COMPANY CORRESPONDENCE

TO DIV:	Industrial Chemicals	FROM DIV:	Industrial Chemicals
LOCATION:	Morristown	LOCATION:	Baton Rouge North Works
ATT'N OF:	Mr. J. M. Quinn Mr. J. M. DeVoe	DATE:	July 3, 1974
SUBJECT:	APPLICATION FOR PERMIT TO BURN FUEL OIL		

R. F. M.
JUL 10 1974

1. Attached please find copies of permit request and emission inventory requested by the State of Louisiana in connection with our application for permit to burn fuel oil. We will hand deliver these documents today as per prior arrangement with you.

P. B. Cornell

P. B. Cornell, Manager
Baton Rouge North Works

FPT:rmcn
Encs.

cc: Mr. E. E. James
Mr. T. D. Kent
Mr. A. J. vonFrank

C-236 (9-63) PTD. IN U.S.A. (F)

ASI 00005855

APPLICATION FOR
APPROVAL OF EMISSIONS

(Revised January 20, 1973)

Send 14 copies to:

Louisiana Air Control Commission
P. O. Box 60630
New Orleans, Louisiana 70160

Attention: Technical Assistance

1. GENERAL INFORMATION

Name of person or company requesting permit:

Allied Chemical Corporation, IndustrialChemicals Division

Address: P. O. Box 271, Baton Rouge, Louisiana 70821

Responsible Officer: P. B. Cornell Telephone No. 356-3341

Date Submitted: July 8, 1974

2. GEOGRAPHICAL LOCATION OF PLANT

Description of location of plant or establishment and/or map section showing same: Manufacturing facilities are located on the left (east) decending bank of the Mississippi River at Mi 232.81 above the Head of Passes on the south point of the property line and 233.46 Mi on the north point. This property covers approximately 200 acres, extending north to south approximately 3/4 mile from about 1/4 mile south of the Highway 190 bridge. It also extends about 1/2 mile to the east from the river.

Show ownership and use of adjoining property on map section or list below. List any residential areas near the plant or establishment and give distance from the plant or establishment: These facilities are bordered on the north by the Kaiser Aluminum Company, by the Gulf States Utilities on the south, by the Ethyl Corporation on the east and by the Mississippi River on the west. These facilities are more than a mile from any residential area.

3. LOUISIANA AIR CONTROL COMMISSION EMISSION INVENTORY QUESTIONNAIRE.

A completed Emission Inventory Questionnaire (copy attached) is required. If a new 6 page questionnaire for this location has been previously submitted, give date of submission July , 1974 . A completed "revised" Emission Inventory Questionnaire must also be submitted with this application. The Emission Inventory Questionnaire must be completed showing the entire emissions of the facility after modifications and/or additions.

Estimated starting date of construction: N.A.

Estimated date operation will begin: 3rd Quarter 1974

New Facility: N.A.

Addition: N.A.

"Give a brief description of proposed action and attach such information as flow diagrams, schematic diagrams, drawings, etc. needed to convey an understanding of th processes involved in the plant or establishment."

Our present supply of natural gas is being curtailed by 40%. We therefore propose to substitute fuel oil of 0.7% sulfur for natural gas in the operation of six boilers in our steam turbine power house.

Standby facilities for fuel oil burning are a part of the existing plant. Some changes will be made to obtain the most efficient utilization of the fuel oil on a continuous basis.

4. IDENTIFICATION AND LOCATION OF EMISSION SOURCES

Enclose a sketch showing specific location of point or points of emission. Show approximate distance (in feet) of all such points from property line. (Each emission source shall be numbered consecutively in the year of permit request. For example, the first for which a permit is requested in 1973 would be designated as 1-73.

Identification Number	Name and Description of Source
1-74	Six stacks, one from each of six boilers in our steam turbine power house. These stacks are numbered 56 through 61 on the current Emission Inventory dated 7/8/74 and are approximately 100 ft. from the east property line which is bordered by the Kaiser Corporation, approximately 1375 ft. from the south line bordered by Gulf States Utilities plant, approximately 2875 ft. to the north line bordered by the Kaiser Plant and approximately 2125 ft. to the west line which is bordered by the Mississippi River.

