

State of California

AIR RESOURCES BOARD

Resolution 78-51

October 25, 1978

WHEREAS, the Sierra Club, Citizens for a Better Environment, and Friends of the Earth (the petitioners) have petitioned the Board to review Regulation 2 of the Bay Area Air Pollution Control District pertaining to the control of oxides of sulfur (SO<sub>x</sub>) and to adopt a regulation to require sources to install best available control technology within three years but in no case for sources to emit more than 300 ppm and to require the installation of in-stack monitors in refinery flares; and

WHEREAS, the Board, in order to coordinate air pollution control activities throughout the State and to insure that the entire State is, or will be, in compliance with State ambient air quality standards, is authorized pursuant to Health and Safety Code Section 41500 to review the rules and regulations of air pollution control districts to assure that they make reasonable provision to achieve and maintain State ambient air quality standards; and

WHEREAS, the Board is authorized, pursuant to Health and Safety Code Section 41504, after holding a public hearing, to revise the rules and regulations of the districts to assure that they make reasonable provision to achieve and maintain the State ambient air quality standards; and

WHEREAS, the Board has held the public hearing required by Health and Safety Code Section 41502, and has considered the actions of the BAAPCD Board pertaining to Regulation 2, together with the evidence and testimony presented at the public hearing by the BAAPCD's staff, the petitioners, the affected industries, and other interested persons pertaining to Regulation 2;

WHEREAS, it has been projected that SO<sub>x</sub> emissions from the combustion of fuels will increase significantly as the result of the increased combustion of sulfur bearing fuels caused by the decreased availability and increased cost of natural gas and that this projected increase in SO<sub>x</sub> emissions will prevent the attainment and maintenance of State ambient air quality standards in the San Francisco Bay Area and the San Joaquin Valley Air Basins;

WHEREAS, substantial reductions in emissions are needed if the State ambient air quality standards are to be attained and maintained in the San Francisco Bay Area and the San Joaquin Valley Air Basins;

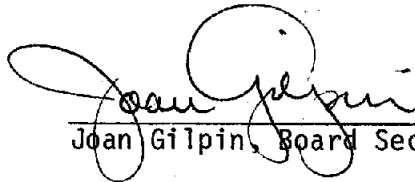
WHEREAS, the Board finds that Regulation 2 does not require the installation of control technologies which are currently available and feasible and therefore, does not make reasonable provision to achieve and maintain the State ambient air quality standard for sulfur dioxide and total suspended particulate matter in the San Francisco Bay Area Air Basin and for total suspended particulate matter in the northern portion of the San Joaquin Valley Air Basin;

WHEREAS, the proposed changes to Regulation 2 of the BAAPCD will achieve approximately 42 percent of the needed reduction in sulfur dioxide emissions by 1985 to ensure attainment and maintenance of the ambient air quality standards by requiring the specified sources to reduce SOx emissions by the use of control technologies which are presently available and technically feasible; and

WHEREAS, further investigation of the control of SOx emissions from fluid catalytic crackers, fluid cokers, and coke calcining kilns in the BAAPCD and the use of in-stack monitors in refinery flares is needed before more effective control of such sources and refinery flare monitors should be required;

NOW, THEREFORE, BE IT RESOLVED, that the Air Resources Board amends Regulation 2 of the BAAPCD by deleting existing Sections 3121 through 3123.9 and substituting these for new Sections 3121 through 3123.8 as set forth in Attachment A hereto, said amendments to be effective immediately.

I certify that the above is a true and correct copy of Resolution 78-51 as passed by the Air Resources Board.



Joan Gilpin, Board Secretary

Executive Officer's Note: The Board also directed the Executive Officer to consider specified revisions to the proposed regulation before making it effective. The final adopted regulation, therefore, may differ from the proposed version. Affected persons are advised to contact the Executive Officer for information regarding the status of the final regulation.

