Application Review

Mark Schonhoff
March 8, 1995

Application Number: N-577-3-1
N-577-4-1

Project Number: N/A

Facility Name: Newark Sierra Paperboard Corporation

Mailing Address: 800 W. Church Street
Stockton, CA 95203

Contact Name: Michael Rogge

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I. Proposal:

Issue an Authority To Construct to install low NOx burners on two existing boilers.

In the past, Newark Sierra utilized #6 fuel oil as the primary fuel in the boilers. They are now proposing to install low NOx burners and utilize natural gas as the primary fuel for both boilers. They have requested to have their #6 fuel oil usage limited to seven days per quarter.

II. Applicable Rules:

Rule 2010: Permits Required
Rule 2201: New & Modified Stationary Source Review (October 21, 1993)
Rule 4001: New Source Performance Standards (Subpart Db)
Rule 4101: Visible Emissions
Rule 4102: Nuisance
Rule 4301: Fuel Burning Equipment

III. Project Location:

Street Address: 800 W. Church Street
Stockton, CA

IV. Process Description:

Newark Sierra is in the business of making paperboard from waste paper. They also operate a cogeneration plant which utilizes steam from these two boilers. Presently the turbines are not being operated and 100% of the steam produced is being utilized by the paperboard operation. If the turbines are brought back into operation they would utilize approximately 1/3 of the steam produced. None of the electricity generated when the turbines are in operation is sold.

V. Equipment Listing:

Present: 2 Babcock and Wilcox Model # 62222-37, NB 10950 Boilers equipped with:

Boiler 1: 3 Coen CPF Parallel Flow Burners.
Boiler 2: 3 Coen DAZ-22 circular register burners.

Each boiler is rated at 113 MMBTU/hr while firing on natural gas and 111 MMBTU/hr while firing on #6 fuel oil.

Proposed: The new burners will be Todd Variflame low NOx burners rated at 45 MMBTU/hr each. There will be three burners per boiler (135 MMBTU/hour per boiler).

VI. Emission Control Technology Evaluation:

The burners utilize low excess air combustion, multi-stage combustion, and flue gas recirculation to control NOx:

1. Low Excess Air Combustion: The combustion process will take place with a minimum amount of air which minimizes the amount of free oxygen available to form NOx.

2. Multi-Stage Combustion: Fuel and air are injected at various stages within the flame envelope. This helps to optimize combustion and NOx levels.

3. Flue Gas Recirculation: Exhaust gas is introduced into the combustion process, lowering the combustion temperature, and reducing the amount of excess air available for NOx formation.

VII. Calculations:

A. Emission Factors:

Premodification Emission Factors (Natural Gas):

CARB tested both boilers for NOx and CO on 12/11/85, however only the gas usage of boiler #2 was logged. It will be assumed that the NOx and CO emission factors derived from the source test results can be used for both boilers.

Gas usage: 2.676 MMCF in boiler #2 on the day of the test (From application package, page 3-8). Assuming that the usage was uniform on an hourly basis the hourly usage was:

(2.676 MMCF/24 hr)(1000 BTU/CF) = 111.5 MMBTU/hr

The maximum capacity of the boiler, while firing on natural gas, is 113 MMBTU/hr therefore the boiler was firing at an acceptable rate for the test.

The following equation will be utilized to calculate the NOx and CO emission factors:

$$EF(\text{lb/MMBTU}) = (\text{PPM})(\text{MW})(2.59 \times 10^{-9})(\text{F-Factor})[20.9/(20.9 - \%O_2)]$$

Where: PPM is the average tested concentration (Application Pkg., Appendix D)
MW is the molecular weight
2.59×10^{-9} is a constant
F-Factor is 8740 (From F-Factor Manual)

NOx: Average Tested Concentration: 170 PPM (Application Pkg. App. D)

$$EF(NOx) = (170)(46)(2.59 \times 10^{-9})(8740)[20.9/(20.9 - 3)] = 0.21 \text{ lb/MMBTU}$$

CO: Average Tested Concentration: 490 PPM

$$EF(CO) = (490)(28)(2.59 \times 10^{-9})(8740)[20.9/(20.9 - 3)] = 0.36 \text{ lb/MMBTU}$$

NMHC and PM10 were not tested for and the SOx emissions were reported to be negligible therefore estimates will be made using AP-42 emission concentrations.

NMHC Concentration: 1.41 lb/MMCF (AP-42, Table 1.4-3)

EF (NMHC) = (1.41 lb/MMCF)(1 CF/1000 BTU) = 0.0014 lb/MMBTU

SOx Concentration (as SO_2): 0.6 lb/MMCF (AP-42, Table 1.4-2)

EF (SOx) = (0.6 lb/MMCF)(1 CF/1000 BTU) = 0.0006 lb/MMBTU

PM10 Concentration: 5 lb/MMCF (AP-42, Table 1.4-1)

EF (PM10) = (5 lb/MMCF)(1 CF/1000 BTU) = 0.005 lb/MMBTU

Premodification Emission Factors, #6 Fuel Oil:

Each boiler was source tested. Boiler #1 was tested by the California Air Resources Board on 12/11/85 and #2 was tested by BCA on 9/10/91. The fuel oil burned during the 1991 test on boiler #2 was Kern Oil And Refining Company Oil which is the same blend (Sulfur content of 0.74 to 1.0% and a nitrogen content of between 0.34 and 0.96%) as the fuel oil burned during the baseline period (Quarter 4 of 1989 through Quarter 3 of 1991). The fuel oil burned during the 1985 test on boiler #1 was a different blend. Since the boilers are similar it will be assumed that the emission factors for NOx, SOx and PM10, derived from the data from the 9/10/91 test, can be applied to both boilers. NMHC emissions were not tested, therefore the AP-42 emission factor will be utilized. CO was tested and the emission rate was found to be 0.25 lb/hr which equates to approximately 4 PPM. This does not seem realistic therefore the CO emission factor will be estimated utilizing AP-42.

#6 fuel usage: 308 barrels (12,936 gallons @ 42 gal/bbl) during the entire day of the source test. Assuming that the usage was uniform throughout the day the hourly usage was 539 gallons. (Application Package, Page 3-9)

#6 fuel oil heating value: 150,000 BTU/gal (AP-42, A-4)
#6 fuel usage: (150,000 BTU/gal)(539 gal/hr) = 80.85 MMBTU/hr
Sulfur Content: 0.91 %
Nitrogen Content: 0.83 %

NOx emission rate: 50.2 lb/hr (Application Package, Appendix D)

EF(NOx) = (50.2 lb/hr)(1 hr/80.85 MMBTU/hr) = 0.62 lb/MMBTU

CO emission concentration: 5 lb/10^3 gal (AP-42 table 1.3-1)

EF(CO) = (5 lb/10^3 gal)(1 gal/150,000 BTU) = 0.033 lb/MMBTU

SOx Emission Rate: 84.7 lb/hr (Application Package, Appendix D)

EF (SOx) = (84.7 lb/hr)(1 hr/80.85 MMBTU) = 1.0 lb/MMBTU

NMHC emission Concentration: 0.76 lb/10^3 gal (AP-42, Table 1.3-1)

EF(NMHC) = (0.76 lb/10^3 gal)(1 gal/150,000 BTU) = 0.005 lb/MMBTU

TSP Emission Rate: 12.74 lb/hr (Application Package, Appendix D)
PM10 Fraction: 0.87 (PM10 manual)

PM10 Emission Rate = (12.74 lb/hr)(0.87) = 11.1 lb/hr

EF(PM10) = (11.1 lb/hr)(1 hr/80.85 MMBTU/hr) = 0.14 lb/MMBTU

Postmodification Emission Factors, Natural Gas

NOx: 0.0365 lb/MMBTU (Vender Guarantee, Application Package, appendix F)
CO: 0.15 lb/MMBTU (Vender Guarantee, Application Package, appendix F)
NMHC: AP-42 emission concentration was guaranteed (Application Package, Sect. 3):

Emission concentration: 1.41 lb/MMCF (AP-42 table 1.4-3)
Natural Gas Heating Value: 1000 BTU/SCF
EF(VOC) = (1.41 lb/MMCF)(1 CF/1000 BTU) = 0.0014 lb/MMBTU

SOx: AP-42 emission rate was guaranteed:

Emission concentration: 0.6 lb/MMCF (AP-42 table 1.4-2)
Natural Gas Heating Value: 1000 BTU/SCF
EF(SOx) = (0.6 lb/MMCF)(1 CF/1000 BTU) = 0.0006 lb/MMBTU

PM10: AP-42 emission concentration was guaranteed:

Emission concentration: 5 lb/MMCF (AP-42 table 1.4-2)
Natural Gas Heating Value: 1000 BTU/SCF

$$EF(PM10) = (5\ lb/MMCF)(1\ CF/1000\ BTU) = 0.005\ lb/MMBTU$$

Postmodification Emission Factors, #6 Fuel Oil

NOx: The burner manufacturer has guaranteed an emission concentration of 265 to 540 PPM (0.33 to 0.69 lb/MMBTU) depending on the type of fuel used. The applicant has proposed 0.62 lb/MMBTU (Application Package, table 4-1).

CO: The vender has guaranteed 200 PPM (0.15 lb/MMBTU)

VOC: The applicant has proposed the AP-42 emission concentration (Application Package, Table 4-1).

NMHC emission Concentration: 0.76 lb/10^3 gal (AP-42 Table 1.3-1)
EF(NMHC) = (0.76 lb/10^3 gal)(539 gal/hr)(1 hr/80.85 MMBTU) = 0.005 lb/MMBTU

SOx: The applicant is proposing an emission factor of 1.0 lb/MMBTU based on their expectation that they can match the SOx emission rate achieved during the 9/10/91 source test (Application Package, table 4-1). Newark Sierra stated in the application that they would be limited to a fuel oil sulfur content of 0.9% by weight.

PM10: The applicant is proposing an emission factor of 0.11 lb/MMBTU.

Summery Of Emission Factors

	Before Modification		**After Modification**	
	Natural Gas (lb/10^6 BTU)	**# 6 Fuel Oil (lb/10^6 BTU)**	**Natural Gas (lb/10^6 BTU)**	**# 6 Fuel Oil (lb/10^6 BTU)**
NOx	0.21	0.62	0.0365	0.62
SOx	0.0006	1.0	0.0006	1.0
CO	0.36	0.033	0.15	0.15
NMHC	0.0014	0.005	0.0014	0.005
PM10	0.005	0.14	0.005	0.11

B. Assumptions Made:

1. Emission Factors for a source test from one boiler may be applied to the other.

C. Emission Calculations:

1. Maximum Proposed Emissions:

Newark Sierra requested to have their emissions limited such that offsets and public notice are not triggered. Additionally they requested to be limited such that BACT for fuel oil combustion emissions is not triggered. In order to achieve that, there must be no Increase In Permitted Emissions of NOx, NMHC, SOx or PM10 and the NSR balance for CO must be less than 550 pounds per day.

Both boilers are prebaseline units. Boiler #2 has not been modified since the baseline date and in 1985 Newark Sierra modified boiler #1. That modification resulted in a SOx NSR balance of 150 pounds per day, a CO NSR balance of 11.5 pounds per day and a PM10 NSR balance of 12.5 lb/day. Therefore, in order to avoid exceeding any of the above mentioned threshold levels each boiler must be limited to no more than the following:

PEPM (Oil): NOx = (111 MMBTU/hr)(24 hr/day)(0.62 lb/MMBTU) = 1651.7 lb/day
CO = (111 MMBTU/hr)(24 hr/day)(0.033 lb/MMBTU) = 87.9 lb/day
NMHC = (111 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 13.3 lb/day
SOx = (111 MMBTU/hr)(24 hr/day)(1.0 lb/MMBTU) = 2664.0 lb/day
PM10 = (111 MMBTU/hr)(24 hr/day)(0.14 lb/MMBTU) = 373.0 lb/day

PEPM (Gas): NOx = (113 MMBTU/hr)(24 hr/day)(0.21 lb/MMBTU) = 569.5 lb/day
CO = (113 MMBTU/hr)(24 hr/day)(0.36 lb/MMBTU) = 976.3 lb/day
NMHC = (113 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU) = 3.8 lb/day
SOx = (113 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU) = 1.6 lb/day
PM10 = (113 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 13.6 lb/day

Worst Case PEPM: NOx = 1651.7 lb/day
CO = 976.3 lb/day
NMHC = 13.3 lb/day
SOx = 2664 lb/day
PM10 = 373 lb/day

Maximum Proposed Emissions:

Newark Sierra has proposed no change in the NOx, CO, NMHC or SOx emission concentrations and a decrease in the PM10 emission concentration while firing on #6 fuel oil. Therefore, in order to ensure no increase in emissions while firing on #6 fuel oil the boilers will be limited to their premodification #6 fuel oil burning capacity which is:

(111 MMBTU/hr)(24 hr/day) = 2664 MMBTU/day

PE (Oil):

NOx = (2664 MMBTU/day)(0.62 lb/MMBTU) = 1651.7 lb/day
CO = (2664 MMBTU/day)(0.15 lb/MMBTU) = 399.6 lb/day
NMHC = (2664 MMBTU/day)(0.005 lb/MMBTU) = 13.3 lb/day
SOx = (2664 MMBTU/day)(1.0 lb/MMBTU) = 2664.0 lb/day
PM10 = (2664 MMBTU/day)(0.11 lb/MMBTU) = 293.0 lb/day

PE (Gas):

NOx = (135 MMBTU/hr)(24 hr/day)(0.0365 lb/MMBTU) = 118.3 lb/day
CO = (135 MMBTU/hr)(24 hr/day)(0.15 lb/MMBTU) = 486.0 lb/day
NMHC = (135 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU) = 4.5 lb/day
SOx = (135 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU) = 1.9 lb/day
PM10 = (135 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 16.2 lb/day

Worst Case PE:

NOx = 1651.7 lb/day
CO = 486.0 lb/day
NMHC = 13.3 lb/day
SOx = 2664.0 lb/day
PM10 = 293.0 lb/day

The Potential To Emit is less than or equal to the Potential To Emit Prior to The Modification.

Daily Emission Limits:

Conditions Will Be The Same For Both Boilers:
Equipment Description: 135 MMBTU/HR Boiler

1. The boiler shall be fired on natural gas or #6 fuel oil only.

2. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.

3. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.

4. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.

5. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.

6. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.

7. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

8. If #6 fuel oil is burned at any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

9. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.

10. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.

11. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.

12. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.

13. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.

14. The #6 fuel oil usage shall not exceed 18,648 mmbtu's per calendar quarter* .

* The applicant originally requested to be limited to 7 days per year of fuel oil usage. It was not certain which quarter the fuel usage would take place in therefore they will be allowed 7 days per quarter. Refer to the AER section of this application review for further information:

(2,664 MMBTU/day)(7 days/qtr) = 18,648 mmbtu/qtr

2. Increase In Permitted Emissions (IPE) For BACT:

IPE = PE (Modified Unit After Modification) - HAPE (Modified Unit)

Note: It is District policy to calculate IPE separately for the primary fuel and the back-up fuel.

Where: HAPE = PEPM(1-ΔCE)
PEPM is the Potential To Emit Prior To The Modification
$\Delta CE = (EF_1 - EF_2) / EF_1$ Where EF_1 is the premodification emission factor (uncontrolled emissions) and EF_2 is the postmodification emission factor

	Natural Gas EF's (lb/MMBTU)			#6 Fuel Oil EF's (lb/MMBTU)		
	EF_1	EF_2	ΔCE	EF_1	EF_2	ΔCE
NOx	0.21	0.0365	0.826	0.62	0.62	0.0
CO	0.36	0.15	0.583	0.033	0.15	0.0[1]
NMHC	0.0014	0.0014	0.0	0.005	0.005	0.0
SOx	0.0006	0.0006	0.0	1.0	1.0	0.0
PM10	0.005	0.005	0.0	0.14	0.11	0.214

1. District policy (3/25/92) states that if the CE is calculated to be negative it shall be set to zero.

HAPE (Natural Gas, Per Boiler):

NOx = (113 MMBTU/hr)(24 hr/day)(0.21 lb/MMBTU)(1-0.826) = 99.1 lb/day
CO = (113 MMBTU/hr)(24 hr/day)(0.36 lb/MMBTU)(1-0.583) = 407.1 lb/day
NMHC = (113 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU)(1-0.0) = 3.8 lb/day
SOx = (113 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU)(1-0.0) = 1.6 lb/day

PM10 = (113 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU)(1-0.0) = 13.6 lb/day

IPE (Natural Gas, Per Boiler):

NOx = 118.3 lb/day - 99.1 lb/day = 19.2 lb/day
CO = 486.0 lb/day - 407.1 lb/day = 78.9 lb/day
NMHC = 4.5 lb/day - 3.8 lb/day = 0.7 lb/day

SOx = 1.9 lb/day - 1.6 lb/day = 0.3 lb/day (Rounds to zero because it is less than 0.5 lb/day per District policy)

PM10 = 16.2 lb/day - 13.6 lb/day = 2.6 lb/day

HAPE (Fuel Oil, Per Boiler):

NOx = (111 MMBTU/hr)(24 hr/day)(0.62 lb/MMBTU)(1-0.0) = 1651.7 lb/day
CO = (111 MMBTU/hr)(24 hr/day)(0.033 lb/MMBTU)(1-0.0) = 87.9 lb/day
NMHC = (111 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU)(1-0.0) = 13.3 lb/day
SOx = (111 MMBTU/hr)(24 hr/day)(1.0 lb/MMBTU)(1-0.0) = 2664.0 lb/day
PM10 = (111 MMBTU/hr)(24 hr/day)(0.14 lb/MMBTU)(1-0.214) = 293.1 lb/day

IPE (Fuel Oil, Per Boiler):
NOx = 1651.7 lb/day - 1651.7 lb/day = 0.0 lb/day
CO = 399.6 lb/day - 87.9 lb/day = 311.7 lb/day
NMHC = 13.3 lb/day - 13.3 lb/day = 0.0 lb/day
SOx = 2664.0 lb/day - 2664.0 lb/day = 0.0 lb/day
PM10 = 293.0 lb/day - 293.1 lb/day = 0.0 lb/day[1]

1. Does not equal zero because of emission factor calculation round off.

IPE For Inclusion In The NSR Balance (Each Boiler):

$IPE = PE_{After} - PE_{Before}$

Where PE_{Before} = PEPM
And PE_{After} = PE

Pollutant	PEPM (#6 Fuel Oil) (lb/day)	PEPM (Nat. Gas) (lb/day)	PEPM (Worst Case) (lb/day)
NOx	1651.7	569.5	1651.7
CO	87.9	976.3	976.3
NMHC	13.3	3.8	13.3
SOx	2664.0	1.6	2664.0
PM10	373.0	13.6	373.0

Worst Case PE: NOx = 1651.7 lb/day
CO = 486.0 lb/day
NMHC = 13.3 lb/day
SOx = 2664 lb/day
PM10 = 293.0 lb/day

IPE (NSR Inclusion): NOx = 1651.7 lb/day - 1651.7 lb/day =.0.0 lb/day
CO = 486.0 lb/day - 976.3 lb/day = 0.0 lb/day[1]
NMHC = 13.3 lb/day - 13.3 lb/day = 0.0 lb/day
SOx = 2664 lb/day - 2664 lb/day lb/day = 0.0 lb/day
PM10 = 293.0 lb/day - 373.0 lb/day = 0.0 lb/day[1]

1. IPE's calculated to be less than 0.5 lb/day are set equal to zero (3/12/92 District policy)

3. Actual Emission Reductions (AER):

AER = (HAE X CE) where:HAE = (EF)(Fuel Usage)

Table Of Quarterly Average HAE's

Qtr	Natural Gas Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Natural Gas HAE (lb/Qtr)	Fuel Oil Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Fuel Oil HAE (lb/Qtr)
1.	1,142,238 (114,223.8 X 10^6)	NOx: 23,987 SOx: 69 CO: 41,121 NMHC: 160 PM10: 571	2,277,880 (227,788.0 X 10^6)	NOx: 141,229 SOx: 227,788 CO: 7,517 NMHC: 1,139 PM10: 31,890
2	15,234 (1,523.4 X 10^6)	NOx: 320 SOx: 1 CO: 548 NMHC: 2 PM10: 8	3,267,562 (326,756.2 X 10^6)	NOx: 202,589 SOx: 326,756 CO: 10,783 NMHC: 1,634 PM10: 45,746
3	1,236,341 (123,634.1 X 10^6)	NOx: 25,963 SOx: 74 CO: 44,508 NMHC: 173 PM10: 618	1,833,790 (183,379.0 X 10^6)	NOx: 113,695 SOx: 183,379 CO: 6,052 NMHC: 917 PM10: 25,673
4	1,707,673 (170,767.3 X 10^6)	NOx: 35,861 SOx: 102 CO: 61,476 NMHC: 239 PM10: 854	1,615,796 161,579.6 X 10^6)	NOx: 100,179 SOx: 161,580 CO: 5,332 NMHC: 808 PM10: 22,621

Baseline period is the forth quarter of 1989 through the third quarter of 1991.

Newark Sierra will be installing a control device to control emissions while firing on natural gas. They will be reducing #6 fuel oil combustion contaminant emissions by reducing it's use. Therefore AER will be calculated utilizing the following equations:

AER (Natural Gas): HAE * CE (Rule 2201 Section 6.5.2)

AER (#6 Fuel Oil): HAE-PE (Rule 2201 Section 6.5.1)

Newark Sierra has stated that they wish to retain the right to burn #6 fuel oil seven days per year for emergency purposes (application package, Section 4). It is not known which quarter the fuel oil will be burned in therefore all four quarters will be corrected to reflect seven days of fuel oil usage.

PE for 7 days of oil use in both boilers combined is:

BTU Rating: Each boiler will be limited to 2664 MMBTU/day of #6 fuel oil usage therefore the combined allowable #6 fuel oil usage, for both boilers combined, will be 5328 MMBTU/day.

PE_{NOx}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.62 lb/MMBTU) = 23,123.5 lb/qtr
PE_{SOx}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(1.0 lb/MMBTU) = 37,296.0 lb/qtr
PE_{CO}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.15 lb/MMBTU) = 5,594.4 lb/qtr
PE_{NMHC}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.005 lb/MMBTU) = 186.5 lb/qtr
PE_{PM10}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.11 lb/MMBTU) = 4102.6 lb/qtr

$AER = (HAE * CE)_{Nat.Gas} + (HAE - PE)_{\#6\ Fuel\ Oil}$

Quarter 1:
AER (NOx) = (23,987 lb)(0.826) + (141,229 lb - 23,123.5 lb) = 137,919 lb
AER (SOx) = (69 lb)(0) + (227,788 lb - 37,296.0 lb) = 190,492 lb
AER (CO) = (41,121 lb)(0.583) + (7,517 lb - 5,594.4 lb) = 25,896 lb
AER (NMHC) = (160 lb)(0) + (1,139 lb - 186.5 lb) = 953 lb
AER (PM10) = (571 lb)(0) + (31,890 lb - 4,102.6 lb) = 27,787 lb

Quarter 2:
AER (NOx) = (320 lb)(0.826) + (202,589 lb - 23,123.5 lb) = 179,730 lb
AER (SOx) = (1 lb)(0) + (326,756 lb - 37,296.0 lb) = 289,460 lb
AER (CO) = (548 lb)(0.583) + (10,783 lb - 5,594.4 lb) = 5,508 lb
AER (NMHC) = (2 lb)(0) + (1,634 lb - 186.5 lb) = 1,448 lb
AER (PM10) = (8 lb)(0) + (45,746 lb - 4,102.6 lb) = 41,643 lb

Quarter 3:
AER (NOx) = (25,963 lb)(0.826) + (113,695 lb - 23,123.5 lb) = 112,017 lb
AER (SOx) = (74 lb)(0) + (183,379 lb - 37,296.0 lb) = 146,083 lb
AER (CO) = (44,508 lb)(0.583) + (6,052 lb - 5,594.4 lb) = 26,406 lb
AER (NMHC) = (173 lb)(0) + (917 lb - 186.5 lb) = 731 lb
AER (PM10) = (618 lb)(0) + (25,673 - 4,102.6 lb) = 21,570 lb

Quarter 4:
AER (NOx) = (35,861 lb)(0.826) + (100,179 lb - 23,123.5 lb) = 106,677 lb
AER (SOx) = (102 lb)(0) + (161,580 lb - 37,296.0 lb) = 124,284 lb
AER (CO) = (61,476 lb)(0.583) + (5,332 lb - 5,594.4 lb) = 35,578 lb
AER (NMHC) = (239 lb)(0) + (808 lb - 186.5 lb) = 622 lb
AER (PM10) = (854 lb)(0) + (22,621 - 4,102.6 lb) = 18,518 lb

Summery Of AER's:

	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)
NOx	137,919	179,730	112,017	106,677
SOx	190,492	289,460	146,083	124,284
CO	25,896	5,508	26,406	35,578
NMHC	953	1,448	731	622
PM10	27,787	41,643	21,570	18,518

4. NSR Balance:

For this project, pursuant to District Rule 2201 Section 6.6, the NSR balance is the sum of the IPE's authorized by valid or implemented ATCs. For units modified prior to September 19, 1991 the Net Emission Increase as determined pursuant to the NSR rule in effect at the time of modification shall be the NSR contribution as a result of that modification.

In 1985 the burners in boiler #2 were replaced with burners that were identical to those previously in use. This was classified by the SJCAPCD as a repair and no ATC was required. There will be no NSR balance contribution as a result of that repair.

In 1985 boiler #1 was retrofitted with new burners. The net emission increase as a result of the 1985 modification to boiler #1 was determined to be 150 pounds per day of SOx and 150 pounds per day of NOx.

In order to determine the worst case NSR balance contribution of CO and PM10 the potential emissions while burning each fuel will be calculated.

The SOx increase was stated,. in the EE, to be 150 lb/day. In order to determine the PM10 and CO increases the quantity of oil required to produce 150 lb/day of SOx emissions will be calculated and the CO and PM10 NSR increases while burning oil will be calculated based on the increased fuel usage.

In order to determine the increase in emissions due to the burning of natural gas the quantity of natural gas required to produce 150 lb/day of NOx emissions will be calculated and the CO and PM10 NSR balance increases will be determined based on this fuel usage.

Increase In SOx Emissions: 150 lb/day (from EE for 1985 retrofit)
SOx EF: 152.29 lb/10^3 gal (from EE for 1985 retrofit)

Max increase in #6 Usage = (150 lb/day) / (152.29 lb/10^3 gal) = 985 gal/day

NOx Emissions: 150 lb/day (from EE for 1985 retrofit)
NOx EF: 522.5 lb/MMCF (From EE for 1985 retrofit)

Max Nat. Gas Usage = (150 lb/day) / (522.5 lb/MMCF) = 0.287 MMCF/day

Potential Increase From #6 Fuel Oil (All EF's from the 1985 EE):

SOx = 150 lb/day
CO = (985 gal/day)(5 lb/10^3 gal) = 4.9 lb/day

$$PM10 = (985\ \text{gal/day})(12.7\ \text{lb}/10^3\ \text{gal}) = 12.5\ \text{lb/day}$$

Potential Increase From Natural Gas (All EFs from the 1985 EE):

CO = (0.287 MMCF/day)(40 lb/MMCF) = 11.5 lb/day
SOx = (0.287 MMCF/day)(0.6 lb/MMCF) = 0.2 lb/day
PM10 = (0.287 MMCF/day)(5 lb/MMCF) = 1.4 lb/day

Worst Case Net Increase In Emissions Resulting From The 1985 Retrofit Of Boiler #1, Considering Both Fuels:

SOx = 150 lb/day
CO = 11.5 lb/day
PM10 = 12.5 lb/day

Worst Case IPE's, from the proposed retrofit, for inclusion in the NSR Balance:

CO = 0.0 lb/day (Per Boiler)
SOx = 0.0 lb/day (Per Boiler)
PM10 = 0.0 lb/day (Per Boiler)

Permit Number	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)
N-577-1-0 (Board & Trim Line #1)	0.0	0.0	0.0[1]
N-577-2-0 (Board & Trim Line #2)	0.0	0.0	0.0[1]
N-577-3-1 (Boiler #1)	11.5	150	12.5
N-577-4-1 (Boiler #2)	0.0	0.0	0.0
Total	11.5	150	12.5

1. The Board & Trim Lines are pre-NSR units that have been modified since the baseline date, however, the modifications resulted in no increase in emissions.

5. Stationary Source Potential To Emit (SSPE):

This modification will result in no increase in emissions of VOC or NOx therefore SSPE will not be calculated.

VIII. Compliance:

Rule 2201: New & Modified Stationary Source Review (October 21, 1993)

BACT (Natural Gas): The Increase In Permitted Emissions of NOx and PM10 are each greater than two pounds per day therefore BACT is triggered for NOx and PM10. The Increase in permitted emissions of NMHC and SOx is less than two pounds per day and the CO NSR balance (CO attainment area) is less than 550 pounds per day therefore BACT is not triggered for NMHC, SOx or CO.

NOx: Newark Sierra is proposing a NOx emission rate of less than 30 ppm while firing on natural gas which is BACT.

PM10: The combustion of natural gas is BACT.

BACT (#6 Fuel Oil): There is no increase in NOx, SOx, NMHC or PM10 emissions while firing on #6 fuel oil and the CO NSR balance is less than 550 lb/day (CO attainment area) therefore BACT while firing on #6 fuel oil is not triggered.

Offsets: Offsets are not triggered.

Rule 4001: New Source Performance Standards (Subpart Db)

Not subject to this subpart because Newark Sierra did not commence construction, modification or reconstruction (as defined in CFR 40 Part 60). after June 19, 1984.

Rule 4101: Visible Emissions

As long as the equipment is properly operated and maintained emissions should be less than 20% opacity.

Rule 4102: Nuisance

BROWN AND CALDWELL

May 29, 1998

Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is confidential information intended for the use of the individual or entity named below. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us at the telephone number listed. Thank you.

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name: Mark Schonhoff
Company: San Joaquin Unified Air Pollution Control District
City/State: Modesto, CA
FAX No: (209) 545-8652

THIS TRANSMITTAL IS BEING SENT FROM:

Name: Wilma Dreessen
Employee No: 8110
Project No: 6090
Task.G/L: 16.5

Return originals: Yes ☒ No ☐
Stamp: Yes ☒ No ☐
Staple: Yes ☒ No ☐

SPECIAL INSTRUCTIONS/REMARKS:

Per your request, attached are the purchase orders for burner installation on Boiler #1 and Boiler #2 at Newark Sierra Paperboard Corporation.

RECEIVED
MAY 29 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 7

Environmental Engineering And Consulting

SUITE 150, 3480 BUSKIRK AVENUE, PLEASANT HILL, CALIFORNIA 94523-4342
PHONE: (510) 937-9010 FAX: (510) 937-9026

PURCHASE ORDER

DATE • September 20, 1985

Gold Bond Building Products
A National Gypsum Division
2001 Rexford Road Charlotte, NC 28211

PURCHASE ORDER NUMBER
810142-R-5118
SEE INSTRUCTIONS BELOW

Burner Installation
#1 Boiler

TO • Ward-Schmid Co., Inc.
• 2132 Pine Street
• Ceres, CA 95307
209-537-5094

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Engineering
2001 Rexford Road
Charlotte, NC 28211

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boiler #1 Burners & Safeguards	12-5118-See Below	As Scheduled
F.O.B.	SHIP VIA: N/A	TERMS: See Within

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A			Furnish all of the necessary labor, materials, tools, equipment and supervision required to install three (3) new Coen Parallel Flow Low Excess Air Burners in the #1 Boiler at Gold Bond's Stockton, CA plant in accordance with Gold Bond's instructions, Gold Bond's Section IV Specifications for work order 5118 and Ward-Schmid proposal #85-0181-PW, DTD 8/22/85.	
			Ward-Schmid is to complete the above work for the total lump sum of	$16,440.00
B			Furnish all of the engineering, drawings, specifications, labor, materials, tools, equipment and supervision required to furnish and install a complete flame safeguard system for the three (3) burners on the #1 Boiler at Gold Bond's Stockton, CA plant in	

Sent to Chad. 2/24/86

VOUCHER NO.			P. O. NO. 10142	
M	D	A	ANAL.	TAX
12	51	18	9750	3280.00
12	51	18	5800	13045.00
66	97	45	5000	52.74
DU		PRICE		TERMS
			DISC. AMT.	

MATERIAL RECVD. | FINAL APPROVAL

ACKNOWLEDGMENT
SIGN AND RETURN TO GOLD BOND BUILDING PRODUCTS
AT ADDRESS SHOWN ABOVE

ACKNOWLEDGED AND ACCEPTED
2-1-1986
SIGNED FOR THE SUPPLIER
DATE 2-6-86

IMPORTANT
CHECK PRICING, TERMS AND F.O.B. POINT FOR ACCURACY.

W. Wayne Allen — Buyer
W. Wayne Allen
For FRED B. MACHOLZ • Director of Purchasing

PURCHASE ORDER
CONTINUATION SHEET

Gold Bond Building Products
A National Gypsum Division
2001 Rexford Road
Charlotte, NC 28211

PURCHASE ORDER NUMBER 810142-R-5118
SEE INSTRUCTIONS BELOW

DATE September 20, 1985

TO Ward-Schmid Co., Inc.