Identification Number	EMISSION			STACK			
	Rate SCF/SEC	Temp. °F	Exit Velocity Ft./Sec.	Diam. Feet	Elev. Above Grade	Can be Sampled Yes	Can be Sampled No
1-74	4493	306	19.6	7.0	80 ft	X	--

SUMMARY OF EMISSIONS AND THEIR EFFECTS ON AMBIENT AIR

Point Sourc (indicat # on map)	EMISSION lbs/hr: Air Contam-inants	With Control Apparatus	Without Control Apparatus	Process Weight tons/hr	Concentration of Pollutant Gases in Discharge Gas: PPM	ug/m³	** Heat Input BTU/hr	EFFECT ON AMBIENT AIR Concentration: At Nearest Property Line Δ: PPM	ug/m³	Max. Ground Level and Locations: PPM	ug/m³	Dist.	Ringel-mann Number or Opacity
1-74*	SO_2	N.A.	610	N.A.	330	605,203	8.2×10^8	-	-	0.06	163	0.26 KM	N.A.
Stack #56	Ash	N.A.	13.1	N.A.	-	12,984		-	-	-	3.5	0.26 KM	N.A.
Stack #57	NO_2	N.A.	67	N.A.	36	66,473		-	-	0.007	18.0	0.26 KM	N.A.
Stack #58	(Any	necessary	soot blowing	is expected	to be in	compli	nce)						
Stack #59													
Stack #60													
Stack #61													

Total amount of particulate 13.1 lbs/hr.

1. PPM as used in this form refers to parts per million by volume.

2. Heat Input. The aggregate of heat content of all fuels whose products of combustible pass through a stack or stacks. This information should be included for fuel burning equipment only.

3. Fuel Burning Equipment. Any stationary contrivance used in the process of burning fuel or combustible material for the primary purpose of producing heat or power by indirect heat transfer.

4. Process Weight. Any total weight of all materials introduced into any specific process which may cause emissions. Solid fuel charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not.

* These six stacks, which are close together and identical in capacity, are being treated as one point source in all calculations including the dispersion calculations.

** Total in-put into six boilers of identical capacity.

Δ Nearest property line is too close for meaningful dispersion calculations.

5. PROPOSED AIR POLLU. N CONTROL

List the air pollution abatement measures that will be utilized to control the emissions from the sources for the plant or establishment. If no facilities are contemplated, list the steps which will be taken to prevent the emission of sufficient quantities of pollutants to result in undesirable levels. Give the source and then the abatement method for each source. Please include information such as drawings, manufacturer literature, specification, capacities and efficiencies needed for evaluation of such control equipment and techniques used in controlling each source. Please include data that each estimated date operation will begin. Any information about the method used for abating the source will facilitate the evaluation of the application.

It has been estimated that the emissions resulting from application of this permit will be in compliance.

7. AUTHORITY

This application is submitted in accordance with the provisions of the Regulations of the Air Control Commission, State of Louisiana.

Industrial Chemicals Division
Allied Chemical Corporation
Company

P. O. Box 271
Baton Rouge, Louisiana
Address

P. B. Cornell
Name of Responsible Officer

Plant Manager
Baton Rouge North Works
Title of Responsible Officer

(504)-356-3341
Telephone No.

Frank P. Turk
Signature of Professional Engineer

Frank P. Turk
Supervisor-Environmental Control
Name (typed) and Title

No. 4488
Professional Engineering Registration No.

State Registered

LACC-AFAOE-Rev. 1/20/73

APPENDIX

EFFECTS OF EMISSIONS ON AMBIENT AIR

For purposes of this ...lication, calculations based ...recognized engineer practices will be accepted. The following references may be helpful as a basis of calculations of effects on ambient air.

1. Workbook of Atmospheric Dispersion Estimates

   Environmental Protection Agency
   Air Pollution Technical Information Center
   Office of Technical Information and Publications
   Research Triangle Park, North Carolina 27711

2. Recommended Guide for the Prediction of Dispersion of Airborne Effluents

   American Society of Mechanical Engineers
   345 East 47th Street
   New York, New York 10017
   Library of Congress No. 68-31123
   Issued in 1968

In order to evaluate the effects of a plant's emissions upon the ambient air, atmospheric dispersion estimates must be made. It has been the policy of the Technical Secretary and the Air Control Commission to require that ambient calculations show the cumulative effects on the ambient air of the entire facility after modifications for each pollutant emitted.