ATTACHMENT A

Proposed Sulfur Dioxide Emissions Regulations  
for the Bay Area Air Pollution Control District

§3120 SULFUR DIOXIDE

§3121 Limitations on Ground Level Concentrations of Sulfur Dioxide

- (a) ~~§3121~~ No person shall ~~cause, let, permit, suffer discharge~~ or allow the discharge of ~~any emission of sulfur dioxide~~ sulfur dioxide emissions from sources other than ships which results in ground level concentrations of sulfur dioxide at any given point in excess of 0.5 ppm (vol) by volume for 3 consecutive minutes, ~~or~~ 0.5 ppm (vol) by volume averaged over 60 consecutive minutes, ~~or~~ 0.04 ppm (vol) by volume averaged over 24 hours, or any of the limits specified in Table 1.
- (b) ~~§3121~~ The provisions of paragraph (a) shall not apply to the ground level concentrations of sulfur dioxide occurring on the property from which such emission occurs, provided such property, ~~from the emission point to the point of any such concentration,~~ is controlled is physically secured by the person responsible for such emission against public access.

Table I  
3121  
MAXIMUM ALLOWABLE SULFUR DIOXIDE  
GROUND LEVEL LIMITS

SO <sub>2</sub> Concentration ppm (vol)	Total Cumulative Exposure Between Midnight and the Next Succeeding Midnight in Hours
Column 1	Column 2
1.5	0.05
0.5	1.0
0.3	3.2
0.1	9.6
0.04	24.0

§3122 Determining Compliance with Ground Level Limitations

§3122--Except as provided in §3123, no person shall cause, let, permit, suffer, or allow the emission of gas containing sulfur dioxide from sources other than ships in excess of 300 ppm (vol). No person shall cause, let, permit, suffer, or allow the emission from a ship of gas containing sulfur dioxide in excess of 2000 ppm (vol) except when the ship is entering port from outside the District. All sampling of exhaust gases shall follow the techniques prescribed in Chapter 2, Division 8. For purposes of this section 3122, all sulfur present in gaseous compounds containing oxygen shall be deemed to be present as sulfur dioxide, and analyses of samples taken to determine the amount of sulfur dioxide in exhaust gases shall be made as specified in Chapter 1, Division 9. Tests for determining compliance with this section 3122 shall be for not less than 15 consecutive minutes or 90% of the time of actual source operation, whichever is less.

*The owner or operator of any source subject to §3121 shall comply with the following requirements:*

- (a) *Upon request by the air pollution control officer, notify the air pollution control officer in writing as to the location of*

*all significant sulfur dioxide emission points, the location of any monitoring stations required pursuant to paragraphs (b) and (c), and the nature of the source operations related to each such emission point.*

- (b) Upon request by the air pollution control officer, install and operate up to three recording sulfur dioxide monitoring stations at locations approved by the air pollution control officer, which stations shall be operated in accordance with the specifications of Chapter 4, Division 8.*
- (c) Upon request by the air pollution control officer, install and operate one or more recording meteorological station equipped to record wind speed and wind direction.*
- (d) Undertake all necessary care and maintenance such that any instrument required pursuant to paragraphs (b) and (c) will accurately and reliably record sulfur dioxide concentrations.*
- (e) Where instruments have been required pursuant to Paragraphs (b) or (c), provide the air pollution control officer with a summary of the data obtained from such instruments during each calendar month. Such summary shall be in such form and detail as will show the degree of compliance with §3121, and the time, location, extent, and duration of any recorded violation of the provisions*

of §3121; shall include data giving the total mass rate of emission of sulfur dioxide from the emission points specified pursuant to paragraph (a), and a detailed report of instrument performance and maintenance; and shall be submitted within the calendar month immediately succeeding the recording of the data.

- (f) Maintain, for a period of at least two years, all records obtained or compiled pursuant to the requirements of paragraphs (a) through (e). Such records shall be made available to the air pollution control officer at his or her request.
- (g) Examine, at the time of each instrument maintenance check and in any case at intervals of no greater than every seven days, instrument records obtained pursuant to the requirements of paragraphs (a) through (e). Any recorded violation of §3121 shall be reported to the air pollution control officer within the next normal working day after such examination.
- (h) Whenever the examination of records required pursuant to paragraph (g) indicates that a violation of §3121 has occurred, furnish evidence that proper action has been taken to prevent recurrence. When instrument records are not adequate to show compliance with §3121, the air pollution control officer may specify a schedule to be followed for producing a satisfactory record history.