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
			accordance with Gold Bond's instructions, Gold Bond's Section IV Specifications for work order 5118 and Ward-Schmid proposal #85-0183-PW, DTD 8/28/85. Completed system shall be operational and F. M. or I.R.I. Insurance approval, of the manual type per NFPA-85 B & D. Ward-Schmid shall submit three (3) copies of system wiring and piping diagrams, operating instructions and certified print and instructions of individual components as applicable. Ward-Schmid is to complete the above work for the total lump sum of	$64,189.00
			No insulation is to be removed without prior permission from R. J. Piasecki (Gold Bond's Designated Field Representative) Ward-Schmid is to coordinate all work with R. J. Piasecki (Gold Bond's Designated Field Representative) and Mr. D. J. Vaccaro (Gold Bond's Manager of Construction)	

AUTHORIZED BY:

W Wayne Allen

W. Wayne Allen BUYER

FOR FRED B MACHOLZ DIRECTOR OF PURCHASING

PURCHASE ORDER
CONTINUATION SHEET

Gold Bond Building Products
A National Gypsum Division

2001 Rexford Road
Charlotte, NC 28211

PURCHASE ORDER NUMBER
810142-R-5118
SEE INSTRUCTIONS BELOW

DATE September 20, 1985

TO Ward-Schmid Co., Inc.

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
			Terms of Payment: Net 10th of month following date of invoice.	
			Confirmation telephone conversation Mr. Kent Flaherty 9/18/85.	
			Certificate of Insurance required prior to work commencing.	
			Accounting Codes: 12-51-18-58 $77341.00	
			12-51-18-97-50 $3288.00	

AUTHORIZED BY:

W. Wayne Allen BUYER

FOR FRED B MACHOLZ DIRECTOR OF PURCHASING

cc: Purchasing
Accts. Payable
E. Miller-Prop. Acctg.
M. J. Rogge-STK., Plt. Mgr
Cost Engineer
File

GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM COMPANY
2001 REXFORD ROAD
CHARLOTTE, N C 28211

cc. DJG
ECU
RDD

CONSTRUCTION CHANGE ORDER

NO. 810142-1
DATE March 3, 1986

TO WARD-SCHMID CO., INC.
P. O. Box 459
Ceres, CA 95307

PLANT
Stockton Plant

W.O.
5118

DESCRIPTION

This Construction Change Order is issued to furnish labor, materials, tools, equipment and supervision required to remove and clean panels, remove asbestos from old windbox per applicable governing codes, fabricate and install new insulation and new metal panels in the new windbox at total cost of. . . . $5,756.74

REASONS FOR CHANGE:

Was not included in the original contract.

APPROVED [signature]
DIRECTOR OF ENGINEERING

APPROVED C H Howard Jr
VICE PRESIDENT ENGINEERING

ORIGINAL CONTRACT	$80,629.00
PREVIOUS CHANGE ORDERS	-0-
PREVIOUS TOTAL	80,629.00
AMOUNT THIS C.C.O.	5,756.74
REVISED TOTAL	$86,385.74
CHARGE W.O. 12-5118-58	$3,291.50

PURCHASE ORDER

DATE: June 13, 1985

Gold Bond Building Products
A National Gypsum Division
2001 Rexford Road
Charlotte, NC 28211

PURCHASE ORDER NUMBER
812760-R-5118
SEE INSTRUCTIONS BELOW

TO: Ward-Schmid Company
2132 Pine Street
Ceres, CA 95307
(209) 537-5094

Burner Installation No. #2 Boiler

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church St.
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Same As Above

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boiler #2 Burner Install.	See Below	See Below
F.O.B. Jobsite	SHIP VIA N/A	TERMS Net 30 Days

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A			Furnish all of the necessary labor, materials, tools, equipment and supervision required to complete the Boiler #2 Burner Installation contract at Gold Bond's Stockton, California plant in accordance with Gold Bond's instructions, Gold Bond's Section IV Specifications for W.O. 5118 and Ward-Schmid's proposal dated 5/24/85.	
			Ward-Schmid is to complete all work for the lump sum price of . . .	$6,745.00
	LISTING NO. RECEIVED Complete per Ray 7/25 INVOICE 8745.00 7/25 TAX Charlotte A/P 8/19 FREIGHT		Plus $2,000.00 for Holiday & weekend installation. Ward-Schmid is to begin after June 28 and complete no later than July 7, 1985. (Six days actual work). Ward-Schmid is to coordinate all work with R.J. Piasecki (Gold Bond's designated field representative) and Mr. D.J. Vaccaro (Gold Bond's Manager of Construction) in Charlotte.	
B			Ward-Schmid will also remove, replace or straighten as necessary approx. 30 sq. ft. of this damaged steelfitted and coped to original configuration. Time and materials for removing or installing any refractory, refractory anchors or supports are not included. Estimated cost:	$3,800.00
	LISTING NO. RECEIVED INVOICE TAX FREIGHT		All per May 24, 1985 quote. Insurance certificate required prior to work commencing. Accounting Codes: [redacted] Item B 65-51-72-50	

ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.	ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.

W. Wayne Allen/gb

PHONE 537-5094

WARD·SCHMID COMPANY INC.

SHIPPING: 2132 PINE ST.

MAIL: P. O. BOX 459

CERES, CALIF. 95307

INVOICE
Nº 20846

DATE July 31, 1985

YOUR ORDER NO.
PO # 812760-R-5118
W/S # 50634

BOILER SALES & SERVICE
Plumbing — ASME Code welding

Gold Bond Building Products
800 West Church Street
Stockton, CA 95203

8-30-85

QUAN.	DESCRIPTION	UNIT PRICE	EXTENSION
	Furnish all necessary labor, materials and equipment required to complete the boiler #2 burner installation contract at Gold Bond.		
	Project Completed		6,745.00
	Holiday and weekend installation		2,000.00
			$ 8,745.00

BOILER INSTALL

VOUCHER NO.			P. O. NO.	
			12760	
M	S	A	AMOUNT	TAX
12	51	18	5800	

dgo ap ap

EXTENSION

MATERIAL RECEIVED
7-31-85

DATE

AUG 13 1985

PLEASE PAY FROM INVOICE - NO STATEMENT WILL BE RENDERED UNLESS REQUESTED

TERMS: Net 10th of month following date of invoice. A FINANCE CHARGE of 1-1/2% per month which is 18% ANNUAL PERCENTAGE RATE charged on all past

BROWN AND
CALDWELL

May 15, 1998

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name:	Mark Schonhoff	**Company:**	San Joaquin Unified Air Pollution Control District
City/State:	Modesto, CA	**FAX No:**	(209)545-8652

THIS TRANSMITTAL IS BEING SENT FROM:

Name:	Wilma Dreessen	**Return originals:**	Yes ☒	No ☐
Employee No:	8110	**Stamp:**	Yes ☒	No ☐
Project No:	0011	**Staple:**	Yes ☒	No ☐
Task.G/L:	05.7			

SPECIAL INSTRUCTIONS/REMARKS:

Attached are records from Coen Company regarding the Newark Sierra Paperboard Corporation boilers before and after 1985. The project did not meet the definition of modification or reconstruction in 40CFR60.14-15. The boilers are not subject to NSPS subpart Db (40CFR60).

If you have additional questions, please call me at (925) 210-2289.

RECEIVED
MAY 19 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 7

Environmental Engineering And Consulting

Suite 150, 3480 Buskirk Avenue, Pleasant Hill, California 94523-4342
Phone: (510) 937-9010 FAX: (510) 937-9026

Coen Company, Inc.

1510 Tanforan Avenue
Woodland, CA. 95776
ph: 530-668-2156
fx: 530-668-2171

May 15, 1998

Brown And Caldwell
Environmental Engineering and Consulting
3480 Buskirk Avenue, Ste 150
Pleasant Hill, CA 94523

Attention: [redacted]

Reference: 1. Newark Sierra Paperboard (formerly Gold Bond Building Products), Stockton, CA.
2. Coen Co. project files 20D-9470-1 and 20D-9494-1 for the retrofit of two 1937 vintage Babcock & Wilcox model F-22 steam boilers.

Dear Wilma:

In reference to your letter of 5/7/98, attached is a boiler efficiency and assessment report from the Fiberboard Corporation dated 5/2/77. This report clearly shows that the original boiler design capacity is 95,000 pounds per hour of 445 psig / 650 degree F main steam, for each unit. The new Coen burners were provided in the 3rd quarter of 1985. Our records indicate that the new Coen burners are designed to fire these boilers to the same design capacity.

So the answer to your question is; since the Coen burner retrofits did not change the boiler design capacity, the design fuel gas and fuel oil consumption rates have not changed and should be the same as in the original design.

If any questions, just call.

Sincerely,

Matthew Hall
Application Engineer

CC: Lou Brizzolara, Coen Company Sales Representative, San Ramon, CA.

Bill of Materials

COEN FILE NO. 20D-9494-1

Boiler #1

JOB DRAWINGS:

ARRANGEMENT DRAWING	D-0116-079
THROAT TILE INSTALLATION	D-0322-111
REGISTER INSTALLATION	C-0701-123
OIL BURNER GUN ASSEMBLY	D-1000-298
BURNER VISE INSTALLATION	A-0700-049

NO. OF INST. BOOKS FOR CUSTOMER: THREE (3)

JOB SPECIFICATIONS:

A. BOILER DATA:
MANUFACTURER: BABCOCK AND WILCOX. DESIGNATION: F22.
CAPACITY: 95,000 POUNDS PER HOUR. BOILER EFFICIENCY: 82% OIL, 79% GAS.
CAPACITY PER CPF BURNER: 31,667 POUNDS PER HOUR.
DESIGN HEAT INPUT (HHV): 40.2 MILLION BTU/HOUR (OIL), 41.8 MILLION BTU/HOUR (GAS).
OPERATING PRESSURE: 450 PSIG SATURATED. AT 650°F TOTAL STEAM TEMPERATURE.
FEEDWATER TEMPERATURE: 320°F.
JOB SITE ELEVATION: AT SEA LEVEL.
FURNACE PRESSURE: -.02" W.C. AT CAPACITY AND ELEVATION.
INDOORS INSTALLATION.

B. COMBUSTION AIR DATA:
BURNER AIR PRESSURE DROP: 3.46" W.C. BASED ON 31,657 POUNDS PER HOUR AIR AT 400°F AND AT SEA LEVEL.

C. OIL FUEL DATA:
1. OIL NO. 6 OF 150,000 BTU/GALLON SUPPLIED AT 72 PSIG REQUIRED AT BURNER GUN INLET AND 200 SSU.
   MAXIMUM OIL FLOW: 4.5 GPM.
2. ATOMIZING STEAM SUPPLIED AT 76 PSIG SATURATED. REQUIRED AT BURNER GUN INLET.

D. GAS FUEL DATA:
UNCONTAMINATED GAS AT 1000 BTU/SCF AND 0.6 S.G. 41,768 SCFH REQUIRED AT A MINIMUM REGULATED PRESSURE OF 5.0 PSIG REQUIRED AT SPUD HEADER INLET. CALCULATED GAS RING PRESSURE AT MAXIMUM FIRING RATE IS: 5.0 PSIG REQUIRED AT EACH CPF GAS HEADER INLET.

F. GAS PILOT DATA:
NATURAL GAS SUPPLIED AT 1.0 PSIG (MINIMUM) AND 500 SCFH FROM AN INTERRUPTIBLE SOURCE.

No. Of Units: Total Per Job
*Ship Loose

COEN COMPANY, INC.

TEST REPORT

1977

BABCOCK & WILCOX CO.
1 CALIFORNIA ST.
SAN FRANCISCO, CA. 94111

FOR: FIBERBOARD CORP., STOCKTON, CA. B&W CONTRACT NO. F-78
TEST OF: BOILERS 1 & 2 DATE: JAN. 25 & 26, 1977

FIBERBOARD CORP.
STOCKTON, CA.

The following is a report of the efficiency tests made January 25 & 26, 1977 by Mr. M. P. Wieszczyk of the Babcock & Wilcox Co. on both of the Babcock & Wilcox boilers at Fiberboard Corp., Stockton, CA. The data, principal results, and recommendations of these tests are included in this report.

DESCRIPTION OF BOILERS

Two (2) - 95,000 lB/hr, F-type, Babcock & Wilcox Units

The boilers are equipped with three (3) Coen type oil and gas burners. Each unit is also equipped with a Babcock & Wilcox tubular air heater.

GENERAL

These tests were conducted in accordance with the ASME short test form. The test point, for each boiler and for both fuels, was taken at the normal operating load.

Readings were taken after a steady state steam flow condition was reached. Temperature readings were verefied by means of a thermocouple where possible. Flue gas samples were taken from the boiler outlet and were analyzed by means of an orsat.

Fuel oil and natural gas samples were taken and analysis was handled by the customer.

The writer wishes to express thanks at this time in behalf of the Babcock & Wilcox Co. for the courtesy and cooperation extended him while at this plant.

PURCHASE ORDER

Gold Bond Building Products
A National Gypsum Division
2001 Rexford Road
Charlotte, NC 28211

PURCHASE ORDER NUMBER
812748-R-5118
SEE INSTRUCTIONS BELOW

DATE • June 13, 1985

Boiler #1

TO • A. H. Merrill & Associates, Inc.
45 Quail Court, Suite 204
Walnut Creek, CA 94596

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church St.
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Same As Above

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boiler #1	12-5118-55	9/20/85
F.O.B.	**SHIP VIA**	**TERMS**
Woodland, CA	Best Method	Net 30 Days

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A	3		Coen CPF 21¼" Parallel Flow Burners, per Dwg. #D-0190-068 consisting of: CPF-21¼" Parallel Flow Register with non-swing access door with peephole and torch door, and 3" insulated front for 425°F preheated air and a sliding barrel damper with pneumatic actuator cylinder and solenoid valve. S.S. Spud type gas burner. Coen FYR-form refractory throat tile. Gas/Electric ignition pilot. S.S. Burner Shield. Coen #2 MV Steam Atmozing Oil Burner complete with socket and pipe guide. ½" x 36" long flex bronze hose for steam and oil. Mounts for flame scanner. Above burner and burner parts to be furnished in accordance with A.H. Merrill's Quotation #AHM-585-4, dated 5/31/85 for the lump sum of	$47,750.00
	LISTING NO. RECEIVED 9-10 Partial INVOICE TAX FREIGHT yellow 190.90			
		LISTING NO. RECEIVED 10-2 INVOICE 50872.00 TAX a/p 10-22-85 FREIGHT		
			Closed specification. No substitutions allowed.	
			Vendor to furnish (3) sets of prints for approval. Upon approval, vendor to furnish (4) sets of certified	

ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.	ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.

W. Wayne Allen/gb

Bill of Materials

COEN FILE NO. 20D-9470-1

Boiler # 2

JOB DRAWINGS:

ARRANGEMENT DRAWING	D-0305-206
THROAT TILE INSTALLATION	C-0322-068
REGISTER INSTALLATION	C-0701-122
THROAT GASKET INSTALLATION	B-0700-242

NO. OF INST. BOOKS FOR CUSTOMER: THREE (3)

JOB SPECIFICATIONS:

A. BOILER DATA:

MANUFACTURER: BABCOCK AND WILCOX. DESIGNATION: F22.
CAPACITY: 95,000 POUNDS PER HOUR. BOILER EFFICIENCY: 82% OIL, 79% GAS.
CAPACITY PER REGISTER BURNER: 31,667 POUNDS PER HOUR.
DESIGN HEAT INPUT (HHV): 40.2 MILLION BTU/HOUR (OIL), 41.8 MILLION BTU/HOUR (GAS).
OPERATING PRESSURE: 450 PSIG SATURATED AT 650°F TOTAL STEAM TEMPERATURE.
FEEDWATER TEMPERATURE: 320°F.
JOB SITE ELEVATION: AT SEA LEVEL.
FURNACE PRESSURE: -.02" W.C. AT CAPACITY AND ELEVATION.
INDOORS INSTALLATION.

B. OIL FUEL DATA:

1. OIL NO. 6 OF 150,000 BTU/GALLON SUPPLIED AT 56 PSIG REQUIRED AT BURNER GUN INLET AND 200 SSU.
   MAXIMUM OIL FLOW: 4.5 GPM.
2. ATOMIZING STEAM SUPPLIED AT 73 PSIG SATURATED REQUIRED AT BURNER GUN INLET.

F. GAS FUEL DATA:

UNCONTAMINATED NATURAL GAS AT 1000 BTU/SCF AND 0.6 S.G. 41,768 SCFH REQUIRED AT A MINIMUM REGULATED PRESSURE OF 6.0 PSIG REQUIRED AT EACH GAS RING HEADER INLET AND A MAXIMUM REGULATED PRESSURE OF 6.6 PSIG. PROVIDE PRESSURE RELIEF VALVES IF NECESSARY. CALCULATED GAS RING PRESSURE AT MAXIMUM FIRING RATE IS: 6.0 PSIG REQUIRED AT EACH GAS RING INLET.

No. Of Units: Total For Job
*Ship Loose

COEN COMPANY, INC.

ORDER

DATE • May 20, 1985

Products
A National Gypsum Division

2001 Rexford Road
Charlotte, NC 28211

807398-R-5118

SEE INSTRUCTIONS BELOW

Boiler #2

TO • A. H. Merrill & Assoc. Inc.
c/o Coen Company
45 Quail Ct., #204
Walnut Creek, CA 94596

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church Street
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Same As Above

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boilers	12-5118-55	7/10/85
F.O.B.	**SHIP VIA**	**TERMS**
Woodland, CA	Best Way	Net 30 Days

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A	3 B		Coen 22" I.D. SS Gas Burner Ring with 3" N.P.T. connection per Dwg. STD-F-2024-013 to use with Items C and B below.	
B	3 B		Coen SAZ-22 Air Register Assembly, per Dwg. STD-2000-260 with front plate opening and bolting size to take existing doors, Part #2025 B & A-X	
C	3 a	6-24 yellow	Coen multipiece 22" I.D. refractory throat set of 31 pcs. P/N 4010-080-14	$22,355.0
			Immediately on receipt of order, vendor will send three cc each of certified drawings, bills of materials, maintenance manuals, operating and installation instructions, wiring diagrams, piping diagrams, complete parts list and recommended spare parts list to: R. A. Ehlert - Engineering Dept., Gold Bond address above.	
			Closed specification.	
			It is understood that the above burner assemblies are adaptable to the existing B & W Boilers at our Stockton, CA plant with only minor modifications to	

ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.	ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.

LISTING NO.
RECEIVED a 6-24
INVOICE
TAX
FREIGHT

LISTING NO —
RECEIVED B 7-1
INVOICE 23696.30 Charlotte a/p
TAX
FREIGHT 157.03

W. Wayne Allen/gb
7-24-85

BROWN AND CALDWELL

May 26, 1998

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name: Mark Schonhoff **Company:** San Joaquin Unified Air Pollution Control District
City/State: Modesto, CA **FAX No:** (209) 545-8652

THIS TRANSMITTAL IS BEING SENT FROM:

Name:	Wilma Dreessen	**Return originals:**	Yes ☒	No ☐
Employee No:	8110	**Stamp:**	Yes ☒	No ☐
Project No:	6090	**Staple:**	Yes ☒	No ☐
Task.G/L:	16.5			

X 653

SPECIAL INSTRUCTIONS/REMARKS:

Attached is an estimate of $560,000 for the cost of a new 95,000 PPH steam boiler in 1985. This is for a standard boiler with no special NOx emission reductions. The actual burner replacements at the Newark Sierra Paperboard Corporation facility for boiler 1 and boiler 2, respectively, are 8.6 percent and 3.9 percent of the fixed capital cost that would be required to construct a comparable entirely new facility. Thus, the 1985 project did not meet the definition of reconstruction in 40CFR60.15. The boilers are not subject to NSPS subpart Db (40CFR60).

If you have additional questions, please call me at (925) 210-2289.

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 6

May 26, 1998

MEMO

TO: Wilma Dreessen
FROM: Jim Schettler

SUBJECT: Replacement Steam Boiler Cost, for a 95,000 PPH steam boiler

This memo is reference to the 1985 replacement capital cost of an installed 95,000-pound per hour (PPH), 450-psig, 650 F steam boiler equipped for firing with either natural gas or No. 6 diesel fuel oil.

Cost inflation in this area of Northern California, including Stockton, has averaged about 3 to 4 percent per year for the 13 years since 1985. Thus the 1985 steam boiler equipment cost will be about 60 to 68 percent of the 1998 steam boiler equipment cost.

The capital cost will include removing the old boiler, possibly by removing a section of wall, along with installing the new boiler. Installation also includes removing and reattaching the piping and electrical, along with setting the boiler on the foundation. Per the " R S Means" mechanical cost estimator guidebook, large mechanical equipment such as steam boilers have an installation cost typically about 30 to 50 percent of the bare equipment cost. These installation costs do not include any specialty costs such as asbestos removal and disposal, or a replacement exhaust stack.

For simplicity, I've use a 1985 cost factor of 64% (for 3.5 % annual inflation) and an equipment installation cost factor of 40% (between 30 and 50%). Thus the 1985 cost, in 1985 dollars, will be about:

AAA x 0.64 x 1.4 = 0.90 x AAA where AAA is the quoted 1998 equipment cost

Attached is a cost quote for **$620,000** from Cleaver Brooks for the May 1998 cost of a dual fuel, 95,000-PPH, 450-psig, steam boiler. The 1985 installed replacement steam boiler cost, of an equivalent boiler, in 1985 dollars is therefore approximately **$560,000.** This value is the fixed capital cost of the new components. new 60.6?

burner cost The suppliers' invoiced cost for the burner replacements, in 1985, were approximately $48,000 and $22,000 for boilers 1 and 2 respectively. These 1985 burner replacement prices are substantially less than 50% of the fixed capital cost, or $280,000 in 1985 dollars, for a comparable, entirely new, replacement steam boiler.

Thus, the two 1985 burner replacements do not meet the 40 CFR 60.15 definition of "reconstruction" of an existing facility.

[($620,000)(.64) + (.4)[(.64)($620,000)]]
($620,000)(.64) [1 + .4]
$620,000 (.64)(1.4) = 555,520

R.F. MacDonald Company
25920 Eden Landing Road
Hayward, Ca. 94545
Phone 510-784-0110
Fax 510-784-1004

- Fax Cover Sheet -

Date: 5/26/98

Pages: 4

To: Jim Schettler
Brown & Caldwell

Fax Phone: 925-937-9026

From: Dale Yager

Subject: Cleaver-Brooks Boiler

Jim:

Please see attached data sheets for the 95,000 #/hr. boiler per your request.

Also the budget price does not include freight or start up.
Advise if I can be of further help.

Thank you,

.... Dale Yager

****** CLEAVER-BROOKS SUPERHEATER ******
* EXPECTED PERFORMANCE SHEET *

CUSTOMER:BROWN & CALDWELL
LOCATION:---,---
DATE:05-22-1998

BURNER:200-CT
SUPERHEATER: 764 SQ. FT.
ECONOMIZER (SQ. FT.):
ALT.: 500 FT. (HG): 29.38
FC: 1.01
STM ENTHALPY (BTU/#): 1332.49
WATER ENTHALPY (BTU/#): 290.279
DEG. SUPERHEAT: 182

BOILER MODEL:DLDH-110-S
BOILER DESIGN PRESS.: 550 PSIG
FURNACE VOLUME: 1890 CU.FT.
BOILER H.S.: 6114 SQ.FT.
PROJ. W.W.: 1172 SQ. FT
TOTAL H.S.: 7286 SQ. FT.
USE ANDERSON SEPARATORS FOR 1-PPM

					FAN DES.
STEAM FLOW LBS/HR	23750.	47500.	71250.	95000.	
PERCENT OF MAX. LOAD	25.	50.	75.	100.	
CONT. BLOWDOWN LBS/HR	712.	1425.	2137.	2850.	
TYPE OF FUEL FIRED	#2 OIL	#2 OIL	#2 OIL	#2 OIL	
% EXCESS AIR FURN. + BOILER	30.	20.	15.	15.	
STEAM PRESS. @ S.H. OUTLET PSIG	450.	450.	450.	450.	
SUPERHEATER PRESS. DROP PSIG	2.	9.	20.	35.	
DRUM OPERATING PRESS. PSIG	452.	459.	470.	485.	
S.H. OUTLET STEAM TEMP. DEG. F.	596.	618.	635.	650.	
FURNACE EXIT GAS TEMP. DEG-F	1338.	1670.	1876.	2019.	
FLUE GAS LV. BOILER TEMP. DEG-F	476.	511.	554.	603.	
WATER TEMP. ENTER. BOILER DEG.-F	320.	320.	320.	320.	
AMBIENT AIR TEMP. DEG-F	80.	80.	80.	80.	100.
HEAT OUTPUT * 1000 BTU/HR	24089.	48815.	73950.	99468.	
HEAT INPUT * 1000 BTU/HR	29997.	60069.	91312.	124316.	124.3 MMBH/hr
DRY GAS LOSS %	9.02	9.04	9.53	10.52	
H2 & H2O IN FUEL LOSS %	7.34	7.43	7.55	7.69	
MOISTURE IN AIR LOSS %	0.22	0.22	0.24	0.26	
UNACCOUNTED FOR LOSS %	1.00	1.00	1.00	1.00	
RADIATION LOSS %	2.11	1.04	0.69	0.51	
TOTAL HEAT LOSS %	19.69	18.74	19.01	19.99	
EFFICIENCY OF UNIT BASED ON (HHV) %	80.31	81.26	80.99	80.01	
FUEL FIRED LBS/HR	1554.	3112.	4731.	6441.	6441 lb/hr · 19,300 BH/lb = 124.3 MMBH/hr
FUEL FIRED GALL/HR	213.	426.	648.	882.	
HHV OF FUEL BTU/LB	19300.	19300.	19300.	19300.	
FLUE GAS FURN. & BOILER LBS/HR	30616.	56833.	82990.	112987.	
FLUE GAS TO STACK LBS/HR	30616.	56833.	82990.	112987.	+ 8.%
AIR FOR COMBUSTION LBS/HR	29062.	53721.	78258.	106546.	115069.
COMBUSTION AIR CFM	6700.	12385.	18042.	24564.	27512.
DRAFT LOSS FURN. & BOILER IN W.G.	0.58	2.19	4.90	9.27	
DRAFT LOSS IN BREECHING IN W.G.	0.02	0.07	0.16	0.30	
PRESSURE IN FURNACE IN W.G.	0.60	2.26	5.06	9.57	
DRAFT LOSS THRU BURNER IN W.G.	0.53	1.83	3.91	7.26	
DRAFT LOSS IN AIR DUCT IN W.G.	0.00	0.02	0.05	0.10	+17.%
NET RESISTANCE IN W.G.	1.13	4.11	9.02	16.93	19.74
FURN. HT. RE., BTU/HR/CUFT	15866.	31772.	48297.	65754.	
FURN.HT.RE., BTU/HR/SQFT,PROJ.W.W.	25594.	51254.	77910.	106072.	
HEAT ABS. RATE BTU/HR/SQFT	2989.	5978.	8967.	11955.	

PSV-11-15-93 STAGGERED ARRG'T

Gas = 124.3 MMBH/hr
OIL = 124.3 MMBH/hr

****** CLEAVER-BROOKS SUPERHEATER ******
* EXPECTED PERFORMANCE SHEET *

CUSTOMER:BROWN & CALDWELL
LOCATION:---,---
DATE:05-22-1998

BURNER:200-CT	BOILER MODEL:DLDH-110-S
SUPERHEATER: 764 SQ. FT.	BOILER DESIGN PRESS.: 550 PSIG
ECONOMIZER (SQ. FT.):	FURNACE VOLUME: 1890 CU.FT.
ALT.: 500 FT. (HG): 29.38	BOILER H.S.: 6114 SQ.FT.
FC: 1.01	PROJ. W.W.: 1172 SQ. FT
STM ENTHALPY (BTU/#): 1332.49	TOTAL H.S.: 7286 SQ. FT.
WATER ENTHALPY (BTU/#): 290.279	USE ANDERSON SEPARATORS FOR 1-PPM
DEG. SUPERHEAT: 182	

					FAN DES.
STEAM FLOW LBS/HR	23750.	47500.	71250.	95000.	
PERCENT OF MAX. LOAD	25.	50.	75.	100.	
CONT. BLOWDOWN LBS/HR	712.	1425.	2137.	2850.	
TYPE OF FUEL FIRED	NAT.GAS	NAT.GAS	NAT.GAS	NAT.GAS	
% EXCESS AIR FURN. + BOILER	30.	20.	15.	15.	
STEAM PRESS. @ S.H. OUTLET PSIG	450.	450.	450.	450.	
SUPERHEATER PRESS. DROP PSIG	2.	9.	20.	35.	
DRUM OPERATING PRESS. PSIG	452.	459.	470.	485.	
S.H. OUTLET STEAM TEMP. DEG. F.	596.	618.	635.	650.	
FURNACE EXIT GAS TEMP. DEG-F	1391.	1696.	1886.	2017.	
FLUE GAS LV. BOILER TEMP. DEG-F	472.	501.	540.	584.	
WATER TEMP. ENTER. BOILER DEG.-F	320.	320.	320.	320.	
AMBIENT AIR TEMP. DEG-F	80.	80.	80.	80.	100.
HEAT OUTPUT * 1000 BTU/HR	24089.	48815.	73950.	99468.	
HEAT INPUT * 1000 BTU/HR	31163.	62309.	94615.	128709.	
DRY GAS LOSS %	8.43	8.33	8.69	9.53	
H2 & H20 IN FUEL LOSS %	11.44	11.56	11.73	11.92	
MOISTURE IN AIR LOSS %	0.22	0.22	0.23	0.25	
UNACCOUNTED FOR LOSS %	0.50	0.50	0.50	0.50	
RADIATION LOSS %	2.11	1.04	0.69	0.51	
TOTAL HEAT LOSS %	22.70	21.66	21.84	22.72	
EFFICIENCY OF UNIT BASED ON (HHV) %	77.30	78.34	78.16	77.28	
FUEL FIRED LBS/HR	1477.	2953.	4484.	6100.	
FUEL FIRED SCFH	31163.	62309.	94615.	128709.	
HHV OF FUEL BTU/LB	21100.	21100.	21100.	21100.	
FLUE GAS FURN. & BOILER LBS/HR	31236.	57877.	84409.	114826.	
FLUE GAS TO STACK LBS/HR	31236.	57877.	84409.	114826.	+ 8.%
AIR FOR COMBUSTION LBS/HR	29759.	54924.	79925.	108726.	117424.
COMBUSTION AIR CFM	6861.	12663.	18427.	25067.	28075.
DRAFT LOSS FURN. & BOILER IN W.G.	0.65	2.44	5.42	10.22	
DRAFT LOSS IN BREECHING IN W.G.	0.02	0.07	0.16	0.30	
PRESSURE IN FURNACE IN W.G.	0.67	2.51	5.58	10.52	
DRAFT LOSS THRU BURNER IN W.G.	0.53	1.84	3.92	7.26	
DRAFT LOSS IN AIR DUCT IN W.G.	0.00	0.02	0.05	0.10	+17.%
NET RESISTANCE IN W.G.	1.20	4.37	9.55	17.88	20.85
FURN. HT. RE., BTU/HR/CUFT	16483.	32957.	50044.	68077.	
FURN.HT.RE., BTU/HR/SQFT,PROJ,W.W.	26590.	53165.	80729.	109820.	
HEAT ABS. RATE BTU/HR/SQFT	2989.	5978.	8967.	11955.	

PSV-11-15-93 STAGGERED ARRG'T

D

5-26-98 BROWN & CALDWELL
95000 PPH
650°F S.H. 450# oper. GAS & 2 OIL

				DLDH -110S	
Boiler with Trim				$620K	
Burner STD C T	REMOTE FAN w/ 150 HP MOTOR			YES	
Controls STD.				YES	
Std. Options on Boiler.				YES	
Economizer				NO	
Stack & Breeching				NO	
Freight 142K BLR	VIA RAIL			NO	
Start-Up Field Service				NO	
				$620K	

RECEIVED
MAY 18 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

BROWN AND
CALDWELL

May 15, 1998

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name:	Mark Schonhoff	**Company:**	San Joaquin Unified Air Pollution Control District
City/State:	Modesto, CA	**FAX No:**	(209)545-8652

THIS TRANSMITTAL IS BEING SENT FROM:

Name:	Wilma Dreessen	**Return originals:**	Yes ☒	No ☐
Employee No:	8110	**Stamp:**	Yes ☒	No ☐
Project No:	0011	**Staple:**	Yes ☒	No ☐
Task.G/L:	05.7			

SPECIAL INSTRUCTIONS/REMARKS:

Attached are records from Coen Company regarding the Newark Sierra Paperboard Corporation boilers before and after 1985. The project did not meet the definition of modification or reconstruction in 40CFR60.14-15. The boilers are not subject to NSPS subpart Db (40CFR60).