The following calculations represent the minimum requirement necessary to provide this information. In cases involving multiple sources, the method of calculation will vary depending on the number and location of the sources. In these cases, this form should be used as a guide for calculating the effects of multiple sources.

The general method as outlined in the Workbook of Atmospheric Dispersion Estimates is followed in these calculations.

Equation I is used in estimating the ground level concentration of a pollution along the centerline of the plume.

Equation I: $$X\ (x, 0, 0, H) = \frac{Q}{\pi \sigma_y \sigma_z u} \exp\left[-1/2\ (H/\sigma_z)^2\right]$$

Where X is the estimated pollutant concentration in grams per meter ^{3}

Q is the pollutant emission rate in grams per second

U is the wind speed in meters per second

σ_y and σ_z are the horizontal and vertical dispersion coefficients in meters (See Figures 1 and 2)

H is the effective stack height in meters

π is a constant equal to 3.1416

x is the downwind distance from the source in meters.

A. Effective Stack Height, (H)

The Holland equation (Equation 2) is used below for calculation of plume rise. The substitution of plume rise equations that have been demonstrated to be more representative of a given source than the Holland equation is acceptable.

Equation 2:

$$\Delta H = \frac{V_s d}{u}\left(1.5 + 2.68 \times 10^{-3} p \frac{T_s - T_a}{T_s} d\right)$$

Where ΔH is the plume rise in meters

V_s is the stack gas exit velocity in meters/second

d is the inside stack diameter in meters

u is the wind speed in meters per second

p is the atmospheric pressure in millibars

T_s is the stack temperature in degrees Kelvin

T_a is the ambient air temperature in degrees Kelvin

$$(\Delta H)(u) = V_s d \left(1.5 + 2.68 \times 10^{-3} p \frac{T_s - T_a}{T_s} d\right)$$

$$(\Delta H)(u) = \frac{5.96 \text{ m/sec}}{} \quad \frac{5.22 \text{ meters}}{}$$

$$1.5 + (2.68 \times 10^{-3} \text{ m}^{-1} \text{ mb}^{-1}) \frac{1000 \text{ mb}}{} \left(\frac{579\ ^{\circ}\text{K} - 298\ ^{\circ}\text{K}}{579\ ^{\circ}\text{K}}\right) \frac{5.22 \text{ m}}{}$$

$$(\Delta H)(u) = \underline{\quad 258 \quad} \text{ meters}^2/\text{sec}$$

In order to calculate the effective stack height (H) over a range of wind speeds, the value for the plume rise (ΔH) must be found for each wind speed and added to the physical height of the stack.

u	(ΔH u) / (u)	+	h	=	H
0.5m/sec	516 m	+	24.4 m	=	540.4 m
1.0m/sec	258 m	+	24.4 m	=	282.4 m
2.0m/sec	129 m	+	24.4 m	=	153.4 m
3.0m/sec	86 m	+	24.4 m	=	110.4 m
5.0m/sec	51.6 m	+	24.4 m	=	76 m
8.0m/sec	32.3 m	+	24.4 m	=	56.7 m
10.0m/sec	25.8 m	+	24.4 m	=	50.2 m
15.0m/sec	17.2 m	+	24.4 m	=	41.6 m
20.0m/sec	12.9 m	+	24.4 m	=	37.3 m
25.0m/sec	10.3 m	+	24.4 m	=	34.7 m
30.0m/sec	8.6 m	+	24.4 m	=	33 m
50.0m/sec	5.2 m	+	24.4 m	=	29.6 m

B. Concentration at Nearest Property Line

The concentration at the nearest property line is calculated using equation (1). Equation (1) shall be divided into three sections to facilitate the calculation of the concentration.

$$X\ (x, o, o, H) = \left[\frac{Q}{\pi\ \sigma_y \sigma_z}\right]\left[\exp\left(-\tfrac{1}{2}\ (H/\sigma_z)^2\right)\right] \Big/ \left[u\right]$$