(i) *The failure to comply with the requirements of any paragraph of this section shall constitute a separate violation of this regulation.*

§3123 Emission Limitations for Controlled Sulfur Recovery Plants

~~§3123--Emissions-exceeding-the-limits-established-in-§3122-shall-not constitute-a-violation-of-that-section-provided-that-all-requirements of-this-Section-3123,-to-wit,-§§3123.1-through-3123.9,-inclusive, are-satisfied:--Provided,-however,-that-emissions-which-exceed-200 pounds-of-sulfur-dioxide-per-day-shall-not-in-any-event-exceed-a maximum-emissions-concentration-of-6,000-ppm-(by-volume)-of-sulfur dioxide,-averaged-over-a-24-hour-period.~~

(a) *No person shall discharge or allow the discharge of, from any source in a controlled sulfur recovery plant, effluent process gas containing sulfur dioxide in excess of 1,500 ppm by volume or in excess of 120 pounds per short ton of sulfur produced, whichever is more restrictive.*

(b) *Effective January 1, 1984, no person shall discharge or allow the discharge of, from any source in a controlled sulfur recovery plant, effluent process gas containing sulfur dioxide in excess of 150 ppm by volume calculated at zero percent oxygen or in*

excess of 4 pounds per short ton of sulfur produced, whichever is more restrictive. The following increments of progress shall be met:

1. By July 1, 1979, submit to the air pollution control officer a final control plan describing the steps and time schedule to be followed to achieve compliance.
2. By July 1, 1981, submit an application to the air pollution control officer for authorities to construct.
3. By July 1, 1983, complete on-site construction or installation of emission control equipment.
4. By January 1, 1984, be in final compliance.

§3123.1 Emission Limitations for Uncontrolled Sulfur Recovery Plants

~~§3123.1--Such emissions shall not result in ground-level concentrations of sulfur dioxide exceeding the limits established by §3121.~~

- (a) No person shall discharge or allow the discharge of, into the atmosphere from any source in an uncontrolled sulfur recovery plant, effluent process gas containing sulfur dioxide greater than 3,000 ppm by volume.
- (b) Effective April 1, 1981, no person shall discharge or allow the discharge of, from any source in an uncontrolled sulfur recovery plant, effluent process gas containing sulfur dioxide in excess of 150 ppm by volume calculated at zero percent oxygen or in excess



of 4 pounds per short ton of sulfur produced, whichever is more restrictive. The following increments of progress shall be met:

1. By April 1, 1979, submit to the air pollution control officer a final control plan describing the steps and time schedule to be followed to achieve compliance.
2. By July 1, 1979, submit application to the air pollution control officer for authorities to construct.
3. By January 1, 1981, complete on-site construction or installation of emission control equipment.
4. By April 1, 1981, be in final compliance.

§3123.2 Emission Limitations for New Sulfur Recovery Plants

~~§3123.2--The person responsible for such emissions shall have notified the control officer in writing, prior to such emission, of his intent to operate under the provisions of §3123.--Such notice shall include information as to the location of all significant emission points, the location of the monitoring stations specified in §§3123.3 and 3123.4, and the nature of the source operations related to each such emission.~~

*No person shall discharge or allow the discharge of, from any source in a new sulfur recovery plant, effluent process gas containing sulfur dioxide in excess of 150 ppm by volume calculated at zero percent*

oxygen or in excess of 4 pounds per short ton of sulfur produced, whichever is more restrictive.