If you have additional questions, please call me at (925) 210-2289.

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 7

Environmental Engineering And Consulting

SUITE 150, 3480 BUSKIRK AVENUE, PLEASANT HILL, CALIFORNIA 94523-4342
PHONE: (510) 937-9010 FAX: (510) 937-9026

RECEIVED
MAY 18 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

Coen Company, Inc.

1510 Tanforan Avenue
Woodland, CA. 95776
ph: 530-668-2156
fx: 530-668-2171

May 15, 1998

Brown And Caldwell
Environmental Engineering and Consulting
3480 Buskirk Avenue, Ste 150
Pleasant Hill, CA 94523

Attention: [redacted]

Reference: 1. Newark Sierra Paperboard (formerly Gold Bond Building Products), Stockton, CA.
2. Coen Co. project files 20D-9470-1 and 20D-9494-1 for the retrofit of two 1937 vintage Babcock & Wilcox model F-22 steam boilers.

Dear Wilma:

In reference to your letter of 5/7/98, attached is a boiler efficiency and assessment report from the Fiberboard Corporation dated 5/2/77. This report clearly shows that the original boiler design capacity is 95,000 pounds per hour of 445 psig / 650 degree F main steam, for each unit. The new Coen burners were provided in the 3rd quarter of 1985. Our records indicate that the new Coen burners are designed to fire these boilers to the same design capacity.

So the answer to your question is; since the Coen burner retrofits did not change the boiler design capacity, the design fuel gas and fuel oil consumption rates have not changed and should be the same as in the original design.

If any questions, just call.

Sincerely,

Matthew Hall
Application Engineer

CC: Lou Brizzolara, Coen Company Sales Representative, San Ramon, CA.

TEST REPORT

1977

BABCOCK & WILCOX CO.
1 CALIFORNIA ST.
SAN FRANCISCO, CA. 94111

FOR: FIBERBOARD CORP., STOCKTON, CA. B&W CONTRACT NO. F-78
TEST OF: BOILERS 1 & 2 DATE: JAN. 25 & 26, 1977

FIBERBOARD CORP.
STOCKTON, CA.

The following is a report of the efficiency tests made January 25 & 26, 1977 by Mr. M. P. Wieszczyk of the Babcock & Wilcox Co. on both of the Babcock & Wilcox boilers at Fiberboard Corp., Stockton, CA. The data, principal results, and recommendations of these tests are included in this report.

DESCRIPTION OF BOILERS

1977 Two (2) - 95,000 lB/hr, F-type, Babcock & Wilcox Units

The boilers are equipped with three (3) Coen type oil and gas burners. Each unit is also equipped with a Babcock & Wilcox tubular air heater.

GENERAL

These tests were conducted in accordance with the ASME short test form. The test point, for each boiler and for both fuels, was taken at the normal operating load.

Readings were taken after a steady state steam flow condition was reached. Temperature readings were verefied by means of a thermocouple where possible. Flue gas samples were taken from the boiler outlet and were analyzed by means of an orsat.

Fuel oil and natural gas samples were taken and analysis was handled by the customer.

The writer wishes to express thanks at this time in behalf of the Babcock & Wilcox Co. for the courtesy and cooperation extended him while at this plant.

Bill of Materials

COEN FILE NO. 20D-9494-1

Boiler #1

Post 85

JOB DRAWINGS:

ARRANGEMENT DRAWING	D-0116-079
THROAT TILE INSTALLATION	D-0322-211
REGISTER INSTALLATION	C-0701-123
OIL BURNER GUN ASSEMBLY	D-1000-298
BURNER VISE INSTALLATION	A-0700-049

NO. OF INST. BOOKS FOR CUSTOMER: THREE (3)

JOB SPECIFICATIONS:

A. BOILER DATA:

MANUFACTURER: BABCOCK AND WILCOX. DESIGNATION: F22.
CAPACITY: 95,000 POUNDS PER HOUR. BOILER EFFICIENCY: 82% OIL, 79% GAS.
CAPACITY PER CPF BURNER: 31,667 POUNDS PER HOUR.
DESIGN HEAT INPUT (HHV): 40.2 MILLION BTU/HOUR (OIL), 41.8 MILLION BTU/HOUR (GAS).
OPERATING PRESSURE: 450 PSIG SATURATED. AT 650°F TOTAL STEAM TEMPERATURE.
FEEDWATER TEMPERATURE: 320°F.
JOB SITE ELEVATION: AT SEA LEVEL.
FURNACE PRESSURE: -.02" W.C. AT CAPACITY AND ELEVATION.
INDOORS INSTALLATION.

B. COMBUSTION AIR DATA:

BURNER AIR PRESSURE DROP: 3.46" W.C. BASED ON 31,657 POUNDS PER HOUR AIR AT 400°F AND AT SEA LEVEL.

C. OIL FUEL DATA:

1. OIL NO. 6 OF 150,000 BTU/GALLON SUPPLIED AT 72 PSIG REQUIRED AT BURNER GUN INLET AND 200 SSU.
   MAXIMUM OIL FLOW: 4.5 GPM.
2. ATOMIZING STEAM SUPPLIED AT 76 PSIG SATURATED. REQUIRED AT BURNER GUN INLET.

D. GAS FUEL DATA:

UNCONTAMINATED GAS AT 1000 BTU/SCF AND 0.6 S.G. 41,768 SCFH REQUIRED AT A MINIMUM REGULATED PRESSURE OF 5.0 PSIG REQUIRED AT SPUD HEADER INLET. CALCULATED GAS RING PRESSURE AT MAXIMUM FIRING RATE IS: 5.0 PSIG REQUIRED AT EACH CPF GAS HEADER INLET.

E. GAS PILOT DATA:

NATURAL GAS SUPPLIED AT 1.0 PSIG (MINIMUM) AND 500 SCFH FROM AN INTERRUPTIBLE SOURCE.

$$\text{gas} = \left(41.8\ \frac{\text{MMBtu}}{\text{hr}}\right)(3) = 125.4\ \text{MMBtu/hr}$$

$$\text{oil} = \left(40.2\ \frac{\text{MMBtu}}{\text{hr}}\right)(3) = 120.6\ \text{MMBtu/hr}$$

No. Of Units: Total For Job
*Ship Loose

COEN COMPANY, INC.

PURCHASE ORDER

Gold Bond Building Products
A National Gypsum Division
2001 Rexford Road
Charlotte, NC 28211

PURCHASE ORDER NUMBER
812748-R-5118
SEE INSTRUCTIONS BELOW

DATE: June 13, 1985

Boiler #1

TO: A. H. Merrill & Associates, Inc.
45 Quail Court, Suite 204
Walnut Creek, CA 94596

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church St.
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Same As Above

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boiler #1	12-5118-55	9/20/85
F.O.B.	**SHIP VIA**	**TERMS**
Woodland, CA	Best Method	Net 30 Days

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A	3		Coen CPF 21½" Parallel Flow Burners, per Dwg. #D-0190-068 consisting of: CPF-21½" Parallel Flow Register with non-swing access door with peephole and torch door, and 3" insulated front for 425°F preheated air and a sliding barrel damper with pneumatic actuator cylinder and solenoid valve. S.S. Spud type gas burner. Coen FYR-form refractory throat tile. Gas/Electric ignition pilot. S.S. Burner Shield. Coen #2 MV Steam Atmozing Oil Burner complete with socket and pipe guide. ¾" x 36" long flex bronze hose for steam and oil. Mounts for flame scanner. Above burner and burner parts to be furnished in accordance with A.H. Merrill's Quotation #AHM-585-4, dated 5/31/85 for the lump sum of	$47,750.00
			Closed specification. No substitutions allowed.	
			Vendor to furnish (3) sets of prints for approval. Upon approval, vendor to furnish (4) sets of certified	

LISTING NO.
RECEIVED 9-16 Partial
INVOICE
TAX
FREIGHT
yellow 190.90

LISTING NO.
RECEIVED 10-2
INVOICE 50872.00
TAX a/P 10-21-8
FREIGHT

ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.	ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.

W. Wayne Allen/gb

Bill of Materials

COEN FILE NO. 20D-9470-1

Boiler # 2

JOB DRAWINGS:

ARRANGEMENT DRAWING	D-0305-206
THROAT TILE INSTALLATION	C-0322-068
REGISTER INSTALLATION	C-0701-132
THROAT GASKET INSTALLATION	B-0700-242

NO. OF INST. BOOKS FOR CUSTOMER: THREE (3)

JOB SPECIFICATIONS:

A. BOILER DATA:
MANUFACTURER: BABCOCK AND WILCOX. DESIGNATION: F22.
CAPACITY: 95,000 POUNDS PER HOUR. BOILER EFFICIENCY: 82% OIL, 79% GAS.
CAPACITY PER REGISTER BURNER: 31,667 POUNDS PER HOUR.
DESIGN HEAT INPUT (HHV): 40.2 MILLION BTU/HOUR (OIL), 41.8 MILLION BTU/HOUR (GAS).
OPERATING PRESSURE: 450 PSIG SATURATED AT 650°F TOTAL STEAM TEMPERATURE.
FEEDWATER TEMPERATURE: 320°F.
JOB SITE ELEVATION: AT SEA LEVEL.
FURNACE PRESSURE: -.02" W.C. AT CAPACITY AND ELEVATION.
INDOORS INSTALLATION.

B. OIL FUEL DATA:
1. OIL NO. 6 OF 150,000 BTU/GALLON SUPPLIED AT 56 PSIG REQUIRED AT BURNER GUN INLET AND 200 SSU.
MAXIMUM OIL FLOW: 4.5 GPM.
2. ATOMIZING STEAM SUPPLIED AT 73 PSIG SATURATED REQUIRED AT BURNER GUN INLET.

F. GAS FUEL DATA:
UNCONTAMINATED NATURAL GAS AT 1000 BTU/SCF AND 0.6 S.G. 41,768 SCFH REQUIRED AT A MINIMUM REGULATED PRESSURE OF 6.0 PSIG REQUIRED AT EACH GAS RING HEADER INLET AND A MAXIMUM REGULATED PRESSURE OF 6.6 PSIG. PROVIDE PRESSURE RELIEF VALVES IF NECESSARY. CALCULATED GAS RING PRESSURE AT MAXIMUM FIRING RATE IS: 6.0 PSIG REQUIRED AT EACH GAS RING INLET.

$$Gas = \left(41.8\ \frac{MMBN}{hr}\right)(3) = 125.4\ \frac{MMBN}{hr}$$

$$OIL = \left(40.2\ \frac{MMBN}{hr}\right)(3) = 120.6\ \frac{MMBN}{hr}$$

ORDER Products Charlotte, NC 28211
A National Gypsum Division

807398-R-5118

SEE INSTRUCTIONS BELOW

DATE: May 20, 1985

Boiler #2

TO: A. H. Merrill & Assoc. Inc.
c/o Coen Company
45 Quail Ct., #204
Walnut Creek, CA 94596

SHIP TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
800 West Church Street
Stockton, CA 95203

INVOICE TO: GOLD BOND BUILDING PRODUCTS
DIVISION OF NATIONAL GYPSUM CO.
Same As Above

MATERIAL FOR	ACCOUNTING CODE	REQUIRED SHIPPING DATE
Boilers	12-5118-55	7/10/85
F.O.B.	**SHIP VIA**	**TERMS**
Woodland, CA	Best Way	Net 30 Days

IT.	QUANTITY/UNIT	CODE	DESCRIPTION	PRICE
A	3 B		Coen 22" I.D. SS Gas Burner Ring with 3" N.P.T. connection per Dwg. STD-F-2024-013 to use with Items C and B below.	
B	3 B		Coen SAZ-22 Air Register Assembly, per Dwg. STD-2000-260 with front plate opening and bolting size to take existing doors, Part #2025 B & A-X	
C	3 a	6-24 yellow	Coen multipiece 22" I.D. refractory throat set of 31 pcs. P/N 4010-080-14	$22,355.0
			Immediately on receipt of order, vendor will send three cc each of certified drawings, bills of materials, maintenance manuals, operating and installation instructions, wiring diagrams, piping diagrams, complete parts list and recommended spare parts list to: R. A. Ehlert - Engineering Dept., Gold Bond address above.	
			Closed specification.	
			It is understood that the above burner assemblies are adaptable to the existing B & W Boilers at our Stockton, CA plant with only minor modifications to	

ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.P.	ITEM NO.	INV. NO.	DATE	QUANTITY	CAR NUMBER	AMOUNT	P.

LISTING NO.
RECEIVED a 6-24
INVOICE
TAX
FREIGHT

LISTING NO.
RECEIVED B 7-1
INVOICE 23696.30 Charlotte a/p
TAX
FREIGHT 159.03 7-24-85

W. Wayne Allen/gb

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(7) Identification of times when hourly averages have been obtained based on manual sampling methods.

(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3.

(c) If the minimum quantity of emission data as required by § 60.47a is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of § 60.46a(h) is reported to the Administrator for that 30-day period:

(1) The number of hourly averages available for outlet emission rates (n_o) and inlet emission rates (n_i) as applicable.

(2) The standard deviation of hourly averages for outlet emission rates (s_o) and inlet emission rates (s_i) as applicable.

(3) The lower confidence limit for the mean outlet emission rate (E_o*) and the upper confidence limit for the mean inlet emission rate (E_i*) as applicable.

(4) The applicable potential combustion concentration.

(5) The ratio of the upper confidence limit for the mean outlet emission rate (E_o*) and the allowable emission rate (E_{std}) as applicable.

(d) If any standards under § 60.43a are exceeded during emergency conditions because of control system malfunction, the owner or operator of the affected facility shall submit a signed statement:

(1) Indicating if emergency conditions existed and requirements under § 60.46a(d) were met during each period, and

(2) Listing the following information:

(i) Time periods the emergency condition existed;

(ii) Electrical output and demand on the owner or operator's electric utility system and the affected facility;

(iii) Amount of power purchased from interconnected neighboring utility companies during the emergency period;

(iv) Percent reduction in emissions achieved;

(v) Atmospheric emission rate (ng/J) of the pollutant discharged; and

(vi) Actions taken to correct control system malfunction.

(e) If fuel pretreatment credit toward the sulfur dioxide emission standard under § 60.43a is claimed, the owner or operator of the affected facility shall submit a signed statement:

(1) Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of § 60.48a and Method 19 (appendix A); and

(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.

(f) For any periods for which opacity, sulfur dioxide or nitrogen oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(g) The owner or operator of the affected facility shall submit a signed statement indicating whether:

(1) The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.

(2) The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.

(3) The minimum data requirements have or have not been met; or, the min-

imum data requirements have not been met for errors that were unavoidable.

(4) Compliance with the standards has or has not been achieved during the reporting period.

(h) For the purposes of the reports required under § 60.7, periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under § 60.42a(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Administrator each calendar quarter.

(i) The owner or operator of an affected facility shall submit the written reports required under this section and subpart A to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 52 FR 47842, Dec. 16, 1987, unless otherwise noted.

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the particulate matter and nitrogen oxides standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are subject to the particulate matter and nitrogen oxides standards under this subpart and to the sulfur dioxide standards under subpart D (§ 60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 million Btu/hour), inclusive, are subject to the nitrogen oxides standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 million Btu/hour) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; § 60.40) are also subject to the nitrogen oxides standards under this subpart and the particulate matter and sulfur dioxide standards under subpart D (§ 60.42 and § 60.43).

(c) Affected facilities which also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; § 60.104) are subject to the particulate matter and nitrogen oxides standards under this subpart and the sulfur dioxide standards under subpart J (§ 60.104).

(d) Affected facilities which also meet the applicability requirements under subpart E (Standards of performance for incinerators; § 60.50) are subject to the nitrogen oxides and particulate matter standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; § 60.40a) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing TRS as defined under § 60.281 is not considered a modification under § 60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

§60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants or petroleum refineries (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purposes of this subpart.

Chemical manufacturing plants means industrial plants which are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388–77, Standard Specification for Classification of Coals by Rank (IBR—see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

Combined cycle system means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a heat recovery steam generating unit.

Conventional technology means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396–78, Standard Specifications for Fuel Oils (incorporated by reference—see §60.17).

Dry flue gas desulfurization technology means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a heat recovery steam generating unit.

Emerging technology means any sulfur dioxide control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hour) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

Heat transfer medium means any material that is used to transfer heat from one point to another point.

High heat release rate means a heat release rate greater than 730,000 J/sec-m^3 (70,000 Btu/hour-ft^3).

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388–77, Standard Specification for Classification of Coals by Rank (IBR—see § 60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m^3 (70,000 Btu/hour-ft^3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

Maximum heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means (1) a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835–82, "Standard Specification for Liquid Petroleum Gases" (IBR—see § 60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical sulfur dioxide emissions (ng/J, lb/million Btu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units.

Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396-78, Standard Specifications for Fuel Oils (IBR—see § 60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste to produce steam or to heat water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Very low sulfur oil means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/million Btu) heat input.

Wet flue gas desulfurization technology means a sulfur dioxide control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of particulate matter or sulfur dioxide.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

§ 60.42b Standard for sulfur dioxide.

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 10 percent (0.10) of the potential sulfur dioxide emission rate (90 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$$E_s=(K_aH_a+K_bH_b)/(H_a+H_b)$$

where:

E_s is the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,
K_a is 520 ng/J (or 1.2 lb/million Btu),
K_b is 340 ng/J (or 0.80 lb/million Btu),
H_a is the heat input from the combustion of coal, in J (million Btu),
H_b is the heat input from the combustion of oil, in J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 20 percent of the potential sulfur dioxide emission rate (80 percent reduction) and that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of sulfur dioxide emissions, shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 50 percent of the potential sulfur dioxide emission rate (50 percent reduction) and that contain sulfur dioxide in excess of the emission limit determined according to the following formula:

$E_s=(K_cH_c+K_oH_o)/H_c+H_o)$

where:

E_s is the sulfur dioxide emission limit, expressed in ng/J (lb/million Btu) heat input,

K_c is 260 ng/J (0.60 lb/million Btu),

K_o is 170 ng/J (0.40 lb/million Btu),

H_c is the heat input from the combustion of coal, J (million Btu),

H_o is the heat input from the combustion of oil, J (million Btu).

Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input to the affected facility from exhaust gases from another source, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8 of this part, whichever comes first, no owner or operator of an affected facility listed in paragraphs (d) (1), (2), or (3) of this section shall cause to be discharged into the atmosphere any gases that contain sulfur dioxide in excess of 520 ng/J (1.2 lb/million Btu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/million Btu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under this paragraph.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a Federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less; 1.

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any other fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat input to the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat input to the steam generating unit is from the exhaust gases entering the duct burner.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a Federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section, the sulfur dioxide emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential sulfur dioxide emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential sulfur dioxide emissions and

(2) Emissions from the pretreated fuel (without combustion or post combustion sulfur dioxide control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the sulfur dioxide control system is not being operated because of malfunction or maintenance of the sulfur dioxide control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in § 60.45b(c) or § 60.45b(d), and following the monitoring procedures as described in § 60.47b(a) or § 60.47b(b) to determine sulfur dioxide emission rate or fuel oil sulfur content; or (2) maintaining fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

§ 60.43b Standard for particulate matter.

(a) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility which combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 22 ng/J (0.05 lb/million Btu) heat input,

(i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(b) On and after the date on which the performance test is completed or required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce sulfur dioxide emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of 43 ng/J (0.10 lb/million Btu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/million Btu) heat input if

(i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood,

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood, and

(iii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain particulate matter in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/million Btu) heat input,

(i) If the affected facility combusts only municipal-type solid waste, or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/million Btu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 million Btu/hour) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) for municipal-type solid waste, or municipal-type solid waste and other fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, but before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(g) The particulate matter and opacity standards apply at all times, except during periods of startup, shutdown or malfunction.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51819, Dec. 18, 1989]

§60.44b Standard for nitrogen oxides.

(a) Except as provided under paragraph (k) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides (expressed as NO_2) in excess of the following emission limits:

Fuel/Steam generating unit type	Nitrogen oxide emission limits ng/J (lb/million Btu) (expressed as NO_2) heat input
(1) Natural gas and distillate oil, except (4):	
(i) Low heat release rate	43 (0.10)
(ii) High heat release rate	86 (0.20)
(2) Residual oil:	
(i) Low heat release rate	130 (0.30)
(ii) High heat release rate	170 (0.40)
(3) Coal:	
(i) Mass-feed stoker	210 (0.50)
(ii) Spreader stoker and fluidized bed combustion	260 (0.60)
(iii) Pulverized coal	300 (0.70)
(iv) Lignite, except (v)	260 (0.60)
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340 (0.80)

Fuel/Steam generating unit type	Nitrogen oxide emission limits ng/J (lb/million Btu) (expressed as NO_2) heat input
(vi) Coal-derived synthetic fuels	210 (0.50)
(4) Duct burner used in a combined cycle system:	
(i) Natural gas and distillate oil	86 (0.20)
(ii) Residual oil	170 (0.40)

(b) Except as provided under paragraph (k) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of a limit determined by use of the following formula:

$$E_n=[(EL_{go} H_{go})+(EL_{ro} H_{ro})+(EL_c H_c)]/(H_{go}+H_{ro}+H_c)$$

where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu)

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu)

H_{go} is the heat input from combustion of natural gas or distillate oil,

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil,

H_{ro} is the heat input from combustion of residual oil,

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

(c) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain nitrogen oxides in excess of the emission limit for the coal or oil, or mixture of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of 130 ng/J (0.30 lb/million Btu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8 of this part, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere from that affected facility any gases that contain nitrogen oxides in excess of an emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n=[(EL_{go} H_{go})+(EL_{ro} H_{ro})+(EL_c H_c)]/(H_{go}+H_{ro}+H_c)$$

where:

E_n is the nitrogen oxides emission limit (expressed as NO_2), ng/J (lb/million Btu)

EL_{go} is the appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/million Btu).

H_{go} is the heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, ng/J (lb/million Btu).

EL_{ro} is the appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/million Btu)

H_{ro} is the heat input from combustion of residual oil and/or liquid byproduct/waste.

EL_c is the appropriate emission limit from paragraph (a)(3) for combustion of coal, and

H_c is the heat input from combustion of coal.

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a nitrogen oxides emission limit which shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as nitrogen oxides emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific nitrogen oxides emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific nitrogen oxides emission limit will be established at the nitrogen oxides emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing nitrogen oxides emissions.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the nitrogen oxides emission limit which applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on nitrogen oxides emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the nitrogen oxides emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the nitrogen oxides emission limits of this section. The nitrogen oxides emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).)

(h) For purposes of paragraph (i) of this section, the nitrogen oxide standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a Federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil and a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j) (1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 million Btu/hour) or less, are not subject to the nitrogen oxides emission limits under this section.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The sulfur dioxide emission standards under § 60.42b apply at all times.

(b) In conducting the performance tests required under § 60.8, the owner or operator shall use the methods and procedures in appendix A of this part or the methods and procedures as specified in this section, except as provided in § 60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential sulfur dioxide emission rate (% P_s) and the sulfur dioxide emission rate (E_s) pursuant to § 60.42b following the procedures listed below, except as provided under paragraph (d) of this section.

(1) The initial performance test shall be conducted over the first 30 consecutive operating days of the steam generating unit. Compliance with the sulfur dioxide standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal or only oil is combusted, the following procedures are used:

(i) The procedures in Method 19 are used to determine the hourly sulfur dioxide emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the continuous emission monitoring system of § 60.47b (a) or (b).

(ii) The percent of potential sulfur dioxide emission rate (% P_s) emitted to the atmosphere is computed using the following formula:

$$\% P_s = 100 (1 - \% R_g/100)(1 - \% R_f/100)$$

where:

% R_g is the sulfur dioxide removal efficiency of the control device as determined by Method 19, in percent.

% R_f is the sulfur dioxide removal efficiency of fuel pretreatment as determined by Method 19, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly sulfur dioxide emission rate ($E_{ho}°$) is used in Equation 19-19 of Method 19 to compute an adjusted 30-day average emission rate ($E_{ao}°$). The E_{ho} is computed using the following formula:

$$E_{ho}°=[E_{ho}-E_w(1-X_k)]/X_k$$

where:

$E_{ho}°$ is the adjusted hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

E_{ho} is the hourly sulfur dioxide emission rate, ng/J (lb/million Btu).

E_w is the sulfur dioxide concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19, ng/J (lb/million Btu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted.

X_k is the fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19.

(ii) To compute the percent of potential sulfur dioxide emission rate (% P_s), an adjusted % R_g (% $R_g°$) is computed from the adjusted $E_{ao}°$ from paragraph (b)(3)(i) of this section and an adjusted average sulfur dioxide inlet rate ($E_{ai}°$) using the following formula:

$$\% R_g°=100\ (1.0-E_{ao}°/E_{ai}°)$$

To compute $E_{ai}°$, an adjusted hourly sulfur dioxide inlet rate ($E_{hi}°$) is used. The $E_{hi}°$ is computed using the following formula:

$$E_{hi}°=[E_{hi}-E_w(1-X_k)]/X_k$$

where:

$E_{hi}°$ is the adjusted hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

E_{hi} is the hourly sulfur dioxide inlet rate, ng/J (lb/million Btu).

(4) The owner or operator of an affected facility subject to paragraph (b)(3) of this section does not have to measure parameters E_w or X_k if the owner or operator elects to assume that X_k=1.0. Owners or operators of affected facilities who assume X_k=*1.0* shall

(i) Determine % P_s following the procedures in paragraph (c)(2) of this section, and

(ii) Sulfur dioxide emissions (E_s) are considered to be in compliance with sulfur dioxide emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters E_w or X_k under paragraph (b)(3) of this section if the owner or operator of the affected facility elects to measure sulfur dioxide emission rates of the coal or oil following the fuel sampling and analysis procedures under Method 19.

(d) Except as provided in paragraph (j), the owner or operator of an affected facility that combusts only very low sulfur oil, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a Federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a continuous emission measurement system (CEMS) is used, or based on a daily average if Method 6B or fuel sampling and analysis procedures under Method 19 are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under § 60.8, compliance with the sulfur dioxide emission limits and percent reduction requirements under § 60.42b is based on the average emission rates and the average percent reduction for sulfur dioxide for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for sulfur dioxide are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid sulfur dioxide emissions data in calculating $\% P_s$ and E_{ho} under paragraph (c), of this section whether or not the minimum emissions data requirements under § 60.46b are achieved. All valid emissions data, including valid sulfur dioxides emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\% P_s$ and E_{ho} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the sulfur dioxide control systems when oil is combusted as provided under § 60.42b(i), emission data are not used to calculate $\% P_s$ or E_s under § 60.42b (a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under § 60.42b(i).

(j) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989]

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The particulate matter emission standards and opacity limits under § 60.43b apply at all times except during periods of startup, shutdown, or malfunction. The nitrogen oxides emission standards under § 60.44b apply at all times.

(b) Compliance with the particulate matter emission standards under § 60.43b shall be determined through performance testing as described in paragraph (d) of this section.

(c) Compliance with the nitrogen oxides emission standards under § 60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the particulate matter emission limits and opacity limits under § 60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under § 60.8 using the following procedures and reference methods:

(1) Method 3B is used for gas analysis when applying Method 5 or Method 17.

(2) Method 5, Method 5B, or Method 17 shall be used to measure the concentration of particulate matter as follows:

(i) Method 5 shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after a wet FGD system. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B is to be used only after wet FGD systems.

(3) Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160 °C (320 °F).

(5) For determination of particulate matter emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, Method 5B or Method 17 by traversing the duct at the same sampling location.

(6) For each run using Method 5, Method 5B or Method 17, the emission rate expressed in nanograms per joule heat input is determined using:

(i) The oxygen or carbon dioxide measurements and particulate matter measurements obtained under this section,

(ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 (appendix A).

(7) Method 9 is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for nitrogen oxides required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring nitrogen oxides under §60.48(b).

(1) For the initial compliance test, nitrogen oxides from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the nitrogen oxides emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which combusts coal or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the nitrogen oxides emission standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity greater than 73 MW (250 million Btu/hour) and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the nitrogen oxides standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8 of this part, whichever date comes first, the owner or operator of an affected facility which has a heat input capacity of 73 MW (250 million Btu/hour) or less and which combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the nitrogen oxides standards under §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, nitrogen oxides emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling

average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the nitrogen oxides emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility which combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of paragraph (iii) of this section apply and the provisions of paragraph (iv) of this section are inapplicable.

(f) To determine compliance with the emission limit for nitrogen oxides required by §60.44b(a)(4) for duct burners used in combined cycle systems, the owner or operator of an affected facility shall conduct the performance test required under §60.8 using the nitrogen oxides and oxygen measurement procedures in 40 CFR part 60 appendix A, Method 20. During the performance test, one sampling site shall be located as close as practicable to the exhaust of the turbine, as provided by section 6.1.1 of Method 20. A second sampling site shall be located at the outlet to the steam generating unit. Measurements of nitrogen oxides and oxygen shall be taken at both sampling sites during the performance test. The nitrogen oxides emission rate from the combined cycle system shall be calculated by subtracting the nitrogen oxides emission rate measured at the sampling site at the outlet from the turbine from the nitrogen oxides emission rate measured at the sampling site at the outlet from the steam generating unit.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (see IBR §60.17(h)). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 million Btu/hour) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the nitrogen oxides emission standards under §60.44b using Method 7, 7A, 7E, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the nitrogen oxides emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E, or other approved reference methods.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989; 55 FR 18876, May 7, 1990]

§60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the sulfur dioxide standards under §60.42b shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) for measuring sulfur dioxide concentrations and either oxygen (O_2) or carbon dioxide (CO_2) concentrations and shall record the output of the systems. The sulfur dioxide and either oxygen or carbon dioxide concentrations shall both be monitored at the inlet and outlet of the sulfur dioxide control device.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average sulfur dioxide emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19. Method 19 provides procedures for converting these measurements into the format to be used in calculating the average sulfur dioxide input rate, or

(2) Measuring sulfur dioxide according to Method 6B at the inlet or outlet to the sulfur dioxide control system. An initial stratification test is required to verify the adequacy of the Method 6B sampling location. The stratification test shall consist of three paired runs of a suitable sulfur dioxide and carbon dioxide measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B, Method 6A, or a combination of Methods 6 and 3 or 3B or Methods 6C and 3A are suitable measurement techniques. If Method 6B is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily sulfur dioxide emission rate, E_D, shall be determined using the procedure described in Method 6A, section 7.6.2 (Equation 6A–8) and stated in ng/J (lb/million Btu) heat input.

(4) The mean 30-day emission calculated using the daily me values in ng/J (lb/million Btu) successive steam generating uni ating days using equation 19 Method 19.

(c) The owner or operator of fected facility shall obtain em data for at least 75 percent of the ating hours in at least 22 out of 3 cessive boiler operating days. I minimum data requirement is no with a single monitoring systen owner or operator of the affected ity shall supplement the emission with data collected with other itoring systems as approved by th ministrator or the reference me and procedures as described in graph (b) of this section.

(d) The 1-hour average sulfur di emission rates measured by the C required by paragraph (a) of this tion and required under §60.13(h) i pressed in ng/J or lb/million Btu input and is used to calculate the a age emission rates under §60.42b. E 1-hour average sulfur dioxide emis rate must be based on more tha minutes of steam generating unit o ation and include at least 2 data po with each representing a 15-minute riod. Hourly sulfur dioxide emiss rates are not calculated if the affec facility is operated less than 30 m utes in a 1-hour period and are counted toward determination of steam generating unit operating day

(e) The procedures under §60.13 sh be followed for installation, eval tion, and operation of the CEMS.

(1) All CEMS shall be operated in a cordance with the applicable pro dures under Performance Specific tions 1, 2, and 3 (appendix B).

(2) Quarterly accuracy determin tions and daily calibration drift tes shall be performed in accordance wi Procedure 1 (appendix F).

(3) For affected facilities combustin coal or oil, alone or in combinatio with other fuels, the span value of th sulfur dioxide CEMS at the inlet to th sulfur dioxide control device is 125 per cent of the maximum estimated hourl potential sulfur dioxide emissions o the fuel combusted, and the span valu of the CEMS at the outlet to the sulfu dioxide control device is 50 percent o

the maximum estimated hourly potential sulfur dioxide emissions of the fuel combusted.

(f) The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, Dec. 18, 1989; 55 FR 5212, Feb. 14, 1990; 55 FR 18876, May 7, 1990]

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) The owner or operator of an affected facility subject to the opacity standard under § 60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under § 60.44b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system.

(c) The continuous monitoring systems required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by paragraph (b) of this section and required under § 60.13(h) shall be expressed in ng/J or lb/million Btu heat input and shall be used to calculate the average emission rates under § 60.44b. The 1-hour averages shall be calculated using the data points required under § 60.13(b). At least 2 data points must be used to calculate each 1-hour average.

(e) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for nitrogen oxides is determined as follows:

Fuel	Span values for nitrogen oxides (PPM)
Natural gas	500
Oil	500
Coal	1,000
Mixtures	500(x+y)+1,000z

where:

x is the fraction of total heat input derived from natural gas,

y is the fraction of total heat input derived from oil, and

z is the fraction of total heat input derived from coal.