All of the quantities in the term $Q/\pi\sigma_y\sigma_z$ are constant at a given distance downwind except σ_y and σ_z which vary with stability category; therefore, a value for $(Q/\pi\sigma_y\sigma_z)$ can easily be found for each stability class. The values of σ_y and σ_z can be obtained from Figures 1 and 2 by:

(1) Find the distance to the nearest property line on the x coordinate of the Figure;

(2) Following line perpindicular to the x axis till it intersects the appropriate stability curve;

(3) Following a line parallel to the x axis till it intersects the σ_y or σ_z axis;

(4) record below the value of σ_y or σ_z indicated

Coefficients of Vertical and Horizontal Dispersion

The distance to the nearest property line is 30 meters. = Below range of correlation

Stability Class	A	D	F
σ_y, m			
σ_z, m			

EXAMPLE: A source is 10,000 meters from the nearest property line. Using Figures 1 and 2 the values of σ_y and σ_z are approximately 560 meters and 135 meters respectivaly using a D stability category.

The rate of emission of the pollutant (Q) = 77 g/sec

For A stability category:

$$\frac{Q}{\pi \sigma_y \sigma_z} = \frac{(\_\_\_\_ \text{g/sec})}{(3.1416)\ (\_\_\_\_ \text{m})\ (\_\_\_\_ \text{m})} = \_\_\_\_ \text{g/sec-m}^2$$

For D stability category:

$$\frac{Q}{\pi \sigma_y \sigma_z} = \frac{(\_\_\_\_ \text{g/sec})}{(3.1416)\ (\_\_\_\_ \text{m})\ (\_\_\_\_ \text{m})} = \_\_\_\_ \text{g/sec-m}^2$$

For F stability category:

$$\frac{Q}{\pi \sigma_y \sigma_z} = \frac{(\_\_\_\_ \text{g/sec})}{(3.14.6)\ (\_\_\_\_ \text{m})\ (\_\_\_\_ \text{m})} = \_\_\_\_ \text{g/sec-m}^2$$

In the following TABLE divide the effective stack height (H) for each wind speed by the σ_z found above for each stability category.

WIND SPEED	STABILITY CLASSES		
	A	D	F
u m/sec	H/σ_z	H/σ_z	H/σ_z
0.5			
1.0			
2.0			
3.0			
5.0			
8.0			
10.0			
15.0			
20.0			
25.0			
30.0			
50.0			

The following tables are used to calculate the pollutant concentration at the nearest property line. The value of $Q/\pi\sigma_y\sigma_z$ for each stability class found above is used in Column 1. Column 2 is made by taking the values from the table above for H/σ_z for each wind speed. "Column 3 is determined by using the tables on page 12A and 13A. Column 4 is generated by multiplying columns 1 and 3 together and dividing by the appropriate wind speed."

CONCENTRATIONS FOR A STABILITY

u	(1) $\frac{Q}{\pi \sigma_y \sigma_z}$	(2) (H/σ_z)	(3) $\exp\left[-\frac{1}{2}(H/\sigma_z)^2\right]$	(4) X Calculated	(5) 24-hr. Average*
0.5					
1.0					
2.0					
3.0					
5.0					
8.0					
10.0					
15.0					
20.0					
25.0					
30.0					
50.0					

CONCENTRATIONS FOR D STABILITY

u	(1) $\frac{Q}{\pi \sigma_y \sigma_z}$	(2) (H/σ_z)	(3) $\exp\left[-\frac{1}{2}(H/\sigma_z)^2\right]$	(4) X Calculated	(5) 24-hr. Average*
0.5					
1.0					
2.0					
3.0					
5.0					
8.0					
10.0					
15.0					
20.0					
25.0					
30.0					
50.0					

* The 24-hr. average is approximated by multiplying the calculated value by 0.36.

CONCENTRATIONS FOR F STABILITY

	(1)	(2)	(3)	(4)	(5)
u	$\frac{Q}{\pi \sigma_y \sigma_z}$	$\left(\frac{H}{\sigma_z}\right)$	$\exp\left[-\frac{1}{2}\left(\frac{H}{\sigma_z}\right)^2\right]$	X Calculated	24-hr. Average*
0.5					
1.0					
2.0					
3.0					
5.0					
8.0					
10.0					
15.0					
20.0					
25.0					
30.0					
50.0					

* The 24-hr. average is approximated by multiplying the calculated value by 0.36.