§3123.3 Emission Limitations for Sulfuric Acid Plants

~~§3123.3--Such person shall provide at least three recording sulfur dioxide monitoring stations located in the area surrounding the source, which stations shall be operated in accordance with the specifications of Chapter 4, Division 8.~~

- (a) No person shall discharge or allow the discharge of, from any source in a sulfuric acid plant, effluent process gas containing sulfur dioxide greater than 3,000 ppm by volume.
- (b) Effective April 1, 1981, no person shall discharge or allow the discharge of, from any source in a sulfuric acid plant, effluent process gas containing sulfur dioxide in excess of 300 ppm by volume calculated at 12 percent oxygen or in excess of 5 pounds per short ton of sulfuric acid produced (expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>), whichever is more restrictive. The following increments of progress shall be met:
1. By April 1, 1979, submit to the air pollution control officer a final control plan describing the steps and time schedule to be followed to achieve compliance.

2. By July 1, 1979, submit application to the air pollution control officer for authorities to construct.
3. By January 1, 1981, complete on-site construction or installation of emission control equipment.
4. By April 1, 1981, be in final compliance.

§3123.4 Emission Limitations for New Sulfuric Acid Plants

~~§3123.4--Such person shall provide at least one recording meteorological station equipped to record wind speed and wind direction.~~

No person shall discharge or allow the discharge of, from any source in a new sulfuric acid plant, effluent process gas containing sulfur dioxide in excess of 300 ppm by volume calculated at 12 percent oxygen or in excess of 4 pounds per short ton of sulfuric acid produced (expressed as 100 percent  $H_2SO_4$ ), whichever is more restrictive.

§3123.5 Emission Limitation for Fluid Catalytic Cracking Units, Fluid Cokers, and Coke Calcining Kilns

~~§3123.5--Such person shall provide the necessary care and maintenance services so that the instruments will function properly and adequately record sulfur dioxide exposures in the area.~~

- (a) No person shall discharge or allow the discharge of, from any source in a fluid catalytic cracking unit or fluid coker, effluent process gas containing sulfur dioxide in excess of 1,000 ppm by volume.

*(b) No person shall discharge or allow the discharge of, from any coke calcining kiln, effluent process gas containing sulfur dioxide in excess of 400 ppm by volume or in excess of 250 pounds per hour, whichever is more restrictive.*

§3123.6 General Emission Limitations

~~§3123.6--Such person shall provide to the control officer a summary of the data obtained from such instruments during each calendar month. Such summary shall be in such form and detail as will show the degree of compliance with §3121, and the time, location, extent, and duration of any recorded violation of the provisions of §3121; shall include data giving the total mass rate of emission of sulfur dioxide from the emission points specified in §3123.2, and a detailed report of instrument performance and maintenance; and shall be submitted within the calendar month immediately succeeding the recording of the data.~~

*With respect to any source of emissions of sulfur dioxide not specified in §§3123 through 3123.5 other than ships, no person shall discharge or allow the discharge of sulfur dioxide in excess of 300 ppm by volume. For ships, such limitation shall be 2,000 ppm by volume, except when the ship is entering the port from outside the District.*

§3123.7 Test Procedures

~~§3123.7--Such person shall keep for a period of at least two years all records gathered as a result of this section 3123, and shall make these available to the control officer at his request.~~

*For determining compliance with §§3123 through 3123.6, the following procedures shall control:*

- (a) All sampling of exhaust gases shall follow the techniques prescribed in Chapter 2, Division 8.*
  
- (b) All sulfur present in gaseous compounds containing oxygen shall be deemed to be present as sulfur dioxide, and analyses of samples taken to determine the amount of sulfur dioxide in exhaust gases shall be made as specified in Chapter 1, Division 9.*
  
- (c) Tests for determining compliance shall be conducted for the applicable period of time, as follows:*
  - 1. Tests to determine the emissions of sulfur dioxide shall be conducted for not less than 15 minutes and not more than 1 hour.*
  
  - 2. For sources operating in periods of less than 15 minutes, tests to determine the emission of sulfur dioxide shall be for not less than 90 percent of the time of actual source operation.*
  
  - 3. Tests to determine the tons of product produced (sulfur or sulfuric acid) shall be conducted over any continuous period not to exceed 24 hours.*

§3123.8 Definitions

§3123.8--Such person shall examine at the time of each instrument maintenance check and in any case at intervals of no greater than every seven days instrument records taken pursuant to the requirements of this section 3123 to determine compliance with §3121. Any recorded violation of §3121 shall be reported to the control officer within the next normal working day after such examinations.