(3) All span values computed under paragraph (e)(2) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm.

(f) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 million Btu/hour) or less, and which has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section, or

(2) Monitor steam generating unit operating conditions and predict nitrogen oxides emission rates as specified in a plan submitted pursuant to § 60.49b(c).

(h) The owner or operator of an affected facility which is subject to the nitrogen oxides standards of §60.44b(a)(4) is not required to install or operate a continuous monitoring system to measure nitrogen oxides emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a continuous monitoring system for measuring nitrogen oxides emissions.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51825, Dec. 18, 1989]

§60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility,

(2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i),

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

(4) Notification that an emerging technology will be used for controlling emissions of sulfur dioxide. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the sulfur dioxide, particulate matter, and/or nitrogen oxides emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the nitrogen oxides standard of §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions under the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored under §60.48b(g)(2) and the records to be maintained under §60.49b(j). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and nitrogen oxides emission rates (i.e., ng/J or lbs/million Btu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (i.e., the ratio of primary air to secondary and/or tertiary air) and the level of excess air (i.e., flue gas oxygen level);

(2) Include the data and information that the owner or operator used to identify the relationship between nitrogen oxides emission rates and these operating conditions;

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be main-

tained by the owner or operator under § 60.49b(j).

If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan.

(d) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§ 60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content on a per calendar quarter basis. The nitrogen content shall be determined using ASTM Method D3431–80, Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons (IBR-see § 60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For facilities subject to the opacity standard under § 60.43b, the owner or operator shall maintain records of opacity.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the nitrogen oxides standards under § 60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The average hourly nitrogen oxides emission rates (expressed as NO_2) (ng/J or lb/million Btu heat input) measured or predicted.

(3) The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.

(4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under § 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.

(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any calendar quarter during which there are excess emissions from the affected facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period.

(1) Any affected facility subject to the opacity standards under § 60.43b(e) or to the operating parameter monitoring requirements under § 60.13(i)(1).

(2) Any affected facility that is subject to the nitrogen oxides standard of § 60.44b, and that

(i) Combusts natural gas, distillate oil, or residual oil with a nitrogen content of 0.3 weight percent or less, or

(ii) Has a heat input capacity of 73 MW (250 million Btu/hour) or less and is required to monitor nitrogen oxides emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average nitrogen oxides emission rate, as determined under §60.46b(e), which exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under §60.48(b) shall submit a quarterly report containing the information recorded under paragraph (g) of this section. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(j) The owner or operator of any affected facility subject to the sulfur dioxide standards under §60.42b shall submit written reports to the Administrator for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average sulfur dioxide emission rate (ng/J or lb/million Btu heat input) measured during the reporting period, ending with the last 30-day period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent reduction in sulfur dioxide emissions calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken.

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken.

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(7) Identification of times when hourly averages have been obtained based on manual sampling methods.

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average sulfur dioxide emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for

noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which sulfur dioxide or diluent (oxygen or carbon dioxide) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken.

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(5) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

(6) Identification of times when hourly averages have been obtained based on manual sampling methods.

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS.

(8) Description of any modifications to the CEMS which could affect the ability of the CEMS to comply with Performance Specification 2 or 3.

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

(m) For each affected facility subject to the sulfur dioxide standards under § 60.42b for which the minimum amount of data required under § 60.47b(f) were not obtained during a calendar quarter, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates.

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19, section 7.

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19, section 7.

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19, section 7.

(n) If a percent removal efficiency by fuel pretreatment (i.e., % R_f) is used to determine the overall percent reduction (i.e., % R_o) under § 60.45b, the owner or operator of the affected facility shall submit a signed statement with the quarterly report:

(1) Indicating what removal efficiency by fuel pretreatment (i.e., % R_f) was credited for the calendar quarter;

(2) Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous calendar quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous calendar quarter;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit.

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 (appendix A) and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in § 60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.

(2) The number of hours of operation, and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in § 60.44b(j) or § 60.44b(k) shall submit to the Administrator on a quarterly basis:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the quarter, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any nitrogen oxides emission tests required during the quarter, the hours of operation during the quarter, and the hours of operation since the last nitrogen oxides emission test.

(r) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under §60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in §60.41b. For the purposes of this section, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Quarterly reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the preceding quarter.

[52 FR 47842, Dec. 16, 1987, as amended at 54 FR 51820, 51825, Dec. 18, 1989]

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

SOURCE: 55 FR 37683, Sept. 12, 1990, unless otherwise noted.

§60.40c Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

§60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials in ASTM D388–77, "Standard Specification for Classification of Coals by Rank" (incorporated by reference—see §60.17); coal refuse; and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat, including but not limited to solvent-refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are included in this definition for the purposes of this subpart.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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75 Hawthorne Street
San Francisco, CA 94105-3901

March 11, 1998

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Seyed Sadredin
Director of Permit Services
San Joaquin Valley
Unified Air Pollution Control District
1999 Tuolumne Street, Suite 200
Fresno, CA 93721

Subject: Draft Emission Reduction Credit for Newark Sierra Paperboard Corporation (project # 970384)

Dear Mr. Sadredin:

EPA appreciates the opportunity to review this draft Emission Reduction Credit (ERC) for Newark Sierra Paperboard Corporation (NSPC). NSPC retrofit two boilers with low-NOx burners, increased their capacity to 135 MMbtu/hr, and was restricted to burning primarily natural gas instead of fuel oil. The District proposed issuing approximately 341 tons per year of sulfur dioxide (SOx) credits; 244 tons per year of nitrogen oxides (NOx) credits; 50 tons per year of fine particulate (PM_{10}) credits; 42 tons per year of carbon monoxide (CO) credits; and 2 tons per year of volatile organic compound (VOC) credits.

We believe that NSPC may qualify for reduced ERCs for PM_{10} and sulfur oxides SOx. EPA's New Source Performance Standard (40 CFR subpart Db) SOx and particulate emission limits were triggered by increases in NSPC's emission rate. However, we believe that the District could show that some of the reductions of SOx and PM_{10} emissions are surplus to the reductions required by the NSPS. We would like to work with the District to establish the appropriate baselines for these pollutants.

We recommend not issuing NOx ERCs because all of the emission reductions at boilers 1 and 2 are mandated by District regulations and part of the emission reductions are also required by NSPS subpart Db. Both the Clean Air Act (section 173(a)) and District rule 2201 (section 3.2.1) prohibit offsets for emission decreases that are not surplus. Therefore, none of the proposed NOx ERCs could be used to comply with any federally enforceable offset requirement under the Clean Air Act (CAA), including offset requirements under Rule 209.1 of the San Joaquin County State Implementation Plan.

We also recommend that the District not issue the proposed CO ERCs. NSPC's post-modification emissions will decrease under certain circumstances, but the modification generally allows NSPC to increase their emission rate and total emissions. We estimate that the allowable post-modification emissions are about 100 tons per year more than the actual pre-modification emissions. In addition, the baseline emissions are higher than allowed by District rule 4305.

We would also like an opportunity to comment on the District's ATC for the modifications to these boilers. According to the District's evaluation (dated March 8, 1995, see page 7) the District did not provide the public notice required for projects in non-attainment areas. This may have been due to a misunderstanding of the EPA non-attainment designation in effect when NSPC increased CO emissions. We are providing you with preliminary comments based on copies of the permits and evaluation provided by your staff. However, we recommend that the District provide public notice to meet the requirements of Rule 2201 section 5.1.3 that were triggered by the modification.

Our detailed comments on this project are enclosed. We request that you not take further action on this project until we have reached agreement that the credits have been revised to comply with all federally enforceable requirements. Please call me at (415) 744-1254 or have your staff call Ed Pike of the Permits Office at (415) 744-1211 if you have questions regarding this letter.

Sincerely,

Matt

Matt Haber
Chief, Permits Office

Enclosures

cc: Anthony Mendes, Permits Services Manager, Northern Region
Ray Menebroker, California Air Resources Board
Mark Vincent, Newark Sierra Paperboard Company

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Enclosure A

EPA Comments on Newark Sierra Paperboard Corporation (project # 970384) Draft ERC and Preliminary Comments on Final ATCs (N-577-3-1 and N-577-4-1)

1. **Surplus Test for NOx**

The District has proposed granting Emission Reduction Credits based on a finding that the source complies with District rule 2201 section 3.2.3. However, compliance with this section alone is not adequate to qualify for Emission Reduction Credits. District rule 2201 section 3.2.1 also requires that reductions used for Emission Reduction Credits "Shall be real, enforceable, quantifiable, surplus, and permanent." Boilers 1 and 2 at this facility are prohibited from emitting more than 30 ppm NOx by District rule 4305. In addition, NOx emission reductions were required by NSPS subpart Db (40 CFR section 60.44b). Therefore, the reduction is not surplus and the source is not eligible for NOx ERCs.

2. **NSPS SOx and Particulate Limits**

As noted in the District's evaluation of the capacity increase (dated March 8, 1995, see page one), the modified boilers are subject to NSPS subpart Db. Therefore, the sulfur dioxide and PM_{10} baselines must be adjusted by the amount of the reduction required by the NSPS (40 CFR sections 60.42b and 60.43b). We are available to work with the District to calculate the appropriate adjustments. For PM_{10}, we recommend basing the allowable emissions on the PM_{10} fraction of the allowable NSPS particulate limit. We understand that a more recent ATC would remove the emission limits that exceed the NSPS allowable emissions. We recommend revising all permits for this source, including operating permits, to prohibit emissions in excess of the NSPS emission limit.

3. **PM_{10} baseline**

We would like an opportunity to review and comment on the basis for the PM_{10} baseline emission estimates. This data was referenced as attachment D to the original ATC application. We appreciate the information that District staff has provided us, and would like to receive this information as well.

4. **Calculations for Carbon Monoxide and Other Pollutants**

The District has proposed granting an Emission Reduction Credit for CO. However, the post-modification allowable emission rates (in lbs/mmbtu and lbs/hr) and total allowable emissions are higher than the average pre-modification emission rates and total pre-modification emissions. While the pre-modification emission rate was occasionally higher than the post-modification rate, the calculations for CO and all other pollutants must consider both the emission decreases and increases that occurred due to the modification. The allowable post-modification CO emissions are about 100 tpy higher than NSPC's past actual emissions (based on source test data)[1]. These calculations indicate that NSPC made a title I modification and was required by EPA regulations to offset this emission increase.

There are several reasons for the discrepancy between EPA's calculations and the District's. First, the District's calculation gives credit for burning less fuel oil without considering the emissions increase that will occur from burning natural gas with a higher CO emission rate instead. Second, the District calculation does not include the emission increases that occurred due to the modification of the boiler capacity from 111-113 MMbtu/hr each to 135 MMbtu/hr each. While this discrepancy has the largest impact on CO calculations, all proposed credits must be recalculated to account for the emissions from natural gas replacing fuel oil and the emission increase allowed due to the capacity increase. We recommend recalculating all proposed credits based on the pre-project actual emissions (adjusted for all required reductions) minus the post-modification allowable emissions.

5. Public Notice for 1995 Authority to Construct

The District calculated (March 8, 1995 evaluation, see pages 10 and 11) an "IPE" for CO of 79 and 312 lbs/day for two operating scenarios. The IPE for the typical pre-modification operating scenario (fuel oil) and post-modification operating scenario (natural gas) is 398 lbs/day or more[2]. Therefore, the IPE exceeded the 100 lbs CO/day threshold for public notice in non-attainment areas (District Rule 2201 section 5.1.3.4). We understand that the lack of public (including EPA) notice for the 1995 permits authorizing the modification may have been due to a misunderstanding of the EPA non-attainment designation for Stockton at the time of permit issuance. We recommend working with EPA to ensure that the permit meets all District and EPA requirements and then providing the public notice triggered by the emission increase.

As you know, EPA's proposed redesignation for Stockton may be finalized soon.

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[1] See enclosure B for calculations. The emission increase is higher if baseline emissions are reduced based on rule 4305 compliance limits.

[2] According to the District evaluation (p10-11), the Historic Adjusted Potential Emissions (HAPE) is 87.9 lbs/day and the post-modification potential to emit is 486 lbs/day under typical operating conditions. The Increase in Permitted Emissions (IPE) is the post-modification Permitted Emissions minus the HAPE, or 486 lbs/day - 87.9 lbs/day = 398 lbs/day. The IPE is greater when using actual source test data instead of District emission estimates to calculate the HAPE or reducing the baseline for reductions required by District rule 4305.

However, we believe that NSPC should comply with the requirements that were triggered at the time of the emission increase rather than the EPA PSD program that would apply after a final redesignation.

6. BACT for Carbon Monoxide

Although EPA and District rules vary in their applicability test, we believe that the NSPC triggered review under both. District rule 2201 (section 6.1.1.1) requires state BACT (which should be equivalent to EPA LAER) for an Increase in Permitted Emissions ("IPE") for CO of two pounds per day in non-attainment areas. EPA has calculated that the increase is a title I modification that also exceeds the EPA LAER thresholds. Therefore, we recommend conducting a BACT review for this emission increase and providing EPA and the public with an opportunity to review your determination.

7. De-Bottlenecking

The increased capacity of the new boiler will provide NSPC with additional steam that will likely be used to increase the production rate at the facility. If the new boiler increases emissions at other units by "de-bottle necking" production, the increase in emission and potential to emit could be subject to New Source Review. If the District has not reviewed other equipment at the plant that may increase emissions due to the increase in boiler capacity, we recommend that the District perform a New Source Review applicability determination for this equipment.

Enclosure B
Carbon Monoxide Emission Calculations

1) Calculation of Annual Emission Increase

A) Past Actual CO Emissions Based on Source Test Data[1] *and Fuel Usage:*

1) using source test results of 0.003 lb/MMbtu for fuel oil and 0.36 lb/MMbtu for natural gas:

-> 907,600 MMbtu oil/yr * 0.003 lb CO/MMbtu + 410,000 MMbtu gas/yr * 0.36 lbs/MMbtu = 2722 lbs/yr + 147,600 lbs/yr
= **75.1 tpy CO**

2) using source test results of 0.003 lb/MMbtu for fuel oil and allowable rule 4305 emissions of 0.293 lb/MMbtu for natural gas

-> 907,600 MMbtu oil/yr * 0.003 lb CO/MMbtu + 410,000 MMbtu gas/yr * 0.293 lbs/MMbtu = 2722 lbs/yr + 120,130 lbs/yr
= **61.4 tpy CO**

B) Potential to Emit for Modified Boilers[2]

= 0.15 lbm CO/MMbtu * (2 boiler * 135 MMbtu /boiler/hr) * 8670 hrs/yr
= **175.6 tpy CO** at rated capacity

C) Emission Increase

Allowable Future Emissions minus Past Actual Emissions:

175.6 tpy - 75.1 tpy = **100.5 tpy CO**

Allowable Future Emissions minus Past Actual Emissions Adjusted for Rule 4305:

175.6 tpy - 61.4 tpy = **114.2 tpy CO**

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[1]Note: EPA believes that actual emissions should be calculated from measured, rather than estimated emissions. The District chose not to use the 1991 source test for one pollutant, CO, when the measured emissions were substantially lower than AP-42 emission factors. When a valid source test results in an emission rate lower than AP-42, the baseline emissions must instead be based on the source test results.

[2]Calculations are based on permitted emission rates and rated capacity; unit may operate above rated capacity, especially for short time periods.

Anthony M.

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March 11, 1998

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Director of Permit Services
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1999 Tuolumne Street, Suite 200
Fresno, CA 93721

Subject: Draft Emission Reduction Credit for Newark Sierra Paperboard Corporation (project # 970384)

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We recommend not issuing NOx ERCs because all of the emission reductions at boilers 1 and 2 are mandated by District regulations and part of the emission reductions are also required by NSPS subpart Db. Both the Clean Air Act (section 173(a)) and District rule 2201 (section 3.2.1) prohibit offsets for emission decreases that are not surplus. Therefore, none of the proposed NOx ERCs could be used to comply with any federally enforceable offset requirement under the Clean Air Act (CAA), including offset requirements under Rule 209.1 of the San Joaquin County State Implementation Plan.

We also recommend that the District not issue the proposed CO ERCs. NSPC's post-modification emissions will decrease under certain circumstances, but the modification generally allows NSPC to increase their emission rate and total emissions. We estimate that the allowable post-modification emissions are about 100 tons per year more than the actual pre-modification emissions. In addition, the baseline emissions are higher than allowed by District rule 4305.

We would also like an opportunity to comment on the District's ATC for the modifications to these boilers. According to the District's evaluation (dated March 8, 1995, see page 7) the District did not provide the public notice required for projects in non-attainment areas. This may have been due to a misunderstanding of the EPA non-attainment designation in effect when NSPC increased CO emissions. We are providing you with preliminary comments based on copies of the permits and evaluation provided by your staff. However, we recommend that the District provide public notice to meet the requirements of Rule 2201 section 5.1.3 that were triggered by the modification.

Our detailed comments on this project are enclosed. We request that you not take further action on this project until we have reached agreement that the credits have been revised to comply with all federally enforceable requirements. Please call me at (415) 744-1254 or have your staff call Ed Pike of the Permits Office at (415) 744-1211 if you have questions regarding this letter.

Sincerely,

Matt

Matt Haber
Chief, Permits Office

Enclosures

cc: Anthony Mendes, Permits Services Manager, Northern Region
Ray Menebroker, California Air Resources Board
Mark Vincent, Newark Sierra Paperboard Company

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Enclosure A

EPA Comments on Newark Sierra Paperboard Corporation (project # 970384) Draft ERC and Preliminary Comments on Final ATCs (N-577-3-1 and N-577-4-1)

1. Surplus Test for NOx

60.44 B applies
NG = .21
OIL = .62

The District has proposed granting Emission Reduction Credits based on a finding that the source complies with District rule 2201 section 3.2.3. However, compliance with this section alone is not adequate to qualify for Emission Reduction Credits. District rule 2201 section 3.2.1 also requires that reductions used for Emission Reduction Credits "Shall be real, enforceable, quantifiable, surplus, and permanent." Boilers 1 and 2 at this facility are prohibited from emitting more than 30 ppm NOx by District rule 4305. In addition, NOx emission reductions were required by NSPS subpart Db (40 CFR section 60.44b). Therefore, the reduction is not surplus and the source is not eligible for NOx ERCs.

2. NSPS SOx and Particulate Limits

60.42b & 60.43b don't apply

As noted in the District's evaluation of the capacity increase (dated March 8, 1995, see page one), the modified boilers are subject to NSPS subpart Db. Therefore, the sulfur dioxide and PM_{10} baselines must be adjusted by the amount of the reduction required by the NSPS (40 CFR sections 60.42b and 60.43b). We are available to work with the District to calculate the appropriate adjustments. For PM_{10}, we recommend basing the allowable emissions on the PM_{10} fraction of the allowable NSPS particulate limit. We understand that a more recent ATC would remove the emission limits that exceed the NSPS allowable emissions. We recommend revising all permits for this source, including operating permits, to prohibit emissions in excess of the NSPS emission limit.

3. PM_{10} baseline

Info from app. pkg

We would like an opportunity to review and comment on the basis for the PM_{10} baseline emission estimates. This data was referenced as attachment D to the original ATC application. We appreciate the information that District staff has provided us, and would like to receive this information as well.

4. Calculations for Carbon Monoxide and Other Pollutants

The District has proposed granting an Emission Reduction Credit for CO. However, the post-modification allowable emission rates (in lbs/mmbtu and lbs/hr) and total allowable emissions are higher than the average pre-modification emission rates and total pre-modification emissions. While the pre-modification emission rate was occasionally higher than the post-modification rate, the calculations for CO and all other pollutants must consider both the emission decreases and increases that occurred due to the modification. The allowable post-modification CO emissions are about 100 tpy higher than NSPC's past actual emissions (based on source test data)[1]. These calculations indicate that NSPC made a title I modification and was required by EPA regulations to offset this emission increase.

HAE properly calculated, adjust HAE not to

There are several reasons for the discrepancy between EPA's calculations and the District's. First, the District's calculation gives credit for burning less fuel oil without considering the emissions increase that will occur from burning natural gas with a higher CO emission rate instead. Second, the District calculation does not include the emission increases that occurred due to the modification of the boiler capacity from 111-113 MMbtu/hr each to 135 MMbtu/hr each. While this discrepancy has the largest impact on CO calculations, all proposed credits must be recalculated to account for the emissions from natural gas replacing fuel oil and the emission increase allowed due to the capacity increase. We recommend recalculating all proposed credits based on the pre-project actual emissions (adjusted for all required reductions) minus the post-modification allowable emissions.

5. Public Notice for 1995 Authority to Construct

The District calculated (March 8, 1995 evaluation, see pages 10 and 11) an "IPE" for CO of 79 and 312 lbs/day for two operating scenarios. The IPE for the typical pre-modification operating scenario (fuel oil) and post-modification operating scenario (natural gas) is 398 lbs/day or more[2]. Therefore, the IPE exceeded the 100 lbs CO/day threshold for public notice in non-attainment areas (District Rule 2201 section 5.1.3.4). We understand that the lack of public (including EPA) notice for the 1995 permits authorizing the modification may have been due to a misunderstanding of the EPA non-attainment designation for Stockton at the time of permit issuance. We recommend working with EPA to ensure that the permit meets all District and EPA requirements and then providing the public notice triggered by the emission increase.

As you know, EPA's proposed redesignation for Stockton may be finalized soon.

---

[1] See enclosure B for calculations. The emission increase is higher if baseline emissions are reduced based on rule 4305 compliance limits.

[2] According to the District evaluation (p10-11), the Historic Adjusted Potential Emissions (HAPE) is 87.9 lbs/day and the post-modification potential to emit is 486 lbs/day under typical operating conditions. The Increase in Permitted Emissions (IPE) is the post-modification Permitted Emissions minus the HAPE, or 486 lbs/day - 87.9 lbs/day = 398 lbs/day. The IPE is greater when using actual source test data instead of District emission estimates to calculate the HAPE or reducing the baseline for reductions required by District rule 4305.

However, we believe that NSPC should comply with the requirements that were triggered at the time of the emission increase rather than the EPA PSD program that would apply after a final redesignation.

6. BACT for Carbon Monoxide

assumed CO attainment

Although EPA and District rules vary in their applicability test, we believe that the NSPC triggered review under both. District rule 2201 (section 6.1.1.1) requires state BACT (which should be equivalent to EPA LAER) for an Increase in Permitted Emissions ("IPE") for CO of two pounds per day in non-attainment areas. EPA has calculated that the increase is a title I modification that also exceeds the EPA LAER thresholds. Therefore, we recommend conducting a BACT review for this emission increase and providing EPA and the public with an opportunity to review your determination.

7. De-Bottlenecking

credits issued for boilers

The increased capacity of the new boiler will provide NSPC with additional steam that will likely be used to increase the production rate at the facility. If the new boiler increases emissions at other units by "de-bottle necking" production, the increase in emission and potential to emit could be subject to New Source Review. If the District has not reviewed other equipment at the plant that may increase emissions due to the increase in boiler capacity, we recommend that the District perform a New Source Review applicability determination for this equipment.

Enclosure B
Carbon Monoxide Emission Calculations

1) Calculation of Annual Emission Increase

A) Past Actual CO Emissions Based on Source Test Data[1] and Fuel Usage:

1) using source test results of 0.003 lb/MMbtu for fuel oil and 0.36 lb/MMbtu for natural gas:

-> 907,600 MMbtu oil/yr * 0.003 lb CO/MMbtu + 410,000 MMbtu gas/yr * 0.36 lbs/MMbtu = 2722 lbs/yr + 147,600 lbs/yr
= 75.1 tpy CO

2) using source test results of 0.003 lb/MMbtu for fuel oil and allowable rule 4305 emissions of 0.293 lb/MMbtu for natural gas

-> 907,600 MMbtu oil/yr * 0.003 lb CO/MMbtu + 410,000 MMbtu gas/yr * 0.293 lbs/MMbtu = 2722 lbs/yr + 120,130 lbs/yr
= **61.4 tpy CO**

B) Potential to Emit for Modified Boilers[2]

= 0.15 lbm CO/MMbtu * (2 boiler * 135 MMbtu /boiler/hr) * 8670 hrs/yr
= **175.6 tpy CO** at rated capacity

C) Emission Increase

Allowable Future Emissions minus Past Actual Emissions:

175.6 tpy - 75.1 tpy = **100.5 tpy CO**

Allowable Future Emissions minus Past Actual Emissions Adjusted for Rule 4305:

175.6 tpy - 61.4 tpy = **114.2 tpy CO**

---

[1]Note: EPA believes that actual emissions should be calculated from measured, rather than estimated emissions. The District chose not to use the 1991 source test for one pollutant, CO, when the measured emissions were substantially lower than AP-42 emission factors. When a valid source test results in an emission rate lower than AP-42, the baseline emissions must instead be based on the source test results.

[2]Calculations are based on permitted emission rates and rated capacity; unit may operate above rated capacity, especially for short time periods.

San Joaquin Valley
Unified Air Pollution Control District

November 5, 1998

RECEIVED
NOV 09 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

Matt Haber
Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Haber:

RE: San Joaquin Valley Unified Air Pollution Control District ERC Project 970384 (Newark Sierra Paperboard)

The District has received your comment letter dated March 11, 1998, concerning the above project and offers the following responses:

Comments:

The NOx emissions were not surplus because the boilers were subject to both District Rule 4305 and 40 CFR Part 60, Subpart Db.

Deductions to the SOx and PM10 ERC's must be made because the boilers were subject to 40 CFR Part 60, Subpart Db during the baseline period.

The increase in boiler capacity would likely be utilized to increase the production of the facility which could trigger District New Source Review requirements for other units.

Response:

The applications for the Authorities to Construct authorizing the installation of the low NOx burners that resulted in the NOx reductions proposed for banking were deemed complete on December 10, 1991. This is prior to the date that District Rule 4305 was added to the District list of NOx control measures. Therefore, none of the reductions may be discounted for this reason.

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • FAX (209) 233-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • FAX (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

The modifications to these two boilers did not result in an increase in heat input capacity, although it is certainly understandable why EPA thought that was the case. The Application Review for N-577-3-1 and N-577-4-1 dated March, 1995 incorrectly listed the pre-modification heat input capacities as 113 MMBtu/hr for natural gas and 111 MMBtu/hr for #6 fuel oil. Attached are copies of the original permit applications in April, 1974 that list the heat input rating of the original burners as "Approximately 130 MMBtu/hr." Also attached is a copy of the information submitted with the application for modification in June, 1985 which lists the heat input rating of the replacement burners as 142 MMBtu/hr for natural gas and 122 MMBtu/hr for #6 fuel oil, and a copy of the San Joaquin County APCD application review that uses those heat input ratings in it's evaluation of compliance. Also note that in each application, the boiler remains rated at 95,000 pounds of steam per hour.

Newark Sierra Paperboard also submitted information showing that the cost of the retrofits did not result in either boiler becoming a reconstructed stationary source.

Since modification to the boilers did not result in an increase in heat input capacity and the boilers did not become reconstructed stationary sources as defined in Subpart Db, they were not subject to Subpart Db during the baseline period and no deduction of NOx ERC's may be made for this reason.

Comment:

The EPA would like access to the information contained in appendix D of the ATC application for the burner retrofits pertaining to the PM10 emission estimates.

Response:

The information is included with this letter.

Comment:

The CO emission reductions were incorrectly calculated.

Response:

There were two actions on Newark Sierra's part that resulted in actual emission reductions (AER's); reduced fuel oil usage and the installation of low NOx natural gas burners. District rule 2201 specifies the equation to be utilized to calculate the AER's that occurred as a result of each action.

In order to calculate the reductions due to the reduced usage of fuel oil the following equation was utilized per section 6.5.1:

AER = HAE - PE, where:

HAE is the historical actual emissions calculated utilizing actual fuel oil usages and valid emission factors.

PE is the postmodification potential to emit while firing on fuel oil.

In order to calculate the reductions due to the replacement of the original natural gas burners with low NOx natural gas burners the following equation was utilized per section 6.5.2:

AER = HAE X CE, where

HAE is the historical actual emissions calculated utilizing actual natural gas usages and valid emission factors.

CE is the control due to the new burners.

The total HAE's are therefore:

$(HAE - PE)_{OIL} + (HAE \times CE)_{GAS}$

The CO reductions were correctly calculated in accordance with District Rule 2201.

Comments:

The increase in permitted emissions of CO was greater than 100 pounds per day, therefore, the project should have been public noticed because the area in which Newark Sierra is located was not yet officially designated by the EPA as attainment for CO.

The District utilized the incorrect CO BACT trigger because it incorrectly assumed that the facility was located in a CO attainment area.

Response:

The area was in compliance with Federal CO standards at the time that the application was deemed complete. Therefore, the application was evaluated as a project in a CO attainment area even though EPA still had not yet officially designated the area as attainment.

Should you have any questions please telephone Seyed Sadredin at (209) 497-1000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS/AJM/MJS/cl
Enclosure

c: Mark Vincent - Newark Sierra Paperboard

INTRODUCTION

On September 10, 1991, BC Analytical performed source testing on the exhaust of boiler number 2 at Newark Sierra Wood Products' Stockton, CA facility. This report contains all of the data and results of the sampling and analysis undertaken.

The test was performed to gather information for in-house information and engineering purposes only. The table below lists the sampling methods, number of sample replicates, sample run duration and approximate sample volume for each determination. The visible emissions testing was performed by Galson Corporation. Their report is included in Appendix A.

Sampling Determination	Sample Method	Minimum Sampling Replicate	Minimum Sample Duration	Sample Volume
Particulate	CARB 5	3	60 min.	30 ft^3
Sulfate, Ammonia, HCl	CARB 5	(determined from aliquots from particulate trains)		
NOx, CO, SO2, THC CO2, and O2	CARB 100		(continuous)	
Visible Emissions	EPA 9		(concurrent with CARB 5)	

DATA SUMMARY

Parameter	RUN 1	RUN 2	RUN 3	AVERAGE
Particulate Sampling, Duct Conditions:				
Date	9/10/91	9/10/91	9/10/91	
Time	1227-1257	1422-1522	1613-1713	
Temperature, ^oF	425	420	392	412
Abs. Press., in Hg	29.99	29.99	29.99	29.99
Velocity, ft/sec	39.6	35.1	26.8	33.8
Volume Flow Rate				
ACFM	47400	42100	32100	40533
SDCFM	25000	22300	17600	21633
% H_2O	10.4	10.5	10.4	10.4
Fixed Gases				
%O_2 vol.dry	9.6	8.1	7.6	8.4
%CO_2 vol. dry	7.8	9.2	9.5	8.8
%N_2 vol.dry	82.6	82.7	82.9	82.7
Particulate Concentration, gr/SDCF				
Total Filterable	0.067	0.019	0.048	0.044
Total Aqueous Condensable	0.022	0.015	0.019	0.019
Total Organic Condensable	0.006	0.003	0.005	0.005
Total Particulate	0.094	0.037	0.072	0.068
Sulfate	0.039	0.014	0.033	0.029
Hydrogen Chloride	0.0008	0.0008	0.0008	0.0008
Ammonia	0.00004	0.000005	0.000005	0.00002
Particulate Emissions, lb/hr				
Total Filterable	14.36	3.63	7.30	8.43
Total Aqueous Condensable	4.63	2.90	2.85	3.46
Total Organic Condensable	1.20	0.62	0.74	0.85
Total Particulate	20.19	7.15	10.89	12.74
Sulfate	8.40	2.76	4.91	5.36
Hydrogen Chloride	0.17	0.16	0.13	0.15
Ammonia	0.009	0.0009	0.0008	0.0036

DATA SUMMARY

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	AVERAGE
Date	9/10/91	9/10/91	9/10/91	9/10/91	9/10/91	
Time	1123-1222	1249-1348	1415-1514	1524-1623	1632-1731	
CO, ppmvd	1.6	1.8	8.3	0.0	0.5	2.4
CO_2, %vd	8.6	8.1	9.2	9.5	9.5	9.0
NO_x, ppmvd	322	289	325	339	342	323
O_2, %vd	9.2	9.9	8.1	7.2	7.6	8.4
SO_2, ppmvd	370	349	402	420	426	393
THC, ppmvd	5.2	2.3	2.1	1.7	1.1	2.5
CO, lb/hr	0.18	0.20	0.82	0.00	0.04	0.25
NO_x as NO_2, lb/hr	58.5	52.5	52.7	43.4	43.8	50.2
SO_2, lb/hr	93.6	88.3	90.7	74.8	75.9	84.7
THC as C, lb/hr	0.25	0.11	0.089	0.057	0.037	0.18

Note: Emission Rates for runs 1 and 2 were calculated using 25000 SDCFM;
Emission Rates for run 3 were calculated using 22300 SDCFM;
Emission Rates for runs 4 and 5 were calculated using 17600 SDCFM.

Gold Bond Building Products S. Sadredin

PROPOSAL: Modification of Boiler #1

LOCATION: 800 W. Church St., Stckn.

EQUIPMENT DESCRIPTION:

The existing burners will be replaced with 3 Coen Parallel flow, low excess air, register type burners.

