section 4E is amended to read as:

When computing the net increase in emissions for modifications, other than modifications to heavy oil production operations, the Control Officer shall take into account the cumulative net emissions changes which were achieved after December 28, 1976, and which are represented by Authorities to Construct or Permits to Operate ~~associated with the existing stationary source and~~ issued to the stationary source ~~after December 28, 1976~~ excluding any emissions reductions required to comply with any federal, state, or district law, rule, order, or regulation. When computing the net increase in emissions for modifications to heavy oil production operations, the Control Officer shall take into account the cumulative net emissions changes represented by Authorities to Construct issued to the stationary source after September 12, 1979, excluding any emissions reductions required to comply with any federal, state, or district law, rule, order, or regulation, except Rule 425. Emission reductions resulting from implementation of Rule 425 shall be taken into account in accordance

with the requirements of Rule 425.

3. Section 5 B 4 is amended to read as:

a. A ratio of emissions offsets to emissions (offset ratio) for new sources or modifications, other than heavy oil production operations, of 1.2:1 shall be required for emissions offsets located either:

i. upwind in the same or adjoining counties; or

ii. within a 15 mile radius of the proposed new source or modification.

For emissions offsets located outside of the areas described above, the applicant shall conduct modeling to determine an offset ratio sufficient to show a net air quality benefit in the area affected by emissions from the new source or modification.

b. Emissions from heavy oil production operations shall be offset at a ratio of:

i. 1.0:1 if the emissions used as offsets are owned by the same company and located within the same stationary source which is to be modified:

ii. 1.2:1 if the emissions used as offsets from different companies and located within the same oil field (Western Kern County Fields or Central Kern County Fields as defined in this rule) as the proposed new stationary source or modification;

iii. 1.5:1 if the emissions used as offsets are located outside of the oil field (Western Kern County Fields or Central Kern County Fields as defined in this rule) in which the proposed new stationary source or modification is located, regardless of whether they are owned by the same or different companies.

Notwithstanding any other provision of this section the yearly emissions profiles and the yearly emissions offset profiles for a source object to this section may be constructed based on the daily emissions from the source averaged on a monthly basis. In such event, an offset ratio of 2.0:1 shall be required.

4. Section 5 B 7 is amended to read as:

Emissions reductions resulting from measures required by adopted federal, state, or district laws, rules or regulations shall not be allowed as emissions offsets unless a complete application incorporating such offsets was filed with the District prior to the date of adoption of the laws, rules or regulations, with the exception of Rule 425. Emission reductions resulting from implementation of Rule 425 shall be used in accordance with the provisions in that rule.

5. Section 5 B 8 is amended to read as:

The Control Officer shall allow emissions reductions which exceed those required by this rule for a new source or modification to be banked for use in the future by the applicant. All such reductions, when used as offsets for the increased emissions from a proposed new source or modifications, shall be used in accordance with the other provisions of this Section.

6. Section 5 B 9 and 5 B 10 are renumbered to 5 B 10 and 5 B 11 respectively.

7. Section 5 B 9 is added and reads:

Emission reductions achieved by the stationary source prior to the establishment of the District's banking system shall be used only for determining the net cumulative changes of emissions from that source. Such emission reductions, as well as emission reductions achieved on or after the establishment of the banking system pursuant to Health and Safety Code Sections 40709-40713, shall be allowed to be banked and transferred according to the requirements of the system.

State of California

AIR RESOURCES BOARD

Response to Significant Environmental Issues

Item: Public Hearing to Consider Amendments to the Rules and Regulations of the Kern County Air Pollution Control District-Amendments to Rule 210.1, Standard for Authority to Construct, and Addition of Rule 425, Relating to Retrofit Control for Emissions of Oxides of Nitrogen from Oil Field Steam Generators

Public Hearing Date: March 5 and 6, 1980

Response Date: March 6, 1980

Issuing Authority: Air Resources Board

Comment: none

Response: N/A

CERTIFIED: Sally Rump
Sally Rump, Board Secretary

Date: 3/20/80

State of California

Memorandum

To : Huey D. Johnson
Secretary
RESOURCES AGENCY

Date : March 24, 1980

Subject : Filing of Notice of Decision of the Air Resources Board

From : Air Resources Board

Pursuant to Title 17, Section 60007(b), and in compliance with Air Resources Board certification under section 21080.5 of the Public Resources Code, the Air Resources Board hereby forwards for posting the attached notice of decision and response to environmental comments raised during the comment period.

Sally Rump

Sally Rump
BOARD SECRETARY

attachments
Resolution 80-4