- (a) For the purposes of §3123, a controlled sulfur recovery plant is a plant which met the emission limitations established by Subsection 3123(a) on the date of issuance of a permit to operate for such control equipment.
- (b) For the purposes of §3123.1, an uncontrolled sulfur recovery plant is a plant which did not meet the emission limitations established by Subsection 3123(a) on the date of issuance of a permit to operate for such control equipment.
- (c) For the purposes of §§3123.2 and 3123.4, a new sulfur recovery or sulfuric acid plant is one for which an authority to construct had not been approved by the air pollution control officer in writing before the date of adoption of such sections.

~~§3123.9--Whenever the records indicate that a violation of §3121 has occurred the person responsible for such emission must furnish evidence that proper action has been taken to prevent recurrence, or a violation of §3123 will be deemed to have occurred and emission will be regulated by §3122.--When instrument records are not adequate to show compliance with §3121 the control officer may specify the schedule to be followed for producing a satisfactory record history.~~

DRAFT

State of California  
AIR RESOURCES BOARD

Supplemental Staff Report Re Significant Environmental Issues  
Public Hearing for Consideration of Adopting Sulfur Dioxide Emissions  
Regulations for the Bay Area Air Quality Management District

78-19-2

Date of Release: October 25, 1978

Scheduled for Consideration: October 25, 1978

1. Discussion

Section 60007 of the Air Resources Board's regulations in Title 17, California Administrative Code, directs the staff to report to the Board regarding environmental issues raised by public comments, for consideration by the Board on any matter for which a public hearing is required. Environmental issues have been discussed in Section IX of the staff report; however, the staff has determined that it is necessary to expand further on the subject of the inducement of growth.

Although implementation of the SO<sub>2</sub> emission limits contained in the rule considered by the Board on October 25, 1978, will not result, in and of itself, the direct inducement of growth, it should be noted that this rule combined with other rules to control SO<sub>2</sub> may allow the location of new industry in the Bay Area. The staff does not expect a significant increase in growth due to the adoption of the proposed rule; however, any location of new industry would induce growth and result in an addition to the local economy of the Bay Area. The staff does not believe that the potential for siting of new industry, albeit small, is likely to result in any significant increases in the air pollutants, given the new source review regulation in the Bay Area which ensures the review of the potential air quality impact of such sources.



State of California  
AIR RESOURCES BOARD

PROPOSED: Response to Significant Environmental Issues

Item: Public Hearing for Consideration of Adopting Sulfur Dioxide Emissions  
Regulations for the Bay Area Air Quality Management District  
(Agenda Item 78-19-2)

Public Hearing Date: October 25, 1978

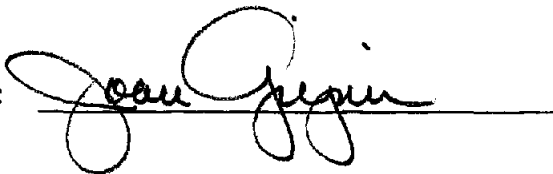
Response Date: October 25, 1978

Issuing Authority: Air Resources Board

Comment: The adoption of the rule, combined with other sulfur dioxide controls,  
may result in the inducement of growth (Staff).

Response: Current new source review rules and the California Environmental  
Quality Act with its associated guidelines will ensure that such growth, if it  
is allowed and does occur, does not result in any significant adverse environ-  
mental impacts.

CERTIFIED:



A handwritten signature in cursive script, appearing to read "Joan Pepin", is written over a horizontal line.

Date: April 12, 1979

# Memorandum

To : Huey E. Johnson  
Secretary  
Resources Agency

Date : April 12, 1979

Subject: ARB Hearing -  
Response to  
Environmental  
Comments

From : Joan Gilpin  
Board Secretary  
Air Resources Board

Pursuant to Title 17, Section 6007 (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.

Attachment