OPERATING SCHEDULE:

24 hrs/day x 7 days/wk x 50 wks/yr

APPLICABLE RULES:

Rule 201a - Authority to Construct

b - Permit to Operate

Rule 209.1 - New and Modified Stationary Source Review

Rule 401 Visible Emissions < 20% opacity

Rule 404 PM. Conc. ≤ .1 gr/scf

Rule 407.2 - Fuel Burning equipment, PM conc ≤ .1 gr/scf @ 12% CO_2

Rule 408 - Fuel Burning Equipment

SO_x ≤ 200 lb/hr @ SO_2

NO_x ≤ 140 lb/hr @ NO_2

PM ≤ 10 lb/hr @ Rule 102 j

DESCRIPTION:

Due to operational problems resulting in excessive visible emissions, the applicant is proposing to replace the existing boilers. The new burners will utilize low excess air firing and automatic air to fuel ratio control system

BASELINE EMISSIONS:

The last three consecutive years' fuel usage is as follows.

Calendar Year	#6 oil, Therms	Nat. Gas Therms	operating Days
1982	3,464,285	265,331	215
1983	6,611,859	112,509	337
1984	7,085,928	90,615	331
TOTAL	17,167,072	468,455	883

3 yr average daily #6 fuel = 19442 therms/day

plus 3 yr average daily Nat. Gas = 531 Therms/day

Based on heating value of 150,000 btu/gal for fuel oil #6 and 989 btu/ft^3, the daily fuel usage is as follows:

3 yr average dail #6 fuel Oil = 12961 gal/day

3 yr averag Natural Gas = 53100 ft^3/day

BASELIN EMISSION (Contd.):

Based on AP-42, Sections 1.3 and 1.4 average daily emissions is as follows:

PM =	164.6	+	.3	=	165	lbs/day
SO_x =	1974	+	0	=	1974	"
NO_x =	868	+	29	=	896	"
CO =	64.8	+	2	=	67	"
HC =	9.9	+	.1	=	10	"

EXPECTED EMISSIONS

Fuel Oil #6 will be the primary fuel with natural gas used as the stand by. The boiler at maximum capacity will require 270 gal/hr of fuel oil #6 or 48000 ft^3/hr of Natural Gas, per burner, Three burners total.

1- Fuel Oil #6, .97% S, .33% N (based on AP-42

PM = 12.7	lb/10^3gal	⟹ 252	lbs/day
SO_x = (157)(.97)	"	⟹ 3015	"
* NO_x = (67)(1-.05)	"	⟹ 1260	"
CO = 5	"	⟹ 99	"
HC = .76	"	⟹ 15	"

* Assumes 5% reduction due to low excess air, up to 20% possible.

EXPECTED EMISSIONS (Contd.):

2 - Natural Gas Combustion

PM = 5 lb/10^6 ft^3	⟹	17 lbs/day
SO_x = .6 "	⟹	2 "
*NO_x = (550)(1-.05) "	⟹	1806 "
CO = 40 "	⟹	138 "
HC = 1.4 "	⟹	5 "

* Assume 5% reduction due to low excess air. Up to 20% possible.

COMPLIANCE WITH NEW SOURCE REVIEW RULE (NSRR):

Without limiting the new burner's fuel consumption, the SO_x and NO_x emission exceed the BACT and offset thresholds when compared to the baseline emissions.

An additional 150 lbs/day may be allowed without triggering BACT requirements. The SO_x emissions will be the limiting factor when firing #6 oil.

Max. Average daily Allowable SO_x = 1974 + 150 = 2124 lbs/day

When firing on natural gas, the NO_x emission become the limiting factor.

Max Averaged daily allowable NO_x = 896 + 150 = 1046 lbs/day

Assuming that the fuel usage pattern will remain the same as that during the baseline period, limiting NO_x and SO_x emissions as determined above will assure that the net increase in NO_x or SO_x emissions will not exceed 150 lbs/day.

CONCLUSIONS:

The applicant is proposing to install new and more efficient burners in boiler #1. The new burners will have low excess air combustion and automatic air/fuel ratio features which may provide for lower overall emissions in the long run. However, per applicant's request the permit will be conditioned so as to provide for a maximum of 150 lbs/day of net increase in emissions.

The daily fuel usage figures were not provided. The average daily emissions based on the monthly fuel usage data is far less than the actual maximum daily throughput. Due to these factors emission profiles could not be drawn and instead the daily average emissions on annual basis will be used to condition the permits in a manner to assure that net increase in emissions of NO_x and SO_x will not exceed 150 lbs/day.

RECOMMENDATIONS:

Issue AC subject to appropriate conditions to assure compliance with all applicable Rules and Regulations.

SAN JOAQUIN COUNTY AIR POLLUTION CONTROL DISTRICT
1601 E. HAZELTON AVENUE, P. O. BOX 2009, STOCKTON, CALIFORNIA 95201
Telephone: (209) 466-6781 and 462-8526

BOILER AND LIQUID HEATER INFORMATION TO ACCOMPANY PERMIT APPLICATION

(See Form No. APF-34 for Additional Information to be Submitted)

1. Owner/Operator Name: Gold Bond Building Products ,Div. of National Gypsum
2. Equipment Location: Stockton, California
3. Boiler Manufacturer, Model Number & Serial Number: (Attach Manufacturer's Catalog) (Existing) B & W Type F-22 Built 1937 (Catalog not available)
4. State Serial Number or Other Identification Number: B & W Type F-22
   Boiler Rating: 95,000 lb/hr Steam
5. Use: 95,000 lb/hr Steam @ 450 psig [X] Hot Water [ ] Other Hot Liquid [ ]

6. Gas Burner

Manufacturer	No. of Burners	Model No.	Minimum Rating Per Burner	Excess Air	Maximum Rating Per Burner	Excess Air
COEN	3	CPF 21½"	8,000 cu ft/hr	@ 25 %	48,000 cu ft/hr	@ 10 %

7. Gas Burner Mode of Control: Manual [ ] Automatic On - Off [ ] Automatic High - Low [ ] Automatic Full Modulation [X]

8. Oil Burner

Manufacturer	No. of Burners	Model No.	Minimum Rating Per Burner	Excess Air	Maximum Rating Per Burner	Excess Air
COEN	3	CPF 21½"	45 gal/hr	35 %	270 gal/hr	15 %

9. Oil Burner Type: Steam Atomizing [X] Rotary Cup [ ] Air Atomizing [ ] If Air Atomized, Give Feed Pressure ____ psig

10. Air Compressor Data (If Compressed Air Atomization is Used):

Manufacturer	Model No.	Drive Motor	Compressor Rating	Operating Pressure
N/A		____ hp	____ cu ft/min	____ psig

11. Oil Burner Mode of Control: Manual [ ] Automatic On - Off [ ] Automatic High - Low [ ] Automatic Full Modulation [X]

12. Fuel: Gas: Natural [X] LPG [ ] Process Gas [ ] H_2S Content of Process Gas ____ gr/100 cu ft Heating Value of Process Gas 989 Btu/CF
Oil: Kerosine [ ] PS-100 Distillate [ ] PS-200 [ ] PS-300 [ ] PS-400 [ ] Sulfur Content 1.0 % by wt
Other (Specify): #6 Fuel Oil Gross Heating Value 150,000 Btu/lb

13. Oil Preheater: Steam [XX] Electric [ ] Steam & Electric [ ] None [ ] Expected Oil Preheat Temp ____ °F

14. Is Unit Used to Incinerate Waste Gas/Liquid Stream? No [X] Yes [ ]*
Explain:

*Submit Drawing of Method of Waste Stream Introduction with Respect to Gas/Fuel Oil Burners

15. Stack or Vent Data: Inside Diameter or Dimensions 60" ID Height Above Ground 75 ft
Exhaust Temperature: 460°F
Stack Serves: Only this Equipment [ ] Other Equipment Also* [ ]
*If checked, submit type and rating of all other equipment exhausted through this vent or stack.

16. Operating Schedule: 24 hrs/day, 7 days/week

17. Type of firing [X] Horizontally [] Tangentially
18. Percent of the fuel used for space heat 0

THE ABOVE INFORMATION IS SUBMITTED TO DESCRIBE THE USE OF THE EQUIPMENT FOR WHICH APPLICATION FOR PERMIT IS BEING MADE ON THE ACCOMPANYING FORM EH0120

Signature of Responsible Member or Firm: C F Howard Jr

Type or Print Name and Official Title of Person Signing this Data Form	Name C. F. Howard, Jr.	
	Title Vice President of Engineering	Date 6/25/85

SAN JOAQUIN COUNTY AIR POLLUTION CONTROL DISTRICT
1601 E. Hazelton Avenue, P. O. Box 2009, Stockton, California 95201
Telephone: (209) 466-6781

Application for AUTHORITY TO CONSTRUCT and PERMIT TO OPERATE

Date: 4-29-74   Application Number: ________

An application is required for each operation described in part B of instructions.

1. PERMIT TO BE ISSUED TO: Business license name of Corporation, Company, Individual Owner, Partner, or Governmental Agency.

Fibreboard Corporation

2. MAILING ADDRESS:

P. O. Box 780 Stockton, California 95201

3. ADDRESS AT WHICH THE EQUIPMENT IS TO BE OPERATED: CITY (x) COUNTY ( )

West Church Street, Stockton Ca.

4. GENERAL NATURE OF BUSINESS:

Manufacture of Paperboard, Cartons & Corrugated Containers

5. EQUIPMENT DESCRIPTION: Pursuant to the provisions of the State Health and Safety Code and the Rules and Regulations of the San Joaquin County Air Pollution Control District, application is hereby made for PERMIT TO OPERATE the following equipment:

Boilers #1 - B & W 2-drum Sterling Design capacity: 95,000 lb. steam/hr-475 lb, 720°F.
Operation: 24/hr., 7/day, 360 day/yr.
Fuel: Natural gas, normal fuel. Fuel Oil (Bunker C, or bunker & distillate mix), standby fuel. Fuel oil is 1%S max. Fuel oil preheated to approximately 265°F for Bunker C (less for distillate mix).
Fuel Burned: Approximately 1300 x 10^5 BTU/hr.

(Continue on additional 8½ x 11 page if space above is insufficient.)

6. TYPE AND ESTIMATED COST OF BASIC EQUIPMENT:

--

7. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:

None required

8. SIGNATURE OF APPLICANT: [signature]   TITLE OF SIGNER: Plant Engineer

9. TYPE OR PRINT NAME OF SIGNER:

NAME: P. I. Epperson   TELEPHONE NO.: 466-5251

Validation (A.P.C.D.) use only

Date Application Received: Fee Schedule Number:

Filing Fee:$ Permit Fee:$

SAN JOAQUIN COUNTY AIR POLLUTION CONTROL DISTRICT
1601 E. Hazelton Avenue, P. O. Box 2009, Stockton, California 95201
Telephone: (209) 466-6781

Application for AUTHORITY TO CONSTRUCT and PERMIT TO OPERATE

Date: 4-29-74 Application Number:

An application is required for each operation described in part B of instructions.

1. PERMIT TO BE ISSUED TO: Business license name of Corporation, Company, Individual Owner, Partner, or Governmental Agency.

Fibreboard Corporation

2. MAILING ADDRESS:

P.O. Box 780 Stockton, California 95201

3. ADDRESS AT WHICH THE EQUIPMENT IS TO BE OPERATED: CITY (x) COUNTY ( )

West Church Street - Stockton, Ca.

4. GENERAL NATURE OF BUSINESS:

Manufacture of Paperboard, Cartons and Corrugated Containers

5. EQUIPMENT DESCRIPTION: Pursuant to the provisions of the State Health and Safety Code and the Rules and Regulations of the San Joaquin County Air Pollution Control District, application is hereby made for PERMIT TO OPERATE the following equipment:

Boiler #2 - B & W 2-drum Sterling Design capacity: 95,000 lb. steam/hr-475 lb, 720°F.
Operation: 24/hr., 7/day, 360 day/yr.
Fuel: Natural Gas, normal fuel, Fuel Oil (Bunker C, or bunker & distillate mix), standby fuel. Fuel Oil is 1%S max. Fuel oil preheated to approximately 265°F for Bunker C (less for distillate mix).
Fuel Burned: Approximately 1300 x 10^5 BTU/hr.

(Continue on additional 8½ x 11 page if space above is insufficient.)

6. TYPE AND ESTIMATED COST OF BASIC EQUIPMENT:

7. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:

None required.

8. SIGNATURE OF APPLICANT: TITLE OF SIGNER:

P. I. Epperson Plant Engineer

9. TYPE OR PRINT NAME OF SIGNER:

NAME: P. I. Epperson TELEPHONE NO.: 466-5251

Validation (A.P.C.D.) use only

Date Application Received: Fee Schedule Number:

Filing Fee:$ Permit Fee:$

ERC Application Evaluation
Project #: 970384
Application #'s: N-130-1, N-130-2, N-130-3, N-130-4 & N-130-5

Engineer: Mark Schonhoff
Date: February 3, 1998

Company Name: Newark Sierra Paperboard
Mailing Address: 800 W. Church Street
Stockton, CA 95203

Contact Name: Mark Vincent
Phone: (209) 466-7088

Date Application Received: June 16, 1997
Date Application Deemed Complete: June 30, 1997

I. Summary:

The applicant is proposing to receive emission reduction credits (ERC's) for reductions that occurred as a result of retrofitting two boilers with low-NOx burners and reducing their permitted potential to burn #6 fuel oil. The bankable emission reductions, as shown in this analysis, are:

	NOx (lb)	CO (lb)	VOC (lb)	SOx (lb)	PM10 (lb)
Quarter 1	124,126	23,307	858	171,443	25,008
Quarter 2	161,756	4,957	1,303	260,514	37,479
Quarter 3	105,334	24,006	694	138,765	20,434
Quarter 4	96,008	32,021	560	111,856	16,666
Total	487,224	84,291	3,415	682,578	99,587

The modifications that resulted in the reductions were performed under District application numbers N-577-3-1 and N-577-4-1. The applicant subsequently applied for, and received Authorities to Construct to discontinue the use of #6 fuel oil and to lower the CO emission limits. Those reductions will not be considered in this application.

II. Applicable Rules:

Rule 2201: New and Modified Stationary Source Review (June 15, 1995)
Rule 2301: Emission Reduction Credit Banking (December 17, 1992)

III. Location Of Reductions:

800 W. Church Street
Stockton, CA

IV. Method Of Generating Reductions:

Installation of low-NOx burners and reductions in the quantity of #6 fuel oil that may be burned. The modifications were performed under District application numbers N-577-3-1 and N-577-4-1.

V. ERC Calculations:

A. Assumptions and Emission Factors:

Emission Factors:

The derivation of the following emission factors is shown in the application review for the Authorities to Construct that authorized these reductions. The application numbers are N-577-3-1 and N-577-4-1.

	Premodification		Postmodification	
	Natural Gas (lb/MMBtu)	#6 Fuel Oil (lb/MMBtu)	Natural Gas (lb/MMBtu)	#6 Fuel Oil (lb/MMBtu)
NOx	0.21	0.62	0.0365	0.62
CO	0.36	0.033	0.15	0.15
VOC	0.0014	0.005	0.0014	0.005
SOx	0.0006	1.0	0.0006	1.0
PM10	0.005	0.14	0.005	0.11

B. Baseline Period Determination and Data:

Per District Policy NSR/ERC 10-1 the baseline period will be the two years immediately prior to the Authority to Construct (ATC) application for the modification that resulted in the reductions. The application was received on December 5, 1991. Since ERC's are issued on a quarterly basis the baseline period will be the 8 complete calendar quarters immediately preceding the ATC application. That period is the fourth quarter of 1989 through the third quarter of 1991.

Baseline period fuel usages:

The fuel usages are from table 3-1 of the application for ATC's N-577-3-1 & N-577-4-1.

Natural Gas:

	Qtr. 1 natural gas (therms)	Qtr 2 natural gas (therms)	Qtr 3 natural gas (therms)	Qtr 4 natural gas (therms)
1989	------	------	------	28,784
1990	17,736	72	1,958,831	3,386,562
1991	2,266,740	30,397	513,850	------
Average	1,142,238	15,235	1,236,341	1,707,673

Fuel Oil:

	Qtr. 1 fuel oil (therms)	Qtr 2 fuel oil (therms)	Qtr 3 fuel oil (therms)	Qtr 4 fuel oil (therms)
1989	------	------	------	3,231,592
1990	3,415,713	3,354,455	1,107,234	0
1991	1,140,048	3,180,669	2,722,350	------
Average	2,277,881	3,267,562	1,914,792	1,615,796

For the purpose of matching the emission factor units with the fuel usage units the fuel usage's will be converted from therms to MMBtu utilizing the conversion factor of 100,000 BTU/therm (0.1 MMBtu/therm).

Natural Gas:

Qtr. 1: (1,142,238 therms)(0.1 MMBtu/therm) = 114,223.8 MMBtu
Qtr. 2: (15,235 therms)(0.1 MMBtu/therm) = 1,523.5 MMBtu
Qtr. 3: (1,236,341 therms)(0.1 MMBtu/therm) = 123,634.1 MMBtu
Qtr. 4: (1,707,673 therms)(0.1 MMBtu/therm) = 170,767.3 MMBtu

Fuel Oil:

Qtr. 1: (2,277,881 therms)(0.1 MMBtu/therm) = 227,788.1 MMBtu
Qtr. 2: (3,267,562 therms)(0.1 MM Btu/therm) = 326,756.2 MMBtu
Qtr. 3: (1,914,792 therms)(0.1 MMBtu/therm) = 191,479.2 MMBtu
Qtr. 4: (1,615,796 therms)(0.1 MMBtu/therm) = 161,579.6 MMBtu

C. Historical Actual Emissions:

Quarter 1:

HAE (Natural Gas)

NOx: (114,223.8 MMBtu)(0.21 lb/MMBtu) = 23,987 lb
CO: (114,223.8 MMBtu)(0.36 lb/MMBtu) = 41,121 lb
VOC: (114,223.8 MMBtu)(0.0014 lb/MMBtu) = 160 lb
SOx: (114,223.8 MMBtu)(0.0006 lb/MMBtu) = 69 lb
PM10: (114,223.8 MMBtu)(0.005 lb/MMBtu) = 571 lb

HAE (Fuel Oil):

NOx: (227,788.1 MMBtu)(0.62 lb/MMBtu) = 141,229 lb
CO: (227,788.1 MMBtu)(0.033 lb/MMBtu) = 7,517 lb
VOC: (227,788.1 MMBtu)(0.005 lb/MMBtu) = 1,139 lb
SOx: (227,788.1 MMBtu)(1.0 lb/MMBtu) = 227,788 lb
PM10: (227,788.1 MMBtu)(0.14 lb/MMBtu) = 31,890 lb

Quarter 2

HAE (Natural Gas)

NOx: (1,523.5 MMBtu)(0.21 lb/MMBtu) = 320 lb
CO: (1,523.5 MMBtu)(0.36 lb/MMBtu) = 548 lb
VOC: (1,523.5 MMBtu)(0.0014 lb/MMBtu) = 2 lb
SOx: (1,523.5 MMBtu)(0.0006 lb/MMBtu) = 1 lb
PM10: (1,523.5 MMBtu)(0.005 lb/MMBtu) = 8 lb

HAE (Fuel Oil):

NOx: (326,756.2 MMBtu)(0.62 lb/MMBtu) = 202,589 lb
CO: (326,756.2 MMBtu)(0.033 lb/MMBtu) = 10,783 lb
VOC: (326,756.2 MMBtu)(0.005 lb/MMBtu) = 1,634 lb
SOx: (326,756.2 MMBtu)(1.0 lb/MMBtu) = 326,756 lb
PM10: (326,756.2 MMBtu)(0.14 lb/MMBtu) = 45,746 lb

Quarter 3:

HAE (Natural Gas):

NOx: (123,634.1 MMBtu)(0.21 lb/MMBtu) = 25,963 lb
CO: (123,634.1 MMBtu)(0.36 lb/MMBtu) = 44,508 lb
VOC: (123,634.1 MMBtu)(0.0014 lb/MMBtu) = 173 lb
SOx: (123,634.1 MMBtu)(0.0006 lb/MMBtu) = 74 lb
PM10: (123,634.1 MMBtu)(0.005 lb/MMBtu) = 618 lb

HAE (Fuel Oil):

NOx: (191,479.2 MMBtu)(0.62 lb/MMBtu) = 118,717 lb
CO: (191,479.2 MMBtu)(0.033 lb/MMBtu) = 6,319 lb
VOC: (191,479.2 MMBtu)(0.005 lb/MMBtu) = 957 lb
SOx: (191,479.2 MMBtu)(1.0 lb/MMBtu) = 191,479 lb
PM10: (191,479.2 MMBtu)(0.14 lb/MMBtu) = 26,807 lb

Quarter 4:

NOx: (170,767.3 MMBtu)(0.21 lb/MMBtu) = 35,861 lb
CO: (170,767.3 MMBtu)(0.36 lb/MMBtu) = 61,476 lb
VOC: (170,767.3 MMBtu)(0.0014 lb/MMBtu) = 239 lb
SOx: (170,767.3 MMBtu)(0.0006 lb/MMBtu) = 102 lb
PM10: (170,767.3 MMBtu)(0.005 lb/MMBtu) = 854 lb

HAE (Fuel Oil):

NOx: (161,579.6 MMBtu)(0.62 lb/MMBtu) = 100,179 lb
CO: (161,579.6 MMBtu)(0.033 lb/MMBtu) = 5,332 lb
VOC: (161,579.6 MMBtu)(0.005 lb/MMBtu) = 808 lb
SOx: (161,579.6 MMBtu)(1.0 lb/MMBtu) = 161,580 lb
PM10: (161,579.6 MMBtu)(0.14 lb/MMBtu) = 22,621 lb

D. Actual Emission Reductions (AER):

Newark Sierra has installed control devices to control emissions while firing on natural gas. They have also reduced #6 fuel oil combustion contaminant emissions by reducing it's use. AERs will be calculated utilizing the following equations:

AER (natural gas): HAE X CE (District rule 2201 section 6.5.3)

AER(#6 fuel oil): HAE - PE (District rule 2201 section 6.5.1)

Where:

- HAE is the historical actual emissions calculated in section V.C of this document

- CE is the control efficiency and is calculated utilizing the following equation:

  $CE = (EF_1 - EF_2) \div EF_1$ Where:

  - EF_1 is the premodification EF

  - EF_2 is the postmodification EF

    CE(NOx) = (0.21 - 0.0365) ÷ (0.21) = 0.826
    CE(CO) = (0.36 - 0.15) ÷ (0.36) = 0.583
    CE(VOC) = (0.0014 - 0.0014) ÷ (0.0014) = 0.0
    CE(SOx) = (0.0006 - 0.0006) ÷ (0.0006) = 0.0
    CE (PM10) = (0.005 - 0.005) ÷ (0.005) = 0.0

- PE is the potential to emit while firing on #6 fuel oil

  Newark Sierra stated in the application for the ATC's authorizing these reductions that they wished to retain the right to burn #6 fuel oil seven days per year. It was not known which quarter the fuel oil would be burned in, therefore, the ATC's were conditioned such that #6 fuel oil could be burned for seven days per calendar quarter. The AER's will therefore be adjusted to reflect seven days per calendar quarter of #6 fuel oil usage.

  The potential fuel oil usage, for each boiler, as limited by the PTO's is 2,664 MMBtu/day. Therefore, the combined quarterly potential to emit of the boilers, while operating on #6 fuel oil is:

NOx: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.62 lb/MMBtu) = 23,124 lb/qtr
CO: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.15 lb/MMBtu) = 5,594 lb/qtr
VOC: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.005 lb/MMBtu) = 186 lb/qtr
SOx: (7 days/qtr)[(2)(2,664 MMBtu/day)](1.0 lb/MMBtu) = 37,296 lb/qtr
PM10: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.11 lb/MMBtu) = 4,103 lb/qtr

AER's:

Quarter 1:

NOx: (23,987 lb)(0.826) + (141,229 lb - 23,124 lb) = 137,918 lb
CO: (41,121 lb)(0.583) + (7,517 lb - 5,594 lb) = 25,897 lb
VOC: (160 lb)(0.0) + (1,139 lb - 186 lb) = 953 lb
SOx: (69 lb)(0.0) + (227,788 lb - 37,296 lb) = 190,492 lb
PM10: (571 lb)(0.0) + (31,890 lb - 4,103 lb) = 27,787 lb

Quarter 2

NOx: (320 lb)(0.826) + (202,589 lb - 23,124 lb) = 179,729 lb
CO: (548 lb)(0.583) + (10,783 lb - 5,594 lb) = 5,508 lb
VOC: (2 lb)(0.0) + (1,634 lb - 186 lb) = 1,448 lb
SOx: (1 lb)(0.0) + (326,756 lb - 37,296 lb) = 289,460 lb
PM10: (8 lb)(0.0) + (45,746 lb - 4,103 lb) = 41,643 lb

Quarter 3:

NOx: (25,963 lb)(0.826) + (118,717 lb - 23,124 lb) = 117,038 lb
CO: (44,508 lb)(0.583) + (6,319 lb - 5,594 lb) = 26,673 lb
VOC: (173 lb)(0.0) = 0.0 lb + (957 lb - 186 lb) = 771 lb
SOx: (74 lb)(0.0) = 0.0 lb + (191,479 lb - 37,296 lb) = 154,183 lb
PM10: (618 lb)(0.0) + (26,807 lb - 4,103 lb) = 22,704 lb

Quarter 4:

NOx: (35,861 lb)(0.826) + (100,179 lb - 23,124 lb) = 106,676 lb
CO: (61,476 lb)0.583) + (5,332 lb -5,594 lb) = 35,579 lb
VOC: (239 lb)(0.0) = 0.0 lb + (808 lb - 186 lb) = 622 lb
SOx: (102 lb)(0.0) = 0.0 lb + (161,580 lb - 37,296 lb) = 124,284 lb
PM10: (854 lb)(0.0) = 0.0 lb + (22,621 lb - 4,103 lb) = 18,518 lb

Summary of AER's:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	137,918	179,729	117,038	106,676
CO	25,897	5,508	26,673	35,579
VOC	953	1,448	771	622
SOx	190,492	289,460	154,183	124,284
PM10	27,787	41,643	22,704	18,518

E. Air Quality Improvement Deduction:

Per District rule 2201, section 6.5, a 10% air quality improvement deduction must be applied to the AER's prior to banking. The air quality improvement deductions are as follows:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	13,792	17,973	11,704	10,668
CO	2,590	551	2,667	3,558
VOC	95	145	77	62
SOx	19,049	28,946	15,418	12,428
PM10	2,779	4,164	2,270	1,852

F. Increase In Permitted Emissions:

No IPE associated with this project.

G. Bankable Emissions Reductions:

The bankable emission reductions are equal to the AER's minus the air quality improvement deduction.

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	124,126	161,756	105,334	96,008
CO	23,307	4,957	24,006	32,021
VOC	858	1,303	694	560
SOx	171,443	260,514	138,765	111,856
PM10	25,008	37,479	20,434	16,666

VI. Compliance:

A. Real Reductions:

The reductions were generated by replacing the burners and reducing the quantity of fuel oil that could be burned. The burners have been replaced and source testing showed the reductions have occurred. The Permits to Operate (PTO's) for these units restrict the fuel oil usage to seven days per calendar quarter. Should the facility burn more fuel oil than allowed by the permit then enforcement action would occur. Therefore the reductions are real.

B. Enforceable Reductions:

The Permits to Operate include enforceable emission and fuel oil usage limits, which if complied with, will ensure the reductions are continuing to occur. Should the required source testing show the limits are being exceeded, or if the fuel oil usage exceeds the permitted quantities enforcement action would be taken. Therefore the reductions are enforceable.

C. Quantifiable Reductions:

The reductions were calculated utilizing actual baseline period fuel usage and emissions factors which were derived from source testing or EPA document AP-42. Therefore, the reductions are quantifiable.

D. Permanent Reductions:

The PTO's include emission concentration and fuel usage limits. Should increases in emission concentration or fuel oil usage be required then the facility would be required to apply to the District for an ATC. The application would be subject to New Source Review, which would ensure that the reductions continue to occur. Therefore, the reductions are permanent.

E. Surplus Reductions:

The applications for the ATC's authorizing these reductions were received and deemed complete on December 10, 1991, and the District's Air Quality Attainment Plan was adopted on January 30, 1992. The boiler control measure (District rule 4305) was not placed on the District list of control measures until August 27, 1992. Therefore, per District rule 2201, section 6.2.1, no discounting of the HAE's is required. Therefore, the reductions are surplus.

F. Timeliness:

For each boiler, the reductions occurred on March 27, 1997, which is the date that the ATC's were converted to PTO's. The ERC application was received on June 16, 1997 which is less than 180 days after the reductions occurred. Therefore the application was timely.

VII. Recommendation:

Issue Emission Reduction Credit Certificates to Newark Sierra for NOx, CO, VOC, SOx and PM10 reductions in the following amounts:

	NOx (lb)	CO (lb)	VOC (lb)	SOx (lb)	PM10 (lb)
Quarter 1	124,126	23,307	858	171,443	25,008
Quarter 2	161,756	4,957	1,303	260,514	37,479
Quarter 3	105,334	24,006	694	138,765	20,434
Quarter 4	96,008	32,021	560	111,856	16,666
Total	487,224	84,291	3,415	682,578	99,587

It is further recommended that at the time that the ERC's are issued that each emission concentration limit and the fuel oil usage limits be modified such that they state that they are for the purpose of enforcing ERC's.

√ NORTHERN REGION
__ CENTRAL REGION
__ SOUTHERN REGION

ERC/PUBLIC NOTICE CHECK LIST

PROJECT# 970384 MODEMED FILE NAME: NEW70384.PBC

√ REQST.	√ COMPL.	
__	__	ERC TRANSFER OF PREVIOUSLY BANKED CREDITS
X	__	ERC PRELIMINARY PUBLIC NOTICE
__	__	ERC FINAL PUBLIC NOTICE
__	__	NSR/CEQA PRELIMINARY PUBLIC NOTICE
__	__	NSR/CEQA FINAL PUBLIC NOTICE

ENCLOSED DOCUMENTS REQUIRE:

√ __ Enter Correct Date, Print All Documents from MODEMED File and Obtain Directors Signature

X __ Send **Preliminary** Notice Letters to CARB, EPA and Applicant; Including the Following Attachments:
X Application Evaluation
X Other: Preliminary Public Notice

√ __ Send ***Preliminary*** Public Notice for Publication to The Record

√ __ Send Signed Copies of ***Preliminary*** Notice Letters to Regional Office Attn: Anthony Mendes

__ __ Director's Signature and District Seal Embossed on ERC Certificates

__ __ Director's Signature on Cover Letter and Mail Cover Letter & ERC Certificates by Certified Mail to:
__ Applicant:________________
__ Applicant and Additional Addressees (see cover letters)

__ __ Send Copies of Signed and Seal Embossed ERC Certificates and Signed cover letter to Regional Office Attn: Anthony Mendes

__ __ Other Special Instructions (please specify)________________

Date Completed ____________/By____________

Date Added to Seyed's Directory:________________
Upon Completion FAX to Regional Office Attn: Mark Schonhoff

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To Brenda A.	From Mark S.
Co. Central	Co. Northern
Dept. Region	Phone # Region
Fax # 3rd Floor	Fax #

Newark Sierra Paperboard Corp.
800 West Church Street
Stockton, CA 95203
209/466-5251
Fax 209/942-1214
A Newark Group, Inc. Company
Products from Recycled Fibers
THE NEWARK GROUP

June 9, 1997

RECEIVED
JUN 16 1997
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

Mr. Mark Schonhoff
San Joaquin Valley Unified Air Pollution Control District
4230 Kiernan Avenue, Suite # 130
Modesto, California 95356

Subject: Newark Sierra Paperboard Corporation
Application for Emission Reduction Credit Banking For Credits Available from the Implementation of Authority to Construct Permits N-577-3-1 and N-577-4-1

Dear Mr. Schonhoff:

Enclosed is an application package for Emission Reduction Credit Banking for credits available from the implementation of Authority to Construct Permits N-577-3-1 and N-577-4-1 for boilers # 1 and 2, respectively. Included are the following items:

1. SJVUAPCD Application Form For Emission Reduction Credits
2. Calculations of Actual Emission Reductions Modified From the Engineering Evaluation
3. Required $650 filing fee.

Other information that may be necessary to process this Emission Reduction Credit application has been previously submitted in the Application for Authority to Construct dated December 1991. This includes the actual historical fuel usage in Table 3-1. Source test information has also been previously submitted to the SJVUAPCD.

AER calculations completed in the Application Review for the fourth quarter of 1989 through the third quarter of 1991 are appropriate, with the following modifications:

1. New CO emission factor is 0.075 pounds per MMBtu instead of 0.15 pounds per MMBtu as initially proposed

2. Blend No. 6 fuel oil used in the third quarter of 1991 (included in Table 3-1 of the Application for Authority to Construct) has been added to the quantity of Kern No. 6 fuel oil used in the Engineering Evaluation.

3. Natural gas only will be used. Fuel oil will not be used as secondary fuel.

If you have any questions regarding this application, please contact our consultant, Ms. Wilma Dreessen of Brown and Caldwell, at (510) 210-2289 or myself at (209) 466-7088.

Very truly yours,

M X Vincent

Mark Vincent
General Manager

MV:wjd

Enclosures

cc: Todd Lopez, Brown and Caldwell
Wilma Dreessen, Brown and Caldwell
David Wong, Newark Sierra Paperboard Corporation
Mike Rogge, Newark Sierra Paperboard Corporation
John Lennert, Newark Sierra Paperboard Corporation

San Joaquin Valley
Unified Air Pollution Control District

APPLICATION FOR:

[X] EMISSION REDUCTION CREDIT (ERC)
[ ] CONSOLIDATION OF ERC CERTIFICATES
[ ] ERC RE-ISSUE AFTER PARTIAL USE
[ ] ERC TRANSFER OF OWNERSHIP

1. ERC TO BE ISSUED TO:

Newark Sierra Paperboard Corporation

2. MAILING ADDRESS:

Street/P.O. Box: 800 West Church Street

City: Stockton State: CA Zip Code: 95203

3. LOCATION OF REDUCTION:

Street: 800 West Church Street

City: Stockton

4. DATE OF REDUCTION: 1/27/97 (Boiler #2)
3/7/97 (Boiler #1)

5. PERMIT NO(S): N-577-3-1 and N-577-4-1 **EXISTING ERC NO(S):**

6. METHOD RESULTING IN EMISSION REDUCTION:

[ ] SHUTDOWN [ ] RETROFIT [ ] PROCESS CHANGE [X] OTHER

DESCRIPTION:

Installation of low NOx burners and elimination of fuel oil usage.

(Use additional sheets if necessary)

7. REQUESTED ERCs (In Pounds Per Calendar Quarter):

	VOC	NOx	CO	PM10	SOx	OTHER
1st QTR	1,139	161,042	40,085	31,890	227,788	
2nd QTR	1,634	202,854	11,217	45,746	326,756	
3rd QTR	957	140,229	41,569	26,807	191,479	
4th QTR	808	129,800	54,020	22,621	161,580	
TOTAL COST	$	$	$	$	$	$

8. SIGNATURE OF APPLICANT: Mark Vincent

TYPE OR PRINT TITLE OF APPLICANT: General Manager

9. TYPE OR PRINT NAME OF APPLICANT: Mark Vincent

DATE: 5/30/97

TELEPHONE NO: (209) 466-7088

FOR APCD USE ONLY:

DATE STAMP
RECEIVED
JUN 16 1997
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

FILING FEE RECEIVED: $ ~~25~~ 650.00

DATE PAID: 6/16/97 ck# 080787

PROJECT NO.: 970384

577

Calculations
From
Application Review

3. Actual Emission Reductions (AER):

AER = (HAE X CE) where: HAE = (EF)(Fuel Usage)

Table Of Quarterly Average HAE's

Qtr	Natural Gas Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Natural Gas HAE (lb/Qtr)	Fuel Oil Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Fuel Oil HAE (lb/Qtr)
1	1,142,238 (114,223.8 X 10^6)	NOx: 23,987 SOx: 69 CO: 41,121 NMHC: 160 PM10: 571	2,277,880 (227,788.0 X 10^6)	NOx: 141,229 SOx: 227,788 CO: 7,517 NMHC: 1,139 PM10: 31,890
2	15,234 (1,523.4 X 10^6)	NOx: 320 SOx: 1 CO: 548 NMHC: 2 PM10: 8	3,267,562 (326,756.2 X 10^6)	NOx: 202,589 SOx: 326,756 CO: 10,783 NMHC: 1,634 PM10: 45,746
3	1,236,341 (123,634.1 X 10^6)	NOx: 25,963 SOx: 74 CO: 44,508 NMHC: 173 PM10: 618	~~1,833,790~~ ~~(183,379.0 X 10^6)~~ OK 1,914,7~~8~~92 191,479.2 (See Table 3-1 of application)	NOx: 113,695 SOx: 183,379 CO: 6,052 NMHC: 917 PM10: 25,673
4	1,707,673 (170,767.3 X 10^6)	NOx: 35,861 SOx: 102 CO: 61,476 NMHC: 239 PM10: 854	1,615,796 161,579.6 X 10^6)	NOx: 100,179 SOx: 161,580 CO: 5,332 NMHC: 808 PM10: 22,621

Baseline period is the forth quarter of 1989 through the third quarter of 1991.

Newark Sierra will be installing a control device to control emissions while firing on natural gas. They will be reducing #6 fuel oil combustion contaminant emissions by reducing it's use. Therefore AER will be calculated utilizing the following equations:

AER (Natural Gas): HAE * CE (Rule 2201 Section 6.5.2)

AER (#6 Fuel Oil): HAE-PE (Rule 2201 Section 6.5.1)

No. fuel oil can or will be used. DKWong

Newark Sierra has stated that they wish to retain the right to burn #6 fuel oil seven days per year for emergency purposes (application package, Section 4). It is not known which quarter the fuel oil will be burned in therefore all four quarters will be corrected to reflect seven days of fuel oil usage.

PE for 7 days of oil use in both boilers combined is:

BTU Rating: Each boiler will be limited to 2664 MMBTU/day of #6 fuel oil usage therefore the combined allowable #6 fuel oil usage, for both boilers combined, will be 5328 MMBTU/day.

PE_{NOx}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.62 lb/MMBTU) = 23,123.5 lb/qtr
PE_{SOx}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(1.0 lb/MMBTU) = 37,296.0 lb/qtr
PE_{CO}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.15 lb/MMBTU) = 5,594.4 lb/qtr
PE_{NMHC}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.005 lb/MMBTU) = 186.5 lb/qtr
PE_{PM10}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.11 lb/MMBTU) = 4102.6 lb/qtr

AER = $(HAE * CE)_{Nat.Gas}$ + $(HAE - PE)_{\#6\ Fuel\ Oil}$

Quarter 1:
AER (NOx) = (23,987 lb)(0.826) + (141,229 lb) ~~- 23,123.5 lb) = 137,919 lb~~ = 161,042 lb
AER (SOx) = (69 lb)(0) + (227,788 lb) ~~- 37,296.0 lb) = 190,492 lb~~ = 227,788 lb
AER (CO) = (41,121 lb)(~~0.583~~ 0.792*) + (7,517 lb) ~~- 5,594.4 lb) = 25,896 lb~~ = 40,085 lb
AER (NMHC) = (160 lb)(0) + (1,139 lb) ~~- 186.5 lb) = 953 lb~~ = 1,139 lb
AER (PM10) = (571 lb)(0) + (31,890 lb) ~~- 4,102.6 lb) = 27,787 lb~~ = 31,890 lb

Quarter 2:
AER (NOx) = (320 lb)(0.826) + (202,589 lb ~~- 23,123.5 lb) = 179,730 lb~~ = 202,854 lb
AER (SOx) = (1 lb)(0) + (326,756 lb) ~~- 37,296.0 lb) = 289,460 lb~~ = 326,756 lb
AER (CO) = (548 lb)(~~0.583~~ 0.792*) + (10,783 lb) ~~- 5,594.4 lb) = 5,508 lb~~ = 11,217 lb
AER (NMHC) = (2 lb)(0) + (1,634 lb) ~~- 186.5 lb) = 1,448 lb~~ = 1,634 lb
AER (PM10) = (8 lb)(0) + (45,746 lb) ~~- 4,102.6 lb) = 41,643 lb~~ = 45,746 lb

* Δ CE for CO = $\frac{0.36 - 0.075}{0.36}$ = 0.792

Quarter 3: (118,717 lb)[b]
AER (NOx) = (25,963 lb)(0.826) + ~~(113,695 lb) - 23,123.5 lb) = 112,017 lb~~ = 140,162 lb
AER (SOx) = (74 lb)(0) + (191,479 lb)[b] ~~(183,379 lb) - 37,296.0 lb) = 146,083 lb~~ = 191,479 lb
AER (CO) = (44,508 lb)(0.792)[a] ~~(0.583)~~ + (6,219 lb)[b] ~~(6,052 lb) - 5,594.4 lb) = 26,406 lb~~ = 41,569 lb
AER (NMHC) = (173 lb)(0) + (957 lb)[b] ~~(917 lb) - 186.5 lb) = 731 lb~~ = 957 lb
AER (PM10) = (618 lb)(0) + (26,807 lb)[b] ~~(25,673) - 4,102.6 lb) = 21,570 lb~~ = 26,807 lb

Quarter 4:
AER (NOx) = (35,861 lb)(0.826) + (100,179 lb) ~~- 23,123.5 lb) = 106,677 lb~~ = 129,800 lb
AER (SOx) = (102 lb)(0) + (161,580 lb) ~~- 37,296.0 lb) = 124,284 lb~~ = 161,580 lb
AER (CO) = (61,476 lb)(0.792)[a] ~~(0.583)~~ + (5,332 lb) ~~- 5,594.4 lb) = 35,578 lb~~ = 54,020 lb
AER (NMHC) = (239 lb)(0) + (808 lb) ~~- 186.5 lb) = 622 lb~~ = 808 lb
AER (PM10) = (854 lb)(0) + (22,621) ~~- 4,102.6 lb) = 18,518 lb~~ = 22,621 lb

Summery Of AER's:

	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)
NOx	137,919	179,730	112,017	106,677
SOx	190,492	289,460	146,083	124,284
CO	25,896	5,508	26,406	35,578
NMHC	953	1,448	731	622
PM10	27,787	41,643	21,570	18,518

see Application for ERC's Part 7 for Requested AER table

a ΔCE for CO = $\frac{0.36 - 0.075}{0.36} = 0.792$

b Fuel oil usage correction in third quarter of 1991.

San Joaquin Valley
Unified Air Pollution Control District

COPY

June 30, 1997

Newark Sierra Paperboard
Attn: Mark Vincent
800 W. Church Street
Stockton, CA 95203

**Re: Notice of Receipt of Complete Application - Emission Reduction Credits
Project Number: 970384**

Dear Mr. Vincent:

The District has completed a preliminary review of your application for Emission Reduction Credits (ERCs) resulting from the boiler modifications at 800 W. Church Street in Stockton, CA.

Based on this preliminary review, the application appears to be complete. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

Please be advised that ERCs cannot be issued for the reductions that occurred as a result of the discontinued use of fuel oil, or for the reductions in CO emissions down to 0.075 lb/MMBtu. This is because those emission reductions resulted from the modifications authorized by Authorities to Construct (ATCs) N-577-3-1 and N-577-4-1 which allowed the use of fuel oil and CO emissions of 0.15 lb/MMBtu. You may however submit a separate application for the actual emission reductions that will occur as a result of the January 15, 1997 application to discontinue the use of fuel oil and to reduce the CO emissions to 0.075 lb/MMbtu. In that case the baseline period will be the two year period immediately preceding that ATC application.

Pursuant to District Rule 3010, section 3.0, your application may be subject to an hourly Engineering Evaluation Fee. If the applicable fees exceed the submitted application filing fee, the District will notify you at the conclusion of our review.

Thank you for your cooperation. Should you have any questions, please contact Mr. Anthony Mendes at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

Anthony J. Mendes
Permit Services Manager

MJS

cc: Brown and Caldwell
Attn: Wilma Dreesen
3480 Buskirk Avenue
Pleasant Hill 94523

PROOF of PUBLICATION

NOTICE

Post-it® Fax Note 7671	Date 11-19-98 # of pages ▶ 1
To Mark Schonhoff	From Cheryl Lawler
Co./Dept. North	Co. Central
Phone #	Phone #
Fax #	Fax #

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN } ss.

THE UNDERSIGNED SAYS:

I am a citizen of the United States and a resident of San Joaquin County; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE RECORD, a newspaper of general circulation, printed and published daily in the City of Stockton, County of San Joaquin and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Joaquin, State of California, under the date of February 25, 1952, File Number 52857, San Joaquin County Records; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates,

to-wit: November 10

all in the year 19 98

I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 10, 1998

at Stockton, California

Stella Hernandez

Signature

L1457 November 10

NOTICE OF FINAL ACTION FOR THE ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

All comments received following the District's preliminary decision on this project were considered.

The application review for Project #970384 is available for public inspection at the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.

L1457 November 10

NOTICE OF FINAL ACTION FOR THE ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

All comments received following the District's preliminary decision on this project were considered.

The application review for Project #970384 is available for public inspection at the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.

RECEIVED
NOV 09 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

Mark please call for corrections you have
Thanks
Margaret 943-0253

COPY

San Joaquin Valley
Unified Air Pollution Control District

RECEIVED
FEB 17 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

February 10, 1998

Newark Sierra Paperboard Corporation
Attn: Mark Vincent
800 W. Church Street
Stockton, CA 95203

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Vincent:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/ba
Enclosures

c: Anthony Mendes, Permit Services Manager

San Joaquin Valley
Unified Air Pollution Control District

February 10, 1998

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Menebroker:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

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If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/ba
Enclosures
c: Anthony Mendes, Permit Services Manager

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • Fax (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • Fax (209) 545-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

San Joaquin Valley
Unified Air Pollution Control District

February 10, 1998

Matt Haber, Chief
Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Haber:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:/MJS/ba
Enclosures

c: Anthony Mendes, Permit Services Manager

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • Fax (209) 233-2057

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(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

San Joaquin Valley Unified Air Pollution Control District	**Fax Transmittal** **Pages: 2**

Date: FEBRUARY 10, 1997

To: **Margaret (Legal Advertisement)**

The Record of SJ County (943-8560)

From: Brenda Alipaz

Re: NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISISON REDUCTION CREDITS **PROJECT #970384**

Please complete the followng instructions:

- PUBLISH FOR <u>**ONE DAY ONLY**</u> BY: FEBRUARY 13, 1998

FAX PROOF OF NOTICE TO: MARK SCHONHOFF
PERMIT SERVICES
(209) 545-8652

- BILLING ADDRESS: San Joaquin Valley Unified APCD
1999 Tuolumne Street-Suite 200
Fresno, CA 93721
Attn: Administrative Services
Phone: (209) 497-1000

Thank you for your cooperation.

The Record

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERC's) to Newark Sierra Paperboard Corporation for the retrofit of two boilers with low-NOx burners and the reduced use of #6 fuel oil, at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

The analysis of the regulatory basis for this proposed action, Project #970384, is available for public inspection at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

Newark Sierra Paperboard Corp.
800 West Church Street
Stockton, CA 95203
209/466-5251
Fax 209/942-1214
A Newark Group, Inc. Company
Products from Recycled Fibers

THE NEWARK GROUP

FAX
(209) 545-8652

RECEIVED
JAN 10 1996
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

January 10, 1996

Mark Schonhoff
San Joaquin Valley Unified
Air Pollution Control District

Dear Mark,

Re: Authority to Construct and Air Emission Credits

I would appreciate it if you would confirm back to me in writing that my understanding of our conversation today (listed below) is correct.

Because Newark Sierra filed an ATC before the time that the tighter low NOx standards were approved, we will be able to bank the air emission credits if we use the technology that we proposed at that time. If we should decide to utilize an entirely different method such as selective catalytic reduction rather than a low NOx burner installation, we would only be able to bank those air emission credits for the reduction below 30 ppm.

If you could FAX me your response, it would be appreciated.

Sincerely,

Mike

Michael J. Rogge

San Joaquin Valley
Unified Air Pollution Control District

COPY

January 16, 1995

Newark Sierra Paperboard Corp.
Attn: Mike Rogge
800 W. Church Street
Stockton, CA 95203

RE: Emission Reduction Credit Eligibility

Dear Mr. Rogge:

The District has received your letter dated January 10, 1996 and offers the following response:

Ninety percent of the actual NOx and CO reductions authorized by Authority to Construct Permits (ATCs) N-577-3-1 and N-577-4-1 are eligible for banking. These reductions are eligible for banking because the applications for the ATCs authorizing the method of reductions were deemed complete prior to the date of adoption of the California Clean Air Act Plan.

Should another method of achieving the NOx and CO reductions be chosen then ATCs authorizing that method of reduction would be required. These new applications would not be deemed complete prior to the date that the regulatory measure (District rule 4305) was placed on the District's list of scheduled control measures (8/27/92) and only ninety percent of the NOx and CO reductions in excess of those required by District rule 4305 would be eligible for banking.

Ninety percent of any VOC, SOx or PM10 reductions that actually occur as a result of an alternate method of NOx and CO control are eligible for banking at this time.

David L. Crow
Executive Director/Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721 • (209) 497-10[illegible]

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • Fax (209) 545-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA [illegible]
(209) 497-1000 • Fax (209) 233-2057

Southern Region
[illegible] Suite 275 • Bakersfield, CA 93301
[illegible] • Fax (805) 861-2060

Should you have any questions please contact Mark Schonhoff at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director Of Permit Services

Anthony Mendes
Permit Services Manager - Northern Region

SS/AM/MJS

BROWN AND CALDWELL

May 26, 1998

FAX TRANSMITTAL COVER SHEET

PLEASE DELIVER THE FOLLOWING PAGES TO:

Name:	Mark Schonhoff	**Company:**	San Joaquin Unified Air Pollution Control District
City/State:	Modesto, CA	**FAX No:**	(209) 545-8652

THIS TRANSMITTAL IS BEING SENT FROM:

Name:	Wilma Dreessen	**Return originals:**	Yes ☒	No ☐
Employee No:	8110	**Stamp:**	Yes ☒	No ☐
Project No:	6090	**Staple:**	Yes ☒	No ☐
Task.G/L:	16.5			

SPECIAL INSTRUCTIONS/REMARKS:

Attached is the request for the engineering evaluation that went to EPA and a request, in advance, for your reponse to the letter from Ed Pike at the EPA. Thank you.

NUMBER OF PAGES BEING TRANSMITTED INCLUDING COVER SHEET: 2

Environmental Engineering And Consulting

Suite 150, 3480 Buskirk Avenue, Pleasant Hill, California 94523-4342
Phone: (510) 937-9010 FAX: (510) 937-9026

FEB-19-98 THU 10:36

P.01/01

RECEIVED
FEB 19 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

PROOF of PUBLICATION

Notice

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN } ss.

THE UNDERSIGNED SAYS:

I am a citizen of the United States and a resident of San Joaquin County; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE RECORD, a newspaper of general circulation, printed and published daily in the City of Stockton, County of San Joaquin and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of San Joaquin, State of California, under the date of February 25, 1952, File Number 52857, San Joaquin County Records; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit: February 13

all in the year 1998

I declare under penalty of perjury that the foregoing is true and correct.
Executed on February 13, 1998
at Stockton, California

Stella Hernandez Signature Stella Hernandez

L0122 February 13
NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERC's) to Newark Sierra Paperboard Corporation for the retrofit of two boilers with low-Nox burners and the reduced use of #6 fuel oil, at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb./yr of VOC, 882,578 lb/yr of SOx and 29,897 lb/yr of PM10. The analysis of the regulatory basis for this proposed action, Project #970384, is available for public inspection at the District office at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to SEYED SADREDIN, DIRECTOR OF PERMIT OF SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.

MARK S.
NORTH
970384
NEWARK

EMISSION REDUCTION CREDIT (ERC)
PRELIMINARY REVIEW WORKSHEET

1\.

ERC to be issued to: Newark Sierra Paperboard

Location of reduction: 800 W. Church St., Stockton

Contact Name: Mark Vincent Phone: (209) 466-7088

2\. Type of ERC source: (a) Permitted point source [X] (b) Un-permitted point source [ ] (c) Area source [ ].

3\. Method resulting in emission reduction:

I. Shutdown [ ]; If permitted source specify permit number(s) of shutdown units: ______

(a) Date of surrender of the operating permit(s): ______; if section a. does not apply state (b) Date last emissions from the source for which ERC are requested: ______

II. Retrofit [X]; If permitted source specify permit number(s) of modified units: boiler permitted under N-577-3-1 & N-577-4-1

(a) ATC application(s) completeness date: 12/10/91; if the ATC is renewed specify date of completeness of renewal application: N/A

III. Process change [ ]; If permitted source specify permit number(s) of modified units: ______

(a) ATC application(s) completeness date: ______; if the ATC is renewed specify date of completeness of renewal application: ______

IV: Other [ ]; specify:

4a. Baseline period:

I. Shutdown: The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding the banking application: ______ quarter of 19____ through ____ quarter of 19____

II. Retrofit/Process change: The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding completeness date of the ATC application: 4th quarter of 1989 through 3rd quarter of 1990.

III. Retrofit/Process change(renewal): The baseline emissions shall be selected from a period as prescribed in Rule 2201 immediately preceding the completeness date of the ATC renewal application: ______ quarter of 19____ through ______ quarter of 19____

4b.	The baseline period selected in section 4a. is (check one): 1. [ ] Two consecutive years of operation immediately prior to the submission of the complete application. 2. [ ] Another time period of at least two consecutive years within five years immediately prior to the submission of the complete application. 3. [X] Other: Specify 8 complete calendar quarters immediately preceding the ATC App. completeness date.
4c.	Baseline period proposed by the applicant if other than specified in section 4a:
5.	Timeliness: I. Shutdown: (a) Date of shutdown *(from section 3)*:______; (b) Date of application:_________ [ ] Within 180 days [ ] Not within 180 days N-577-3-1 ⇒ 3/27/97 N-577-4-1 ⇒ 3/27/97 II. Retrofit/Process change: (a) Date of initial start-up (from Change Order): ________ (b) Date of application: ____ 6/16/97 [X] Within 180 days [ ] Not within 180 days III. Other: Specify
6.	If ERCs requested are from performance based limits, does the PTO has enforceable conditions (see District policy NSR/ERC 21-2)? [ ] Yes [X] No They will during the ERC App.
7.	Is appropriate filing fee paid: [X] Yes [ ] No
8.	

Baseline Period:

Per District Policy NSR/ERC 10 the baseline period is the 2 years immediately preceeding the ATC application for the mod. that resulted in the reductions. The ATC application was received 12/5/91. Since ERC's are issued on a quarterly basis the baseline period will be the 8 complete calendar quarters immediately preceding the ATC app. That period is the 4th qtr. of 1989 through the 3rd qtr. of 1990.

Real -

The reductions were generated by replacing the burners and reducing the quantity of fuel oil that could be burned. The burners have been replaced and source testing showed the reductions have occurred. ~~The~~ #6 fuel oil usage has been stopped. The reductions are real.

Enforceable -

The PTO includes enforceable emission limits which if complied with will ensure the reductions are continuing to occur. Should the required source testing show the limits are being exceeded, or if the fuel oil usage exceed what is allowed enforcement action would result in enforcement action being taken. - Enforceable

Quantifiable –

The reductions were calculated utilizing actual baseline period fuel usages and emission factors derived from source testing or AP-42. – Quantifiable.

Permanent –

The PTO's include emission conc. & fuel oil usage limits. Should increases in emission conc. or fuel oil usage be required the proposal would be subject to NSR. Any reductions that cease to be AER's will have to be offset. – Permanent.

Surplus –

The app. was received 12/10/91 and the clean air act was adopted 1/30/92. The boiler control measure (District Rule 4305) was not placed on the District list until 8/27/92. Therefore per rule 2201, sect 6.2.1 no discounting of the HAE's is required

Timliness: ~~The~~

Change order commencement date.

The reductions occurred 3/27/97 for both boilers. ERC app. was received 6/16/97. ∴ < 180 days – Timely

Notes:

The ATC for the retrofits was applied for in 12/91 & CO emissions of 0.15 lb/MMBtu were proposed. Therefore, for this baseline period reduction down to 0.15 lb/MMBtu can be considered.

To get reductions down to 0.075 another app. may be submitted and the appropriate baseline period used.

- Their note about the #6 fuel oil use in quarter 3 looks correct.

PROJECT ROUTING FORM

PROJECT NUMBER: 970384 FACILITY ID: 577 PERMIT NOs:________

APPLICANT NAME: NEWARK SIERRA PAPERBOARD CORP

PREMISE ADDRESS: 800 WEST CHURCH STREET, STOCKTON

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
B. Application Deemed Complete [ ] Awaiting CB Offsets				
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INIT	DATE
E. Engineering Evaluation Complete		
F. Supervising Engineer Approval		
G. Compliance Division Approval [ ] Not Required		
H. Permit Services Manager Approval		

Director Review: [ ] Not Required [ ] Required

CLERICAL STAFF: Perform tasks as indicated below. Initial and date when completed.

[ ] **PRELIMINARY REVIEW**
[ ] ______ Mail Incompleteness Letter to the Applicant.
[ ] ______ Mail Completeness Letter to the Applicant.
[ ] ______ Mail Intent to Deny Letter to the Applicant **(Certified Mail)**.
[ ] ______ Mail Denial Letter to the Applicant **(Certified Mail)**.

[ ] **PROJECTS NOT REQUIRING PUBLIC NOTIFICATION**

[ ] PRELIMINARY DISPOSITION: [ ] ______ Mail Imminent Denial Letter to the Applicant **(Certified Mail)**.

[ ] FINAL DISPOSITION:
[ ] ______ Mail ATC(s) to Distribution.
[ ] ______ Mail Denial Letter to the Applicant **(Certified Mail)**.

[ ] **PROJECTS REQUIRING PUBLIC NOTIFICATION**

[ ] PRELIMINARY DECISION:
[ ] ______ Deliver Ad to the Newspaper NOT LATER THAN ______
[ ] ______ Mail copies of Cover Letter and Engineering Evaluation to Distribution.

[ ] FINAL DECISION:
[ ] ______ Deliver Ad to the Newspaper NOT LATER THAN ______
[ ] ______ Mail copies of Cover Letter and ATC(s) to Distribution.
[ ] ______ Mail copies of Cover Letter to Distribution.

DISTRIBUTION

[ ] ______ APPLICANT
[ ] ______ ENGINEER
[ ] ______ COMPLIANCE
[ ] ______ PREMISE FILE

[ ] ______ EPA - 75 Hawthorne St., San Francisco, CA 94105 Attn: A-3-4
[ ] ______ ARB - Stationary Source Div. Chief, PO Box 2815, Sacramento, CA 95812
[ ] ______ SJVUAPCD - 1999 Tuolumne St., Fresno, CA 93721 Attn: Seyed Sadredin

[ ] ______ BLDG DEPT ______ [ ] ______ OTHER ______

[ ] ______ FIRE DEPT ______ [ ] ______ SCHOOL ______

TELEPHONE RECORD FORM

Project # 970384

Date/Time/ Initials	Names of All Persons Involved and Conversation Record
2/20/98	MJS spoke w/ Ed Pike of EPA. He asked for documents concerning this proj. to be faxed.
3/2/98	MJS spoke w/ Alex Krichovsky of ~~EPA~~ CARB. He received project.
5/7/98	MJS called Mark Vincent to discuss EPA Response - Issues related to whether the circa 1985 work on the boilers was a mod. per Db of CFR.
5/7/98	MJS called Wilma Dreeson to discuss the 1985 boiler mod. issue. left message.
5/7/98	MJS spoke w/ Wilma Dreeson ~~[illegible]~~ she said she is in the process of going through some documentation she has that should include the info necessary to make that determination said she will fax relevent info.

San Joaquin Valley Unified APCD
Permit Services Division
Applications for Authority to Construct or Emission Reduction Credits
Breakdown of Processing Time

Company Name: Newark Sierra

Facility Id: 577 Project Number: 970384

Project Description: ERC for Boiler Retrofits

Code	Date	Time Spent	Initials
4	6/25/97	1.0	MJS
4	6/26/97	1.5	MJS
8	6/27/97	0.2	MJS
8	6/30/97	0.5	MJS
11,12	12/9/97	4.5	MJS
11,12	12/10/97	3.0	MJS
19	12/10/97	0.5	MJS
12	1/15/98	1.0	MJS
TOTAL			

Activity Code List

01- Pre-Application Meeting (phone)
02- Pre-Application Meeting (in person)
03- Application Log-in
04- Preliminary Review
05- Defficiency Letter
06- Verbal/telephone request for information
07- Billing
08- Completeness Letter
09- Post Application Meetings
10- BACT Determination
11- Emissions Calculations
12- Compliance Determination
13- Project Description, Flow Digram, Equipment Listing
14- Risk Assessment
15- CEQA Review
16- Draft Conditions
17- Prepare ATC
18- Prepare ERC
19- Prepare Preliminary Notice
20- Prepare Final Notice
99- Reworking of Engineering Evaluation

TOTAL BILLING HOURS	

RECEIVED
FEB 10 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

L9122 February 13

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERC's) to Newark Sierra Paperboard Corporation for the retrofill of two boilers with low-Nox burners and the reduced use of #6 fuel oil, at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb./yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

The analysis of the regulatory basis for this proposed action, Project #970384, is available for public inspection at the District office at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to SEYED SADREDIN, DIRECTOR OF PERMIT OF SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.

Mark S.
Please call me if
you have any questions
Thanks
Margaret
943-0253

ERC Application Evaluation
Project #: 970384
Application #'s: N-130-1, N-130-2, N-130-3, N-130-4 & N-130-5

Engineer: Mark Schonhoff
Date: January 15, 1998

Company Name: Newark Sierra Paperboard
Mailing Address: 800 W. Church Street
Stockton, CA 95203

Contact Name: Mark Vincent
Phone: (209) 466-7088

Date Application Received: June 16, 1997
Date Application Deemed Complete: June 30, 1997

I. Summary:

The applicant is proposing to receive emission reduction credits (ERC's) for reductions that occurred as a result of retrofitting two boilers with low-NOx burners and reducing their permitted potential to burn #6 fuel oil. The bankable emission reductions, as shown in this analysis, are:

	NOx (lb)	CO (lb)	VOC (lb)	SOx (lb)	PM10 (lb)
Quarter 1	124,126	23,307	858	171,443	25,008
Quarter 2	161,756	4,957	1,303	260,514	37,479
Quarter 3	105,334	24,006	694	138,765	20,434
Quarter 4	96,008	32,021	560	111,856	16,666
Total	487,224	84,291	3,415	682,578	99,587

The modifications that resulted in the reductions were performed under District application numbers N-577-3-1 and N-577-4-1. The applicant subsequently applied for, and received Authorities to Construct to discontinue the use of #6 fuel oil and to lower the CO emission limits. Those reductions will not be considered in this application.

II. Applicable Rules:

Rule 2201: New and Modified Stationary Source Review (June 15, 1995)
Rule 2301: Emission Reduction Credit Banking (December 17, 1992)

III. Location Of Reductions:

800 W. Church Street
Stockton, CA

IV. Method Of Generating Reductions:

Installation of low-NOx burners and reductions in the quantity of #6 fuel oil that may be burned. The modifications were performed under District application numbers N-577-3-1 and N-577-4-1.

V. ERC Calculations:

A. Assumptions and Emission Factors:

Emission Factors:

The derivation of the following emission factors is shown in the application review for the Authorities to Construct that authorized these reductions. The application numbers are N-577-3-1 and N-577-4-1.

	Premodification		Postmodification	
	Natural Gas (lb/MMBtu)	#6 Fuel Oil (lb/MMBtu)	Natural Gas (lb/MMBtu)	#6 Fuel Oil (lb/MMBtu)
NOx	0.21	0.62	0.0365	0.62
CO	0.36	0.033	0.15	0.15
VOC	0.0014	0.005	0.0014	0.005
SOx	0.0006	1.0	0.0006	1.0
PM10	0.005	0.14	0.005	0.11

B. Baseline Period Determination and Data:

Per District Policy NSR/ERC 10-1 the baseline period will be the two years immediately prior to the Authority to Construct (ATC) application for the modification that resulted in the reductions. The application was received on December 5, 1991. Since ERC's are issued on a quarterly basis the baseline period will be the 8 complete calendar quarters immediately preceding the ATC application. That period is the fourth quarter of 1989 through the third quarter of 1991.

Baseline period fuel usages:

The fuel usages are from table 3-1 of the application for ATC's N-577-3-1 & N-577-4-1.

Natural Gas:

	Qtr. 1 natural gas (therms)	Qtr 2 natural gas (therms)	Qtr 3 natural gas (therms)	Qtr 4 natural gas (therms)
1989	-------	-------	-------	28,784
1990	17,736	72	1,958,831	3,386,562
1991	2,266,740	30,397	513,850	-------
Average	1,142,238	15,235	1,236,341	1,707,673

Fuel Oil:

	Qtr. 1 fuel oil (therms)	Qtr 2 fuel oil (therms)	Qtr 3 fuel oil (therms)	Qtr 4 fuel oil (therms)
1989	-------	-------	-------	3,231,592
1990	3,415,713	3,354,455	1,107,234	0
1991	1,140,048	3,180,669	2,722,350	-------
Average	2,277,881	3,267,562	1,914,792	1,615,796

For the purpose of matching the emission factor units with the fuel usage units the fuel usage's will be converted from therms to MMBtu utilizing the conversion factor of 100,000 BTU/therm (0.1 MMBtu/therm).

Natural Gas:

Qtr. 1: (1,142,238 therms)(0.1 MMBtu/therm) = 114,223.8 MMBtu
Qtr. 2: (15,235 therms)(0.1 MMBtu/therm) = 1,523.5 MMBtu
Qtr. 3: (1,236,341 therms)(0.1 MMBtu/therm) = 123,634.1 MMBtu
Qtr. 4: (1,707,673 therms)(0.1 MMBtu/therm) = 170,767.3 MMBtu

Fuel Oil:

Qtr. 1: (2,277,881 therms)(0.1 MMBtu/therm) = 227,788.1 MMBtu
Qtr. 2: (3,267,562 therms)(0.1 MM Btu/therm) = 326,756.2 MMBtu
Qtr. 3: (1,914,792 therms)(0.1 MMBtu/therm) = 191,479.2 MMBtu
Qtr. 4: (1,615,796 therms)(0.1 MMBtu/therm) = 161,579.6 MMBtu

C. Historical Actual Emissions:

Quarter 1:

HAE (Natural Gas)

NOx: (114,223.8 MMBtu)(0.21 lb/MMBtu) = 23,987 lb
CO: (114,223.8 MMBtu)(0.36 lb/MMBtu) = 41,121 lb
VOC: (114,223.8 MMBtu)(0.0014 lb/MMBtu) = 160 lb
SOx: (114,223.8 MMBtu)(0.0006 lb/MMBtu) = 69 lb
PM10: (114,223.8 MMBtu)(0.005 lb/MMBtu) = 571 lb

HAE (Fuel Oil):

NOx: (227,788.1 MMBtu)(0.62 lb/MMBtu) = 141,229 lb
CO: (227,788.1 MMBtu)(0.033 lb/MMBtu) = 7,517 lb
VOC: (227,788.1 MMBtu)(0.005 lb/MMBtu) = 1,139 lb
SOx: (227,788.1 MMBtu)(1.0 lb/MMBtu) = 227,788 lb
PM10: (227,788.1 MMBtu)(0.14 lb/MMBtu) = 31,890 lb

Quarter 2

HAE (Natural Gas)

NOx: (1,523.5 MMBtu)(0.21 lb/MMBtu) = 320 lb
CO: (1,523.5 MMBtu)(0.36 lb/MMBtu) = 548 lb
VOC: (1,523.5 MMBtu)(0.0014 lb/MMBtu) = 2 lb
SOx: (1,523.5 MMBtu)(0.0006 lb/MMBtu) = 1 lb
PM10: (1,523.5 MMBtu)(0.005 lb/MMBtu) = 8 lb

HAE (Fuel Oil):

NOx: (326,756.2 MMBtu)(0.62 lb/MMBtu) = 202,589 lb
CO: (326,756.2 MMBtu)(0.033 lb/MMBtu) = 10,783 lb
VOC: (326,756.2 MMBtu)(0.005 lb/MMBtu) = 1,634 lb
SOx: (326,756.2 MMBtu)(1.0 lb/MMBtu) = 326,756 lb
PM10: (326,756.2 MMBtu)(0.14 lb/MMBtu) = 45,746 lb

Quarter 3:

HAE (Natural Gas):

NOx: (123,634.1 MMBtu)(0.21 lb/MMBtu) = 25,963 lb
CO: (123,634.1 MMBtu)(0.36 lb/MMBtu) = 44,508 lb
VOC: *(123,634.1 MMBtu)(0.0014 lb/MMBtu)* = 173 lb
SOx: (123,634.1 MMBtu)(0.0006 lb/MMBtu) = 74 lb
PM10: (123,634.1 MMBtu)(0.005 lb/MMBtu) = 618 lb

HAE (Fuel Oil):

NOx: (191,479.2 MMBtu)(0.62 lb/MMBtu) = 118,717 lb
CO: (191,479.2 MMBtu)(0.033 lb/MMBtu) = 6,319 lb
VOC: (191,479.2 MMBtu)(0.005 lb/MMBtu) = 957 lb
SOx: (191,479.2 MMBtu)(1.0 lb/MMBtu) = 191,479 lb
PM10: (191,479.2 MMBtu)(0.14 lb/MMBtu) = 26,807 lb

Quarter 4:

NOx: (170,767.3 MMBtu)(0.21 lb/MMBtu) = 35,861 lb
CO: (170,767.3 MMBtu)(0.36 lb/MMBtu) = 61,476 lb
VOC: (170,767.3 MMBtu)(0.0014 lb/MMBtu) = 239 lb
SOx: (170,767.3 MMBtu)(0.0006 lb/MMBtu) = 102 lb
PM10: (170,767.3 MMBtu)(0.005 lb/MMBtu) = 854 lb

HAE (Fuel Oil):

NOx: (161,579.6 MMBtu)(0.62 lb/MMBtu) = 100,179 lb
CO: (161,579.6 MMBtu)(0.033 lb/MMBtu) = 5,332 lb
VOC: (161,579.6 MMBtu)(0.005 lb/MMBtu) = 808 lb
SOx: (161,579.6 MMBtu)(1.0 lb/MMBtu) = 161,580 lb
PM10: (161,579.6 MMBtu)(0.14 lb/MMBtu) = 22,621 lb

D. Actual Emission Reductions (AER):

Newark Sierra has installed control devices to control emissions while firing on natural gas. They have also reduced #6 fuel oil combustion contaminant emissions by reducing it's use. AERs will be calculated utilizing the following equations:

AER (natural gas): HAE X CE (District rule 2201 section 6.5.3)

AER(#6 fuel oil): HAE - PE (District rule 2201 section 6.5.1)

Where:

- HAE is the historical actual emissions calculated in section V.C of this document

- CE is the control efficiency and is calculated utilizing the following equation:

  $CE = (EF_1 - EF_2) \div EF_1$ Where:

  - EF_1 is the premodification EF

  - EF_2 is the postmodification EF

    CE(NOx) = (0.21 - 0.0365) ÷ (0.21) = 0.826
    CE(CO) = (0.36 - 0.15) ÷ (0.36) = 0.583
    CE(VOC) = (0.0014 - 0.0014) ÷ (0.0014) = 0.0
    CE(SOx) = (0.0006 - 0.0006) ÷ (0.0006) = 0.0
    CE (PM10) = (0.005 - 0.005) ÷ (0.005) = 0.0

  - PE is the potential to emit while firing on #6 fuel oil

  Newark Sierra stated in the application for the ATC's authorizing these reductions that they wished to retain the right to burn #6 fuel oil seven days per year. It was not known which quarter the fuel oil would be burned in, therefore, the ATC's were conditioned such that #6 fuel oil could be burned for seven days per calendar quarter. The AER's will therefore be adjusted to reflect seven days per calendar quarter of #6 fuel oil usage.

  The potential fuel oil usage, for each boiler, as limited by the PTO's is 2,664 MMBtu/day. Therefore, the combined quarterly potential to emit of the boilers, while operating on #6 fuel oil is:

NOx: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.62 lb/MMBtu) = 23,124 lb/qtr
CO: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.15 lb/MMBtu) = 5,594 lb/qtr
VOC: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.005 lb/MMBtu) = 186 lb/qtr
SOx: (7 days/qtr)[(2)(2,664 MMBtu/day)](1.0 lb/MMBtu) = 37,296 lb/qtr
PM10: (7 days/qtr)[(2)(2,664 MMBtu/day)](0.11 lb/MMBtu) = 4,103 lb/qtr

AER's:

Quarter 1:

NOx: (23,987 lb)(0.826) + (141,229 lb - 23,124 lb) = 137,918 lb
CO: (41,121 lb)(0.583) + (7,517 lb - 5,594 lb) = 25,897 lb
VOC: (160 lb)(0.0) + (1,139 lb - 186 lb) = 953 lb
SOx: (69 lb)(0.0) + (227,788 lb - 37,296 lb) = 190,492 lb
PM10: (571 lb)(0.0) + (31,890 lb - 4,103 lb) = 27,787 lb

Quarter 2

NOx: (320 lb)(0.826) + (202,589 lb - 23,124 lb) = 179,729 lb
CO: (548 lb)(0.583) + (10,783 lb - 5,594 lb) = 5,508 lb
VOC: (2 lb)(0.0) + (1,634 lb - 186 lb) = 1,448 lb
SOx: (1 lb)(0.0) + (326,756 lb - 37,296 lb) = 289,460 lb
PM10: (8 lb)(0.0) + (45,746 lb - 4,103 lb) = 41,643 lb

Quarter 3:

NOx: (25,963 lb)(0.826) + (118,717 lb - 23,124 lb) = 117,038 lb
CO: (44,508 lb)(0.583) + (6,319 lb - 5,594 lb) = 26,673 lb
VOC: (173 lb)(0.0) = 0.0 lb + (957 lb - 186 lb) = 771 lb
SOx: (74 lb)(0.0) = 0.0 lb + (191,479 lb - 37,296 lb) = 154,183 lb
PM10: (618 lb)(0.0) + (26,807 lb - 4,103 lb) = 22,704 lb

Quarter 4:

NOx: (35,861 lb)(0.826) + (100,179 lb - 23,124 lb) = 106,676 lb
CO: (61,476 lb)0.583) + (5,332 lb -5,594 lb) = 35,579 lb
VOC: (239 lb)(0.0) = 0.0 lb + (808 lb - 186 lb) = 622 lb
SOx: (102 lb)(0.0) = 0.0 lb + (161,580 lb - 37,296 lb) = 124,284 lb
PM10: (854 lb)(0.0) = 0.0 lb + (22,621 lb - 4,103 lb) = 18,518 lb

Summary of AER's:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	137,918	179,729	117,038	106,676
CO	25,897	5,508	26,673	35,579
VOC	953	1,448	771	622
SOx	190,492	289,460	154,183	124,284
PM10	27,787	41,643	22,704	18,518

E. Air Quality Improvement Deduction:

Per District rule 2201, section 6.5, a 10% air quality improvement deduction must be applied to the AER's prior to banking. The air quality improvement deductions are as follows:

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	13,792	17,973	11,704	10,668
CO	2,590	551	2,667	3,558
VOC	95	145	77	62
SOx	19,049	28,946	15,418	12,428
PM10	2,779	4,164	2,270	1,852

F. Increase In Permitted Emissions:

No IPE associated with this project.

G. Bankable Emissions Reductions:

The bankable emission reductions are equal to the AER's minus the air quality improvement deduction.

	Quarter 1 (lb)	Quarter 2 (lb)	Quarter 3 (lb)	Quarter 4 (lb)
NOx	124,126	161,756	105,334	96,008
CO	23,307	4,957	24,006	32,021
VOC	858	1,303	694	560
SOx	171,443	260,514	138,765	111,856
PM10	25,008	37,479	20,434	16,666

VI. Compliance:

A. Real Reductions:

The reductions were generated by replacing the burners and reducing the quantity of fuel oil that could be burned. The burners have been replaced and source testing showed the reductions have occurred. The Permits to Operate (PTO's) for these units restrict the fuel oil usage to seven days per calendar quarter. Should the facility burn more fuel oil than allowed by the permit then enforcement action would occur. Therefore the reductions are real.

B. Enforceable Reductions:

The Permits to Operate include enforceable emission and fuel oil usage limits, which if complied with, will ensure the reductions are continuing to occur. Should the required source testing show the limits are being exceeded, or if the fuel oil usage exceeds the permitted quantities enforcement action would be taken. Therefore the reductions are enforceable.

C. Quantifiable Reductions:

The reductions were calculated utilizing actual baseline period fuel usage and emissions factors which were derived from source testing or EPA document AP-42. Therefore, the reductions are quantifiable.

D. Permanent Reductions:

The PTO's include emission concentration and fuel usage limits. Should increases in emission concentration or fuel oil usage be required then the facility would be required to apply to the District for an ATC. The application would be subject to New Source Review, which would ensure that the reductions continue to occur. Therefore, the reductions are permanent.

E. Surplus Reductions:

The applications for the ATC's authorizing these reductions were received and deemed complete on December 10, 1991, and the District's Air Quality Attainment Plan was adopted on January 30, 1992. The boiler control measure (District rule 4305) was not placed on the District list of control measures until August 27, 1992. Therefore, per District rule 2201, section 6.2.1, no discounting of the HAE's is required. Therefore, the reductions are surplus.

F. *Timeliness:*

For each boiler, the reductions occurred on March 27, 1997, which is the date that the ATC's were converted to PTO's. The ERC application was received on June 16, 1997 which is less than 180 days after the reductions occurred. Therefore the application was timely.

VII. Recommendation:

Issue Emission Reduction Credit Certificates to Newark Sierra for NOx, CO, VOC, SOx and PM10 reductions in the following amounts:

	NOx (lb)	CO (lb)	VOC (lb)	SOx (lb)	PM10 (lb)
Quarter 1	124,126	23,307	858	171,443	25,008
Quarter 2	161,756	4,957	1,303	260,514	37,479
Quarter 3	105,334	24,006	694	138,765	20,434
Quarter 4	96,008	32,021	560	111,856	16,666
Total	487,224	84,291	3,415	682,578	99,587

It is further recommended that at the time that the ERC's are issued that each emission concentration limit and the fuel oil usage limits be modified such that they state that they are for the purpose of enforcing ERC's.

√ NORTHERN REGION

__ CENTRAL REGION
__ SOUTHERN REGION

ERC/PUBLIC NOTICE CHECK LIST

PROJECT# 970384 MODEMED FILE NAME: NEW70384.PBC

√ √
REQST. COMPL.

__ __ ERC TRANSFER OF PREVIOUSLY BANKED CREDITS
X __ ERC PRELIMINARY PUBLIC NOTICE
__ __ ERC FINAL PUBLIC NOTICE
__ __ NSR/CEQA PRELIMINARY PUBLIC NOTICE
__ __ NSR/CEQA FINAL PUBLIC NOTICE

ENCLOSED DOCUMENTS REQUIRE:

√ __ Enter Correct Date, Print All Documents from MODEMED File and Obtain Directors Signature

X __ Send **Preliminary** Notice Letters to CARB, EPA and Applicant; Including the Following Attachments:
X Application Evaluation
X Other: Preliminary Public Notice

√ __ Send ***Preliminary*** Public Notice for Publication to The Record

√ __ Send Signed Copies of ***Preliminary*** Notice Letters to Regional Office
Attn: Anthony Mendes

__ __ Director's Signature and District Seal Embossed on ERC Certificates

__ __ Director's Signature on Cover Letter and Mail Cover Letter & ERC Certificates by Certified Mail to:
__ Applicant:
__ Applicant and Additional Addressees (see cover letters)

__ __ Send Copies of Signed and Seal Embossed ERC Certificates and Signed cover letter to Regional Office Attn: Anthony Mendes

__ __ Other Special Instructions (please specify)

Date Completed ______/By______

Date Added to Seyed's Directory:
Upon Completion FAX to Regional Office Attn: Mark Schonhoff

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To Brenda A.	From Mark S.
Co. Central	Co. Northern
Dept. Region	Phone # Region
Fax # 3rd floor	Fax #

DATE TO BE SENT]

Newark Sierra Paperboard Corporation
Attn: Mark Vincent
800 W. Church Street
Stockton, CA 95203

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Vincent:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/ba
Enclosures

c: Anthony Mendes, Permit Services Manager

[DATE TO BE SENT]

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Menebroker:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS/ba
Enclosures
c: Anthony Mendes, Permit Services Manager

[DATE TO BE SENT]

Matt Haber, Chief
Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Emission Reduction Credits
Project Number: 970384

Dear Mr. Haber:

Enclosed for your review and comment is the District's analysis of Newark Sierra Paperboard Corporation's application for Emission Reduction Credits (ERC's) resulting from the retrofit of two boilers with low NOx burners and the reduced use of #6 fuel oil at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

Also enclosed is the public notice of this decision which will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions regarding this matter, please contact Mark Schonhoff of Permit Services at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:/MJS/ba
Enclosures

c: Anthony Mendes, Permit Services Manager

The Record

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits (ERC's) to Newark Sierra Paperboard Corporation for the retrofit of two boilers with low-NOx burners and the reduced use of #6 fuel oil, at 800 W. Church Street in Stockton, CA. The quantity of ERC's proposed for banking is 487,224 lb/yr of NOx, 84,291 lb/yr of CO, 3,415 lb/yr of VOC, 682,578 lb/yr of SOx and 99,587 lb/yr of PM10.

The analysis of the regulatory basis for this proposed action, Project #970384, is available for public inspection at the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

San Joaquin Valley
Unified Air Pollution Control District

RECEIVED
NOV 09 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

November 5, 1998

Newark Sierra Paperboard Corporation
Attn: Mark Vincent
800 W. Church Street
Stockton, CA 95203

Dear Mr. Vincent:

RE: Notice of Final Action - Emission Reduction Credits
Project Number: 970384

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

Enclosed are copies of the ERC Certificates and of the notice of final action to be published approximately three days from the date of this letter.

All comments received following the District's preliminary decision on this project were considered.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Anthony Mendes at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS:cl
Enclosures

c: Anthony Mendes, Permit Services Manager

San Joaquin Valley
Unified Air Pollution Control District

November 5, 1998

Matt Haber, Chief
Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Haber:

RE: Notice of Final Action - Emission Reduction Credits
Project Number: 970384

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

Enclosed are copies of the ERC Certificates and of the notice of final action to be published approximately three days from the date of this letter.

All comments received following the District's preliminary decision on this project were considered.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Anthony Mendes at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS:cl
Enclosures
c: Anthony Mendes, Permit Services Manager

David L. Crow
Executive Director/ Air Pollution Control Officer
1999 Tuolumne Street, Suite 200 Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • FAX (209) 233-8652

Central Region
1999 Tuolumne Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • FAX (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • FAX (805) 862-5201

November 5, 1998

Raymond Menebroker, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

Dear Mr. Menebroker:

**RE: Notice of Final Action - Emission Reduction Credits
Project Number: 970384**

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

Enclosed are copies of the ERC Certificates and of the notice of final action to be published approximately three days from the date of this letter.

All comments received following the District's preliminary decision on this project were considered.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Anthony Mendes at (209) 545-7000.

Sincerely,

Seyed Sadredin
Director of Permit Services

SS:MJS:cl
Enclosures
c: Anthony Mendes, Permit Services Manager

The Record - San Joaquin County

NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits to Newark Sierra Paperboard Corporation for emission reductions generated by retrofitting two boilers with low NOx burners and reducing the fuel oil usage of those boilers, at 800 W. Church Street in Stockton, CA.

All comments received following the District's preliminary decision on this project were considered.

The application review for Project #970384 is available for public inspection at the **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4230 KIERNAN AVENUE, SUITE 130, MODESTO, CA 95356.**

San Joaquin Valley
Unified Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-130-1

Issued To: Newark Sierra Paperboard Corporation
Issue Date: November 5, 1998

Location of Reduction: 800 W. Church Street
Stockton, CA

For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
858 lbs	1,303 lbs	694 lbs	560 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Retrofit of two boilers with low-NOx burners and reducing the fuel oil usage of those boilers.

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Unified Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-130-2

Issued To: Newark Sierra Paperboard Corporation
Issue Date: November 5, 1998

Location of Reduction: 800 W. Church Street
Stockton, CA

For NOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
124,126 lbs	161,756 lbs	105,334 lbs	96,008 lbs

[ ] Conditions Attached

<u>Method Of Reduction</u>
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Retrofit of two boilers with low-NOx burners and reducing the fuel oil usage of those boilers

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Unified Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-130-3

Issued To: Newark Sierra Paperboard Corporation
Issue Date: November 5, 1998

Location of Reduction: 800 W. Church Street
Stockton, CA

For CO Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
23,307 lbs	4,957 lbs	24,006 lbs	32,021 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Retrofit of two boilers with low-NOx burners and reducing the fuel oil usage of those boilers

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Unified Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-130-4

Issued To: Newark Sierra Paperboard Corporation
Issue Date: November 5, 1998

Location of Reduction: 800 W. Church Street
Stockton, CA

For PM10 Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
25,008 lbs	37,479 lbs	20,434 lbs	16,666 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Retrofit of two boilers with low-NOx burners and reducing the fuel oil usage of those boilers

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

San Joaquin Valley
Unified Air Pollution Control District

Northern Regional Office * 4230 Kiernan Ave., Suite 130 * Modesto, CA 95356

Emission Reduction Credit Certificate
N-130-5

Issued To: Newark Sierra Paperboard Corporation
Issue Date: November 5, 1998

Location of Reduction: 800 W. Church Street
Stockton, CA

For SOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
171,443 lbs	260,514 lbs	138,765 lbs	111,856 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[ ] Shutdown of Emissions Unit
[X] Other: Retrofit of two boilers with low-NOx burners and reducing the fuel oil usage of those boilers

David L. Crow, APCO

Seyed Sadredin
Director of Permit Services

Subject: please forward to Mark Schonhoff
Date: Fri, 13 Feb 1998 11:01:59 -0800
From: Pike.Ed@epamail.epa.gov
To: SJNorth@Lightspeed.net

Hi-

I received the proposed ERC for Newark Sierra Paperboard Corporation today. I will be reviewing this project, and would appreciate a copy of several document that contain information used in your evaluation. Please send me a copy of the permits and applications for N-577-3-1 and N-577-4-1 and the application for this ERC. I would also like a copy of the pre-modification permits for these units and any other information that would be helpful for reviewing the proposed ERC. Thank you for your help. Please call me if you have any questions.

Ed (415) 744-1211

RECEIVED
FEB 20 1998
SAN JOAQUIN VALLEY
UNIFIED A.P.C.D.
NO. REGION

FAXED the requested documents 2/20/98 @ 8:45 AM.
Followed up w/ voice mail message.

Faxed part of EE & both ATC's per Ed's request

San Joaquin Valley
Unified Air Pollution Control District

Fax Transmittal

4230 Kiernan Avenue, Suite 130
Modesto, California 95356
Phone (209) 545-7000 Fax (209) 545-8652

Date : 2/20/98

To : Ed Pike **Fax Number :** (415) 744-1076

From : Mark Schonhoff **Number of pages (including cover sheet):** 10

Description : For District Proj. 970384 (Newark Sierra ERC's)
ERC App Form
ATC App Forms
Premod PTO's N-577-3-0 & 4-0
PTO's N-577-3-1 & 4-1

- [x] Per Your Request
- [ ] For Your Information
- [ ] Per Our Conversation
- [ ] For Your Approval
- [ ] Take Appropriate Action
- [ ] Review & Comment
- [ ] Please Answer
- [ ] Review & Return

- [ ] Original transmittal will follow via mail

Remarks / Response : Ed- If you need anything else please telephone me (209) 545-7000.
Mark

FAXFORM.XLS(rev. 2/1996)

San Joaquin Valley Unified Air Pollution Control District

APPLICATION FOR:

[X] EMISSION REDUCTION CREDIT (ERC)
[ ] CONSOLIDATION OF ERC CERTIFICATES
[ ] ERC RE-ISSUE AFTER PARTIAL USE
[ ] ERC TRANSFER OF OWNERSHIP

1. **ERC TO BE ISSUED TO:** Newark Sierra Paperboard Corporation

2. **MAILING ADDRESS:**
Street/P.O. Box: 800 West Church Street
City: Stockton State: CA Zip Code: 95203

3. **LOCATION OF REDUCTION:**
Street: 800 West Church Street
City: Stockton

4. **DATE OF REDUCTION:** 1/27/97 (Boiler #2)
3/7/97 (Boiler #1)

5. **PERMIT NO(S):** N-577-3-1 and N-577-4-1 **EXISTING ERC NO(S):**

6. **METHOD RESULTING IN EMISSION REDUCTION:**
[ ] SHUTDOWN [ ] RETROFIT [ ] PROCESS CHANGE [X] OTHER
DESCRIPTION: Installation of low NOx burners and elimination of fuel oil usage.
(Use additional sheets if necessary)

7. **REQUESTED ERCs (In Pounds Per Calendar Quarter):**

	VOC	NOx	CO	PM10	SOx	OTHER
1st QTR	1,139	161,042	40,085	31,890	227,788	
2nd QTR	1,634	202,854	11,217	45,746	326,756	
3rd QTR	957	140,229	41,569	26,807	191,479	
4th QTR	808	129,800	54,020	22,621	161,580	
TOTAL COST	$	$	$	$	$	$

8. **SIGNATURE OF APPLICANT:** Mark Vincent
TYPE OR PRINT TITLE OF APPLICANT: General Manager

9. **TYPE OR PRINT NAME OF APPLICANT:** Mark Vincent
DATE: 5/30/97
TELEPHONE NO: (209) 466-7088

FOR APCD USE ONLY:

DATE STAMP
JUN 10 1997

FILING FEE RECEIVED: $ ~~3~~650.00
DATE PAID: 6/16/97 ck# 080787
PROJECT NO.: 970384
577

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
2321 WEST WASHINGTON ST., STE. I, P.O. BOX 2009, STOCKTON, CA 95201
Telephone: (209) 468-3470

APPLICATION FOR AUTHORITY TO CONSTRUCT

BUSINESS NAME:

NEWARK SIERRA PAPERBOARD CORPORATION

MAILING ADDRESS (Include City & Zip Code):

800 West Church Street, Stockton CA 95203

SITE ADDRESS:

800 West Church Street, Stockton CA 95203

Is the facility located within 1000 feet of any K-12 school? Yes / / No /X/

Is the site address zoned properly for the proposed use? Yes /X/ No / /
(INDICATE THE ZONING DESIGNATION)

Is this application the result of a Notice of Violation or a Notice to Comply? Yes / / No / /
If yes, give the Notice Number ____________

EQUIPMENT DESCRIPTION: INSTALLATION OF LOW NOX BURNERS (STE ACCOMPANING INFORMATION) FOR BOILER # 2

(Please attach additional sheets, if necessary.)

THE FOLLOWING SHOULD ACCOMPANY THIS APPLICATION: A MAP OF THE LOCATION OF THE FACILITY, PROCESS FLOW DIAGRAM (if applicable), PROCESS/PRODUCTION RATE, OPERATING SCHEDULE, AND DESCRIPTION OR MANUFACTURER'S CATALOG OF EQUIPMENT AND AIR POLLUTION CONTROL EQUIPMENT. SEE LIST AND CRITERIA (AB-884) FORM FOR FURTHER DETAILS.

X Michael J Rogge

Signature of Applicant

REG. DIR. OF ENVIRONMENTAL AFFAIRS

Title of Signer

MICHAEL J. ROGGE

Type or Print Name of Signer

Telephone Number: (209)-466 5251

(FOR OFFICE USE ONLY)

DATE RECEIVED:

APPLICATION NUMBER 91-585

RECEIVED
DEC 5 1991
SAN JOAQUIN COUNTY
AIR POLLUTION CONTROL DISTRICT

1#

AMOUNT OF FILING FEE RECEIVED:

APF 20

SAN JOAQUIN VALLEY UNIFIED AIR POLLU
2321 WEST WASHINGTON ST., STE. I, P.O. BOX
Telephone: (209) 468-3

APPLICATION FOR AUTHORITY

Newark
Paperboard Mills
Products from Recycled Fibers
THE NEWARK GROUP

800 West Church Street
Stockton, CA 95203
209/466-5251
Fax 209-942-1214

Michael J. Rogge
Regional Director of Environmental and Governmental Affairs

California Paperboard Corp.
Newark Pacific Paperboard Corp.
Newark Sierra Paperboard Corp.

BUSINESS NAME:

NEWARK SIERRA PAPERBOARD CORPORATION

MAILING ADDRESS (Include City & Zip Code):

800 West Church Street, Stockton CA 95203

SITE ADDRESS:

800 West Church Street, Stockton CA 95203

Is the facility located within 1000 feet of any K-12 school? Yes / / No /X/

Is the site address zoned properly for the proposed use? Yes /X/ No / /
(INDICATE THE ZONING DESIGNATION)

Is this application the result of a Notice of Violation or a Notice to Comply? Yes / / No /X/
If yes, give the Notice Number __________

EQUIPMENT DESCRIPTION: INSTALLATION OF LOW NOX BURNERS (STE ACCOMPANING INFORMATION) FOR BOILER #1

(Please attach additional sheets, if necessary.)

THE FOLLOWING SHOULD ACCOMPANY THIS APPLICATION: A MAP OF THE LOCATION OF THE FACILITY, PROCESS FLOW DIAGRAM (if applicable), PROCESS/PRODUCTION RATE, OPERATING SCHEDULE, AND DESCRIPTION OR MANUFACTURER'S CATALOG OF EQUIPMENT AND AIR POLLUTION CONTROL EQUIPMENT. SEE LIST AND CRITERIA (AB-884) FORM FOR FURTHER DETAILS.

X Michael J Rogge

Signature of Applicant

REG. DIR. OF ENVIRONMENTAL AFFAIRS

Title of Signer

MICHAEL J. ROGGE

Type or Print Name of Signer

Telephone Number: (209)-466 5251

(FOR OFFICE USE ONLY)

DATE RECEIVED:

APPLICATION NUMBER 91-584

RECEIVED
DEC. 5 1991
SAN JOAQUIN COUNTY
AIR POLLUTION CONTROL DISTRICT

1H

pd 1000.00 #027215

AMOUNT OF FILING FEE RECEIVED:
AF 20

COPY

San Joaquin Valley
Unified Air Pollution Control District

PERMIT TO OPERATE

PERMIT NO: N-577-3-1 **EXPIRATION DATE:** 08/01/2001

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
BABCOCK AND WILCOX MODEL 62222-37 BOILER WITH ONE 134 MMBTU/HR TODD DRMB BURNER.

CONDITIONS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.
2. No air contaminant shall be released into the atmosphere which causes a public nuisance.
3. The boiler shall only be fired on natural gas or No. 6 fuel oil.
4. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.
5. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.
6. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.
7. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.
8. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.
9. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

CONDITIONS CONTINUE ON NEXT PAGE

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require a new permit. This permit shall be posted as prescribed in District Rule 2010.

DAVID L. CROW

Executive Director/APCO

Northern Regional Office *4230 Kiernan Ave., Suite 130 *Modesto, California 95356 *(209) 545-7000* FAX (209) 545-8652

1997-6-23 -- MARK

If #6 fuel oil is burned any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

11. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.
12. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.
13. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.
14. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.
15. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.
16. The #6 fuel oil usage shall not exceed 18,648 mmbtu per calendar quarter.
17. The sulfur content of the #6 fuel oil shall not exceed 0.9% by weight.
18. Separate daily logs of the quantity of natural gas and #6 fuel oil shall be kept on the premises at all times. The records shall be retained for a period of at least two years and shall be made available for District inspection upon request.
19. Totalizing fuel flow meters which measure the amount of natural gas and #6 fuel oil entering the boiler shall be installed in the fuel lines to the boiler and shall be in proper working condition at all times.
20. Source testing shall be performed in accordance with District rule 4305 (Boilers, Steam Generators and Process Heaters).
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing.
22. The results of each source test shall be submitted to the District within 60 days thereafter.
23. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling).

San Joaquin Valley
Unified Air Pollution Control District

COPY

PERMIT TO OPERATE

PERMIT NO: N-577-4-1 **EXPIRATION DATE:** 08/01/2001

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
BABCOCK AND WILCOX MODEL 62222-37 BOILER WITH ONE 134 MMBTU/HR TODD DRMB BURNER.

CONDITIONS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.
2. No air contaminant shall be released into the atmosphere which causes a public nuisance.
3. The boiler shall only be fired on natural gas or No. 6 fuel oil.
4. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.
5. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.
6. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.
7. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.
8. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.
9. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

CONDITIONS CONTINUE ON NEXT PAGE

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require a new permit. This permit shall be posted as prescribed in District Rule 2010.

DAVID L. CROW

Executive Director/APCO

Northern Regional Office *4230 Kiernan Ave., Suite 130 *Modesto, California 95356 *(209) 545-7000* FAX (209) 545-8652

COPY

10. If #6 fuel oil is burned any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

11. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.

12. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.

13. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.

14. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.

15. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.

16. The #6 fuel oil usage shall not exceed 18,648 mmbtu per calendar quarter.

17. The sulfur content of the #6 fuel oil shall not exceed 0.9% by weight.

18. Totalizing fuel flow meters which measure the amount of natural gas and #6 fuel oil entering the boiler shall be installed in the fuel lines to the boiler and shall be in proper working condition at all times.

19. Separate daily logs of the quantity of natural gas and #6 fuel oil shall be kept on the premises at all times. The records shall be retained for a period of at least two years and shall be made available for District inspection upon request.

20. Source testing shall be conducted in accordance with District rule 4305 (Boilers, Steam Generators and Process Heaters).

21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing.

22. The results of each source test shall be submitted to the District within 60 days thereafter.

23. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling).

San Joaquin Valley
Unified Air Pollution Control District

PERMIT TO OPERATE

PERMIT NO: N-577-3-0 **EXPIRATION DATE:** 08/01/2001

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

Cancelled, replaced by N-577-3-1 5/15/97
HS.

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
B & W INTEGRAL FURNACE, STIRLING DESIGN, DUAL DRUM, CLASS F22AESPL BOILER #1 (BUILT IN 1937) WITH THREE (3) COEN CPF BURNERS SERVING A GENERAL ELECTRIC 3.5 MW STEAM TURBINE GENERATOR.

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance.
2. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide).
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.
4. A record of daily fuel consumption shall be maintained, retained on the premises for a period of at least two years and made available for District inspection upon request.
5. A daily log of hourly power production shall be maintained on the premise and shall be made available for District inspection.
6. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency.
7. The facility shall produce no more than 4.8 MW per hour of electricity.
8. The boiler shall be fired on natural gas or No. 6 fuel oil with a maximum sulfur content of 3%.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require a new permit. This permit shall be posted as prescribed in District Rule 2010.

DAVID L. CROW

Executive Director/APCO

Northern Regional Office *4230 Kiernan Ave., Suite 130 *Modesto, California 95356 *(209) 545-7000* FAX (209) 545-8652

San Joaquin Valley
Unified Air Pollution Control District

PERMIT TO OPERATE

PERMIT NO: N-577-4-0 **EXPIRATION DATE:** 08/01/2001

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

Cancelled, replaced by N-577-4-1 4/7/97 MB

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
B & W INTEGRAL FURNACE, STIRLING DESIGN, DUAL DRUM, CLASS F22AESPL BOILER #2 (BUILT IN 1937) WITH THREE (3) COEN SAZ BURNERS SERVING A GENERAL ELECTRIC 3.5 MW STEAM TURBINE GENERATOR.

CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance.
2. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 1 or equivalent to 20% opacity.
3. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide).
4. A record of daily fuel consumption shall be maintained, retained on the premises for a period of at least two years and made available for District inspection upon request.
5. A daily log of hourly power production shall be maintained, reatined on the premises for a period of at least two years and made available for District inspection upon request.
6. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency.
7. The facility shall produce no more than 4.8 MW per hour of electricity.
8. The boiler shall be fired on natural gas or No. 6 fuel oil with a maximum sulfur content of 3%.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require a new permit. This permit shall be posted as prescribed in District Rule 2010.

DAVID L. CROW

Executive Director/APCO

Northern Regional Office *4230 Kiernan Ave., Suite 130 *Modesto, California 95356 *(209) 545-7000* FAX (209) 545-8652

1996-7-29 -- GILL

San Joaquin Valley
Unified Air Pollution Control District

Fax Transmittal

4230 Kiernan Avenue, Suite 130
Modesto, California 95356
Phone (209) 545-7000 Fax (209) 545-8652

Date : 2/20/98

To : Ed Pike

Fax Number : (415) 744-1076

From : Mark Schonhoff

Number of pages (including cover sheet): 20

Description :
- EE (PP 1-15)
- ATC's N-577-3-1 & N-577-4-1

- [x] Per Your Request
- [ ] For Your Information
- [ ] Per Our Conversation
- [ ] For Your Approval
- [ ] Take Appropriate Action
- [ ] Review & Comment
- [ ] Please Answer
- [ ] Review & Return

- [ ] Original transmittal will follow via mail

Remarks / Response :

FAXFORM.XLS(rev. 2/1996)

COPY

San Joaquin Valley
Unified Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-577-3-1 **ISSUANCE DATE:** 03/10/95

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
BOILER #1, BABCOCK AND WILCOX MODEL #62222-37. MODIFICATION TO INSTALL THREE TODD VERIFLAME BURNERS RATED AT 45 MMBTU/HR EACH AND FLUE GAS RECIRCULATION.

CONDITIONS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent to 20% opacity.

2. No air contaminant shall be released into the atmosphere which causes a public nuisance.

3. The boiler shall only be fired on natural gas or No. 6 fuel oil.

4. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.

5. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.

6. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.

7. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.

8. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.

9. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

CONDITIONS CONTINUE ON NEXT PAGE

This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 545-7000 WHEN CONSTRUCTION OF THE EQUIPMENT IS COMPLETED. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, EXECUTIVE DIRECTOR/APCO

Anthony Mendes for
SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES

10. If #6 fuel oil is burned any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

11. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.

12. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.

13. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.

14. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.

15. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.

16. The #6 fuel oil usage shall not exceed 18,648 mmbtu per calendar quarter.

17. The sulfur content of the #6 fuel oil shall not exceed 0.9% by weight.

18. Separate daily logs of the quantity of natural gas and #6 fuel oil shall be kept on the premises at all times. The records shall be retained for a period of at least two years and shall be made available for District inspection upon request.

19. Totalizing fuel flow meters which measure the amount of natural gas and #6 fuel oil entering the boiler shall be installed in the fuel lines to the boiler and shall be in proper working condition at all times.

20. The boiler shall be source tested while firing on natural gas in order to demonstrate compliance with the NOx and CO emission limits of this permit.

21. The source testing shall be conducted within 90 days of initial start up and on an annual basis thereafter.

22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing.

23. The results of each source test shall be submitted to the District within 60 days thereafter.

24. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling).

COPY

San Joaquin Valley
Unified Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-577-4-1 **ISSUANCE DATE:** 03/10/95

LEGAL OWNER OR OPERATOR: NEWARK SIERRA PAPERBOARD CORP.
MAILING ADDRESS: 800 W. CHURCH STREET
STOCKTON, CA 95203

LOCATION: 800 W. CHURCH STREET, STOCKTON

EQUIPMENT DESCRIPTION:
BOILER #2, BABCOCK AND WILCOX MODEL 62222-37. MODIFICATION TO INSTALL THREE TODD VERIFLAME BURNERS RATED AT 45 MMBTU/HR EACH AND FLUE GAS RECIRCULATION.

CONDITIONS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent to 20% opacity.
2. No air contaminant shall be released into the atmosphere which causes a public nuisance.
3. The boiler shall only be fired on natural gas or No. 6 fuel oil.
4. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.
5. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.
6. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.
7. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.
8. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.
9. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

CONDITIONS CONTINUE ON NEXT PAGE

This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 545-7000 WHEN CONSTRUCTION OF THE EQUIPMENT IS COMPLETED. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, EXECUTIVE DIRECTOR/APCO

Anthony J. Mendes for
SEYED SADREDIN, DIRECTOR OF PERMIT SERVICES

10. If #6 fuel oil is burned any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

11. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.

12. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.

13. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.

14. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.

15. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.

16. The #6 fuel oil usage shall not exceed 18,648 mmbtu per calendar quarter.

17. The sulfur content of the #6 fuel oil shall not exceed 0.9% by weight.

18. Separate daily logs of the quantity of natural gas and #6 fuel oil shall be kept on the premises at all times. The records shall be retained for a period of at least two years and shall be made available for District inspection upon request.

19. Totalizing fuel flow meters which measure the amount of natural gas and #6 fuel oil entering the boiler shall be installed in the fuel lines to the boiler and shall be in proper working condition at all times.

20. The boiler shall be source tested while firing on natural gas in order to demonstrate compliance with the NOx and CO emission limits of this permit.

21. The source testing shall be conducted within 90 days of initial start up and on an annual basis thereafter.

22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing.

23. The results of each source test shall be submitted to the District within 60 days thereafter.

24. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling).

Application Review

Mark Schonhoff
March 8, 1995

Application Number:	N-577-3-1 N-577-4-1
Project Number:	N/A
Facility Name:	Newark Sierra Paperboard Corporation
Mailing Address:	800 W. Church Street Stockton, CA 95203
Contact Name:	Michael Rogge
Phone #:	(209) 466-5251

I. Proposal:

Issue an Authority To Construct to install low NOx burners on two existing boilers.

In the past, Newark Sierra utilized #6 fuel oil as the primary fuel in the boilers. They are now proposing to install low NOx burners and utilize natural gas as the primary fuel for both boilers. They have requested to have their #6 fuel oil usage limited to seven days per quarter.

II. Applicable Rules:

Rule 2010: Permits Required
Rule 2201: New & Modified Stationary Source Review (October 21, 1993)
Rule 4001: New Source Performance Standards (Subpart Db)
Rule 4101: Visible Emissions
Rule 4102: Nuisance
Rule 4301: Fuel Burning Equipment

III. Project Location:

Street Address: 800 W. Church Street
Stockton, CA

IV. Process Description:

Newark Sierra is in the business of making paperboard from waste paper. They also operate a cogeneration plant which utilizes steam from these two boilers. Presently the turbines are not being operated and 100% of the steam produced is being utilized by the paperboard operation. If the turbines are brought back into operation they would utilize approximately 1/3 of the steam produced. None of the electricity generated when the turbines are in operation is sold.

V. Equipment Listing:

Present: 2 Babcock and Wilcox Model # 62222-37, NB 10950 Boilers equipped with:

Boiler 1: 3 Coen CPF Parallel Flow Burners.
Boiler 2: 3 Coen DAZ-22 circular register burners.

Each boiler is rated at 113 MMBTU/hr while firing on natural gas and 111 MMBTU/hr while firing on #6 fuel oil.

Proposed: The new burners will be Todd Variflame low NOx burners rated at 45 MMBTU/hr each. There will be three burners per boiler (135 MMBTU/hour per boiler).

VI. Emission Control Technology Evaluation:

The burners utilize low excess air combustion, multi-stage combustion, and flue gas recirculation to control NOx:

1. Low Excess Air Combustion: The combustion process will take place with a minimum amount of air which minimizes the amount of free oxygen available to form NOx.

2. Multi-Stage Combustion: Fuel and air are injected at various stages within the flame envelope. This helps to optimize combustion and NOx levels.

3. Flue Gas Recirculation: Exhaust gas is introduced into the combustion process, lowering the combustion temperature, and reducing the amount of excess air available for NOx formation.

VII. Calculations:

A. Emission Factors:

Premodification Emission Factors (Natural Gas):

CARB tested both boilers for NOx and CO on 12/11/85, however only the gas usage of boiler #2 was logged. It will be assumed that the NOx and CO emission factors derived from the source test results can be used for both boilers.

Gas usage: 2.676 MMCF in boiler #2 on the day of the test (From application package, page 3-8). Assuming that the usage was uniform on an hourly basis the hourly usage was:

(2.676 MMCF/24 hr)(1000 BTU/CF) = 111.5 MMBTU/hr

The maximum capacity of the boiler, while firing on natural gas, is 113 MMBTU/hr therefore the boiler was firing at an acceptable rate for the test.

The following equation will be utilized to calculate the NOx and CO emission factors:

$$EF(lb/MMBTU) = (PPM)(MW)(2.59 \times 10^{-9})(F\text{-}Factor)[20.9/(20.9 - \%O_2)]$$

Where: PPM is the average tested concentration (Application Pkg., Appendix D)
MW is the molecular weight
2.59×10^{-9} is a constant
F-Factor is 8740 (From F-Factor Manual)

NOx: Average Tested Concentration: 170 PPM (Application Pkg. App. D)

$$EF(NOx) = (170)(46)(2.59 \times 10^{-9})(8740)[20.9/(20.9 - 3)] = 0.21 \text{ lb/MMBTU}$$

CO: Average Tested Concentration: 490 PPM

$$EF(CO) = (490)(28)(2.59 \times 10^{-9})(8740)[20.9/(20.9 - 3)] = 0.36 \text{ lb/MMBTU}$$

NMHC and PM10 were not tested for and the SOx emissions were reported to be negligible therefore estimates will be made using AP-42 emission concentrations.

NMHC Concentration: 1.41 lb/MMCF (AP-42, Table 1.4-3)

EF (NMHC) = (1.41 lb/MMCF)(1 CF/1000 BTU) = 0.0014 lb/MMBTU

SOx Concentration (as SO_2): 0.6 lb/MMCF (AP-42, Table 1.4-2)

EF (SOx) = (0.6 lb/MMCF)(1 CF/1000 BTU) = 0.0006 lb/MMBTU

PM10 Concentration: 5 lb/MMCF (AP-42, Table 1.4-1)

EF (PM10) = (5 lb/MMCF)(1 CF/1000 BTU) = 0.005 lb/MMBTU

Premodification Emission Factors, #6 Fuel Oil:

Each boiler was source tested. Boiler #1 was tested by the California Air Resources Board on 12/11/85 and #2 was tested by BCA on 9/10/91. The fuel oil burned during the 1991 test on boiler #2 was Kern Oil And Refining Company Oil which is the same blend (Sulfur content of 0.74 to 1.0% and a nitrogen content of between 0.34 and 0.96%) as the fuel oil burned during the baseline period (Quarter 4 of 1989 through Quarter 3 of 1991). The fuel oil burned during the 1985 test on boiler #1 was a different blend. Since the boilers are similar it will be assumed that the emission factors for NOx, SOx and PM10, derived from the data from the 9/10/91 test, can be applied to both boilers. NMHC emissions were not tested, therefore the AP-42 emission factor will be utilized. CO was tested and the emission rate was found to be 0.25 lb/hr which equates to approximately 4 PPM. This does not seem realistic therefore the CO emission factor will be estimated utilizing AP-42.

#6 fuel usage: 308 barrels (12,936 gallons @ 42 gal/bbl) during the entire day of the source test. Assuming that the usage was uniform throughout the day the hourly usage was 539 gallons. (Application Package, Page 3-9)

#6 fuel oil heating value: 150,000 BTU/gal (AP-42, A-4)
#6 fuel usage: (150,000 BTU/gal)(539 gal/hr) = 80.85 MMBTU/hr
Sulfur Content: 0.91 %
Nitrogen Content: 0.83 %

NOx emission rate: 50.2 lb/hr (Application Package, Appendix D)

EF(NOx) = (50.2 lb/hr)(1 hr/80.85 MMBTU/hr) = 0.62 lb/MMBTU

CO emission concentration: 5 lb/10^3 gal (AP-42 table 1.3-1)

EF(CO) = (5 lb/10^3 gal)(1 gal/150,000 BTU) = 0.033 lb/MMBTU

SOx Emission Rate: 84.7 lb/hr (Application Package, Appendix D)

EF (SOx) = (84.7 lb/hr)(1 hr/80.85 MMBTU) = 1.0 lb/MMBTU

NMHC emission Concentration: 0.76 lb/10^3 gal (AP-42, Table 1.3-1)

EF(NMHC) = (0.76 lb/10^3 gal)(1 gal/150,000 BTU) = 0.005 lb/MMBTU

TSP Emission Rate: 12.74 lb/hr (Application Package, Appendix D)
PM10 Fraction: 0.87 (PM10 manual)

PM10 Emission Rate = (12.74 lb/hr)(0.87) = 11.1 lb/hr

EF(PM10) = (11.1 lb/hr)(1 hr/80.85 MMBTU/hr) = 0.14 lb/MMBTU

Postmodification Emission Factors, Natural Gas

NOx: 0.0365 lb/MMBTU (Vender Guarantee, Application Package, appendix F)
CO: 0.15 lb/MMBTU (Vender Guarantee, Application Package, appendix F)
NMHC: AP-42 emission concentration was guaranteed (Application Package, Sect. 3):

Emission concentration: 1.41 lb/MMCF (AP-42 table 1.4-3)
Natural Gas Heating Value: 1000 BTU/SCF
EF(VOC) = (1.41 lb/MMCF)(1 CF/1000 BTU) = 0.0014 lb/MMBTU

SOx: AP-42 emission rate was guaranteed:

Emission concentration: 0.6 lb/MMCF (AP-42 table 1.4-2)
Natural Gas Heating Value: 1000 BTU/SCF
EF(SOx) = (0.6 lb/MMCF)(1 CF/1000 BTU) = 0.0006 lb/MMBTU

PM10: AP-42 emission concentration was guaranteed:

Emission concentration: 5 lb/MMCF (AP-42 table 1.4-2)
Natural Gas Heating Value: 1000 BTU/SCF
EF(PM10) = (5 lb/MMCF)(1 CF/1000 BTU) = 0.005 lb/MMBTU

Postmodification Emission Factors, #6 Fuel Oil

NOx: The burner manufacturer has guaranteed an emission concentration of 265 to 540 PPM (0.33 to 0.69 lb/MMBTU) depending on the type of fuel used. The applicant has proposed 0.62 lb/MMBTU (Application Package, table 4-1).

CO: The vender has guaranteed 200 PPM (0.15 lb/MMBTU)

VOC: The applicant has proposed the AP-42 emission concentration (Application Package, Table 4-1).

NMHC emission Concentration: 0.76 lb/10^3 gal (AP-42 Table 1.3-1)
EF(NMHC) = (0.76 lb/10^3 gal)(539 gal/hr)(1 hr/80.85 MMBTU) = 0.005 lb/MMBTU

SOx: The applicant is proposing an emission factor of 1.0 lb/MMBTU based on their expectation that they can match the SOx emission rate achieved during the 9/10/91 source test (Application Package, table 4-1). Newark Sierra stated in the application that they would be limited to a fuel oil sulfur content of 0.9% by weight.

PM10: The applicant is proposing an emission factor of 0.11 lb/MMBTU.

Summery Of Emission Factors

	Before Modification		After Modification	
	Natural Gas ($lb/10^6$ BTU)	**# 6 Fuel Oil ($lb/10^6$ BTU)**	**Natural Gas ($lb/10^6$ BTU)**	**# 6 Fuel Oil ($lb/10^6$ BTU)**
NOx	0.21	0.62	0.0365	0.62
SOx	0.0006	1.0	0.0006	1.0
CO	0.36	0.033	0.15	0.15
NMHC	0.0014	0.005	0.0014	0.005
PM10	0.005	0.14	0.005	0.11

B. Assumptions Made:

1. Emission Factors for a source test from one boiler may be applied to the other.

C. Emission Calculations:

1. Maximum Proposed Emissions:

Newark Sierra requested to have their emissions limited such that offsets and public notice are not triggered. Additionally they requested to be limited such that BACT for fuel oil combustion emissions is not triggered. In order to achieve that, there must be no Increase In Permitted Emissions of NOx, NMHC, SOx or PM10 and the NSR balance for CO must be less than 550 pounds per day.

Both boilers are prebaseline units. Boiler #2 has not been modified since the baseline date and in 1985 Newark Sierra modified boiler #1. That modification resulted in a SOx NSR balance of 150 pounds per day, a CO NSR balance of 11.5 pounds per day and a PM10 NSR balance of 12.5 lb/day. Therefore, in order to avoid exceeding any of the above mentioned threshold levels each boiler must be limited to no more than the following:

PEPM (Oil): NOx = (111 MMBTU/hr)(24 hr/day)(0.62 lb/MMBTU) = 1651.7 lb/day
CO = (111 MMBTU/hr)(24 hr/day)(0.033 lb/MMBTU) = 87.9 lb/day
NMHC = (111 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 13.3 lb/day
SOx = (111 MMBTU/hr)(24 hr/day)(1.0 lb/MMBTU) = 2664.0 lb/day
PM10 = (111 MMBTU/hr)(24 hr/day)(0.14 lb/MMBTU) = 373.0 lb/day

PEPM (Gas): NOx = (113 MMBTU/hr)(24 hr/day)(0.21 lb/MMBTU) = 569.5 lb/day
CO = (113 MMBTU/hr)(24 hr/day)(0.36 lb/MMBTU) = 976.3 lb/day
NMHC = (113 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU) = 3.8 lb/day
SOx = (113 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU) = 1.6 lb/day
PM10 = (113 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 13.6 lb/day

Worst Case PEPM: NOx = 1651.7 lb/day
CO = 976.3 lb/day
NMHC = 13.3 lb/day
SOx = 2664 lb/day
PM10 = 373 lb/day

Maximum Proposed Emissions:

Newark Sierra has proposed no change in the NOx, CO, NMHC or SOx emission concentrations and a decrease in the PM10 emission concentration while firing on #6 fuel oil. Therefore, in order to ensure no increase in emissions while firing on #6 fuel oil the boilers will be limited to their premodification #6 fuel oil burning capacity which is:

(111 MMBTU/hr)(24 hr/day) = 2664 MMBTU/day

PE (Oil):
NOx = (2664 MMBTU/day)(0.62 lb/MMBTU) = 1651.7 lb/day
CO = (2664 MMBTU/day)(0.15 lb/MMBTU) = 399.6 lb/day
NMHC = (2664 MMBTU/day)(0.005 lb/MMBTU) = 13.3 lb/day
SOx = (2664 MMBTU/day)(1.0 lb/MMBTU) = 2664.0 lb/day
PM10 = (2664 MMBTU/day)(0.11 lb/MMBTU) = 293.0 lb/day

PE (Gas):
NOx = (135 MMBTU/hr)(24 hr/day)(0.0365 lb/MMBTU) = 118.3 lb/day
CO = (135 MMBTU/hr)(24 hr/day)(0.15 lb/MMBTU) = 486.0 lb/day
NMHC = (135 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU) = 4.5 lb/day
SOx = (135 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU) = 1.9 lb/day
PM10 = (135 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU) = 16.2 lb/day

Worst Case PE:
NOx = 1651.7 lb/day
CO = 486.0 lb/day
NMHC = 13.3 lb/day
SOx = 2664.0 lb/day
PM10 = 293.0 lb/day

The Potential To Emit is less than or equal to the Potential To Emit Prior to The Modification.

Daily Emission Limits:

Conditions Will Be The Same For Both Boilers:
Equipment Description: 135 MMBTU/HR Boiler

1. The boiler shall be fired on natural gas or #6 fuel oil only.

2. The NOx emission concentration shall not exceed 0.0365 lb/mmbtu while firing on natural gas.

3. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on natural gas.

4. The NMHC emission concentration shall not exceed 0.0014 lb/mmbtu while firing on natural gas.

5. The SOx emission concentration shall not exceed 0.0006 lb/mmbtu while firing on natural gas.

6. The PM10 emission concentration shall not exceed 0.005 lb/mmbtu while firing on natural gas.

7. The #6 fuel oil usage shall not exceed 2664 mmbtu/day.

8. If #6 fuel oil is burned at any time during the day then the combined heat input from natural gas and #6 fuel oil shall not exceed 2664 mmbtu/day.

9. The NOx emission concentration shall not exceed 0.62 lb/mmbtu while firing on #6 fuel oil.

10. The CO emission concentration shall not exceed 0.15 lb/mmbtu while firing on #6 fuel oil.

11. The NMHC emission concentration shall not exceed 0.005 lb/mmbtu while firing on #6 fuel oil.

12. The SOx emission concentration shall not exceed 1.0 lb/mmbtu while firing on #6 fuel oil.

13. The PM10 emission concentration shall not exceed 0.11 lb/mmbtu while firing on #6 fuel oil.

14. The #6 fuel oil usage shall not exceed 18,648 mmbtu's per calendar quarter* .

* The applicant originally requested to be limited to 7 days per year of fuel oil usage. It was not certain which quarter the fuel usage would take place in therefore they will be allowed 7 days per quarter. Refer to the AER section of this application review for further information:

(2,664 MMBTU/day)(7 days/qtr) = 18,648 mmbtu/qtr

2. Increase In Permitted Emissions (IPE) For BACT:

IPE = PE (Modified Unit After Modification) - HAPE (Modified Unit)

Note: It is District policy to calculate IPE separately for the primary fuel and the back-up fuel.

Where: HAPE = PEPM(1-ΔCE)
PEPM is the Potential To Emit Prior To The Modification
$\Delta CE = (EF_1 - EF_2) / EF_1$ Where EF_1 is the premodification emission factor (uncontrolled emissions) and EF_2 is the postmodification emission factor

	Natural Gas EF's (lb/MMBTU)			#6 Fuel Oil EF's (lb/MMBTU)		
	EF_1	EF_2	ΔCE	EF_1	EF_2	ΔCE
NOx	0.21	0.0365	0.826	0.62	0.62	0.0
CO	0.36	0.15	0.583	0.033	0.15	0.0[1]
NMHC	0.0014	0.0014	0.0	0.005	0.005	0.0
SOx	0.0006	0.0006	0.0	1.0	1.0	0.0
PM10	0.005	0.005	0.0	0.14	0.11	0.214

1. District policy (3/25/92) states that if the CE is calculated to be negative it shall be set to zero.

HAPE (Natural Gas, Per Boiler):

NOx = (113 MMBTU/hr)(24 hr/day)(0.21 lb/MMBTU)(1-0.826) = 99.1 lb/day
CO = (113 MMBTU/hr)(24 hr/day)(0.36 lb/MMBTU)(1-0.583) = 407.1 lb/day
NMHC = (113 MMBTU/hr)(24 hr/day)(0.0014 lb/MMBTU)(1-0.0) = 3.8 lb/day
SOx = (113 MMBTU/hr)(24 hr/day)(0.0006 lb/MMBTU)(1-0.0) = 1.6 lb/day

PM10 = (113 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU)(1-0.0) = 13.6 lb/day

IPE (Natural Gas, Per Boiler):

NOx = 118.3 lb/day - 99.1 lb/day = 19.2 lb/day
CO = 486.0 lb/day - 407.1 lb/day = 78.9 lb/day
NMHC = 4.5 lb/day - 3.8 lb/day = 0.7 lb/day
SOx = 1.9 lb/day - 1.6 lb/day = 0.3 lb/day (Rounds to zero because it is less than 0.5 lb/day per District policy)

PM10 = 16.2 lb/day - 13.6 lb/day = 2.6 lb/day

HAPE (Fuel Oil, Per Boiler):

NOx = (111 MMBTU/hr)(24 hr/day)(0.62 lb/MMBTU)(1-0.0) = 1651.7 lb/day
CO = (111 MMBTU/hr)(24 hr/day)(0.033 lb/MMBTU)(1-0.0) = 87.9 lb/day
NMHC = (111 MMBTU/hr)(24 hr/day)(0.005 lb/MMBTU)(1-0.0) = 13.3 lb/day
SOx = (111 MMBTU/hr)(24 hr/day)(1.0 lb/MMBTU)(1-0.0) = 2664.0 lb/day
PM10 = (111 MMBTU/hr)(24 hr/day)(0.14 lb/MMBTU)(1-0.214) = 293.1 lb/day

IPE (Fuel Oil, Per Boiler):
NOx = 1651.7 lb/day - 1651.7 lb/day = 0.0 lb/day
CO = 399.6 lb/day - 87.9 lb/day = 311.7 lb/day
NMHC = 13.3 lb/day - 13.3 lb/day = 0.0 lb/day
SOx = 2664.0 lb/day - 2664.0 lb/day = 0.0 lb/day
PM10 = 293.0 lb/day - 293.1 lb/day = 0.0 lb/day[1]

1. Does not equal zero because of emission factor calculation round off.

IPE For Inclusion In The NSR Balance (Each Boiler):

$IPE = PE_{After} - PE_{Before}$

Where $PE_{Before} = PEPM$
And $PE_{After} = PE$

Pollutant	PEPM (#6 Fuel Oil) (lb/day)	PEPM (Nat. Gas) (lb/day)	PEPM (Worst Case) (lb/day)
NOx	1651.7	569.5	1651.7
CO	87.9	976.3	976.3
NMHC	13.3	3.8	13.3
SOx	2664.0	1.6	2664.0
PM10	373.0	13.6	373.0

Worst Case PE:
NOx = 1651.7 lb/day
CO = 486.0 lb/day
NMHC = 13.3 lb/day
SOx = 2664 lb/day
PM10 = 293.0 lb/day

IPE (NSR Inclusion):
NOx = 1651.7 lb/day - 1651.7 lb/day = 0.0 lb/day
CO = 486.0 lb/day - 976.3 lb/day = 0.0 lb/day[1]
NMHC = 13.3 lb/day - 13.3 lb/day = 0.0 lb/day
SOx = 2664 lb/day - 2664 lb/day lb/day = 0.0 lb/day
PM10 = 293.0 lb/day - 373.0 lb/day = 0.0 lb/day[1]

1. IPE's calculated to be less than 0.5 lb/day are set equal to zero (3/12/92 District policy)

3. Actual Emission Reductions (AER):

AER = (HAE X CE) where: HAE = (EF)(Fuel Usage)

Table Of Quarterly Average HAE's

Qtr	Natural Gas Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Natural Gas HAE (lb/Qtr)	Fuel Oil Usage Therms/Qtr (BTU/Qtr) (App. Pkg. Table 3-1)	Fuel Oil HAE (lb/Qtr)
1	1,142,238 (114,223.8 X 10^6)	NOx: 23,987 SOx: 69 CO: 41,121 NMHC: 160 PM10: 571	2,277,880 (227,788.0 X 10^6)	NOx: 141,229 SOx: 227,788 CO: 7,517 NMHC: 1,139 PM10: 31,890
2	15,234 (1,523.4 X 10^6)	NOx: 320 SOx: 1 CO: 548 NMHC: 2 PM10: 8	3,267,562 (326,756.2 X 10^6)	NOx: 202,589 SOx: 326,756 CO: 10,783 NMHC: 1,634 PM10: 45,746
3	1,236,341 (123,634.1 X 10^6)	NOx: 25,963 SOx: 74 CO: 44,508 NMHC: 173 PM10: 618	1,833,790 (183,379.0 X 10^6)	NOx: 113,695 SOx: 183,379 CO: 6,052 NMHC: 917 PM10: 25,673
4	1,707,673 (170,767.3 X 10^6)	NOx: 35,861 SOx: 102 CO: 61,476 NMHC: 239 PM10: 854	1,615,796 161,579.6 X 10^6)	NOx: 100,179 SOx: 161,580 CO: 5,332 NMHC: 808 PM10: 22,621

Baseline period is the forth quarter of 1989 through the third quarter of 1991.

Newark Sierra will be installing a control device to control emissions while firing on natural gas. They will be reducing #6 fuel oil combustion contaminant emissions by reducing it's use. Therefore AER will be calculated utilizing the following equations:

AER (Natural Gas): HAE * CE (Rule 2201 Section 6.5.2)

AER (#6 Fuel Oil): HAE-PE (Rule 2201 Section 6.5.1)

Newark Sierra has stated that they wish to retain the right to burn #6 fuel oil seven days per year for emergency purposes (application package, Section 4). It is not known which quarter the fuel oil will be burned in therefore all four quarters will be corrected to reflect seven days of fuel oil usage.

PE for 7 days of oil use in both boilers combined is:

BTU Rating: Each boiler will be limited to 2664 MMBTU/day of #6 fuel oil usage therefore the combined allowable #6 fuel oil usage, for both boilers combined, will be 5328 MMBTU/day.

PE_{NO_x}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.62 lb/MMBTU) = 23,123.5 lb/qtr
PE_{SO_x}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(1.0 lb/MMBTU) = 37,296.0 lb/qtr
PE_{CO}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.15 lb/MMBTU) = 5,594.4 lb/qtr
PE_{NMHC}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.005 lb/MMBTU) = 186.5 lb/qtr
PE_{PM10}(fuel oil) = (7 days/qtr)(5328 MMBTU/day)(0.11 lb/MMBTU) = 4102.6 lb/qtr

AER = $(\text{HAE} * \text{CE})_{\text{Nat.Gas}} + (\text{HAE} - \text{PE})_{\#6\ \text{Fuel Oil}}$

Quarter 1:
AER (NOx) = (23,987 lb)(0.826) + (141,229 lb - 23,123.5 lb) = 137,919 lb
AER (SOx) = (69 lb)(0) + (227,788 lb - 37,296.0 lb) = 190,492 lb
AER (CO) = (41,121 lb)(0.583) + (7,517 lb - 5,594.4 lb) = 25,896 lb
AER (NMHC) = (160 lb)(0) + (1,139 lb - 186.5 lb) = 953 lb
AER (PM10) = (571 lb)(0) + (31,890 lb - 4,102.6 lb) = 27,787 lb

Quarter 2:
AER (NOx) = (320 lb)(0.826) + (202,589 lb - 23,123.5 lb) = 179,730 lb
AER (SOx) = (1 lb)(0) + (326,756 lb - 37,296.0 lb) = 289,460 lb
AER (CO) = (548 lb)(0.583) + (10,783 lb - 5,594.4 lb) = 5,508 lb
AER (NMHC) = (2 lb)(0) + (1,634 lb - 186.5 lb) = 1,448 lb
AER (PM10) = (8 lb)(0) + (45,746 lb - 4,102.6 lb) = 41,643 lb

Quarter 3:
AER (NOx) = (25,963 lb)(0.826) + (113,695 lb - 23,123.5 lb) = 112,017 lb
AER (SOx) = (74 lb)(0) + (183,379 lb - 37,296.0 lb) = 146,083 lb
AER (CO) = (44,508 lb)(0.583) + (6,052 lb - 5,594.4 lb) = 26,406 lb
AER (NMHC) = (173 lb)(0) + (917 lb - 186.5 lb) = 731 lb
AER (PM10) = (618 lb)(0) + (25,673 - 4,102.6 lb) = 21,570 lb

Quarter 4:
AER (NOx) = (35,861 lb)(0.826) + (100,179 lb - 23,123.5 lb) = 106,677 lb
AER (SOx) = (102 lb)(0) + (161,580 lb - 37,296.0 lb) = 124,284 lb
AER (CO) = (61,476 lb)(0.583) + (5,332 lb - 5,594.4 lb) = 35,578 lb
AER (NMHC) = (239 lb)(0) + (808 lb - 186.5 lb) = 622 lb
AER (PM10) = (854 lb)(0) + (22,621 - 4,102.6 lb) = 18,518 lb

Summery Of AER's:

	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)
NOx	137,919	179,730	112,017	106,677
SOx	190,492	289,460	146,083	124,284
CO	25,896	5,508	26,406	35,578
NMHC	953	1,448	731	622
PM10	27,787	41,643	21,570	18,518