C. Maximum Ground Level Concentration

Figure 3 gives the distance to the point of maximum concentration, X_{max} and the relative maximum concentration $X_{max} u/Q$ as a function of effective stack height and stability. Using the proper stability and effective stack height, the value of $X_{max} u/Q$ can be found. This number is then multiplied by Q/u to give the maximum ground level concentration. The value of the distance to the maximum concentration can be read directly.

MAXIMUM GROUND LEVEL CONCENTRATIONS

		STABILITY CLASSES					
		A		D		F	
u	H	Calculated	24-hr. avg.*	Calculated	24-hr. avg.*	Calculated	24-hr. avg.*
0.5	540.4	No Correlation	N.C.	N.C.	N.C.	N.C.	N.C.
1.0	282.4	$3.23(10)^{-4}$	$1.16(10)^{-4}$	$4.62(10)^{-4}$	$1.66(10)^{-4}$	N.C.	N.C.
2.0	153.4	$3.47(10)^{-4}$	$1.25(10)^{-4}$	$1.00(10)^{-4}$	$0.36(10)^{-4}$	$2.12(10)^{-5}$	$0.76(10)^{-5}$
3.0	110.4	$4.36(10)^{-4}$	$1.57(10)^{-4}$	$1.80(10)^{-4}$	$0.65(10)^{-4}$	$5.13(10)^{-5}$	$1.85(10)^{-5}$
5.0	76	$4.31(10)^{-4}$	$1.55(10)^{-4}$	$2.31(10)^{-4}$	$0.85(10)^{-4}$	$1.08(10)^{-4}$	$0.39(10)^{-4}$
8.0	56.7	$4.52(10)^{-4}$	$1.63(10)^{-4}$	$3.66(10)^{-4}$	$1.32(10)^{-4}$	$1.83(10)^{-4}$	$0.66(10)^{-4}$
10.0	50.2	$4.31(10)^{-4}$	$1.55(10)^{-4}$	$3.39(10)^{-4}$	$1.22(10)^{-4}$	$1.77(10)^{-4}$	$0.64(10)^{-4}$
15.0	41.6	$4.41(10)^{-4}$	$1.59(10)^{-4}$	$3.59(10)^{-4}$	$1.29(10)^{-4}$	$2.10(10)^{-4}$	$0.76(10)^{-4}$
20.0	37.3	$4.24(10)^{-4}$	$1.53(10)^{-4}$	$3.08(10)^{-4}$	$1.11(10)^{-4}$	$1.96(10)^{-4}$	$0.71(10)^{-4}$
25.0	34.7	$4.00(10)^{-4}$	$1.44(10)^{-4}$	$3.08(10)^{-4}$	$1.11(10)^{-4}$	$2.16(10)^{-4}$	$0.78(10)^{-4}$
30.0	33	$3.08(10)^{-4}$	$1.11(10)^{-4}$	$3.08(10)^{-4}$	$1.11(10)^{-4}$	$2.05(10)^{-4}$	$0.74(10)^{-4}$
50.0	29.6	$2.46(10)^{-4}$	$.88(10)^{-4}$	$2.16(10)^{-4}$	$0.78(10)^{-4}$	$1.54(10)^{-4}$	$0.55(10)^{-4}$

* The 24-hr. average is approximated by multiplying the calculated value by 0.36.

DOWNWIND DISTANCES TO MAXIMUM CONCENTRATION

u	H	x, Distance to maximum Concentration		
		A Stability	D Stability	F Stability
0.5	540.4	No correlation	N.C.	N.C.
1.0	282.4	0.7	15.0	N.C.
2.0	153.4	0.6	6.0	40.0
3.0	110.4	0.45	3.5	15.0
5.0	76.0	0.35	2.0	8.0
8.0	56.7	0.26	1.6	4.8
10.0	50.2	0.25	1.0	3.8
15.0	41.6	0.22	0.8	2.8
20.0	37.3	0.19	0.7	2.4
25.0	34.7	0.18	0.65	1.9
30.0	33.0	0.17	0.64	1.8
50.0	29.6	0.16	0.58	1.7

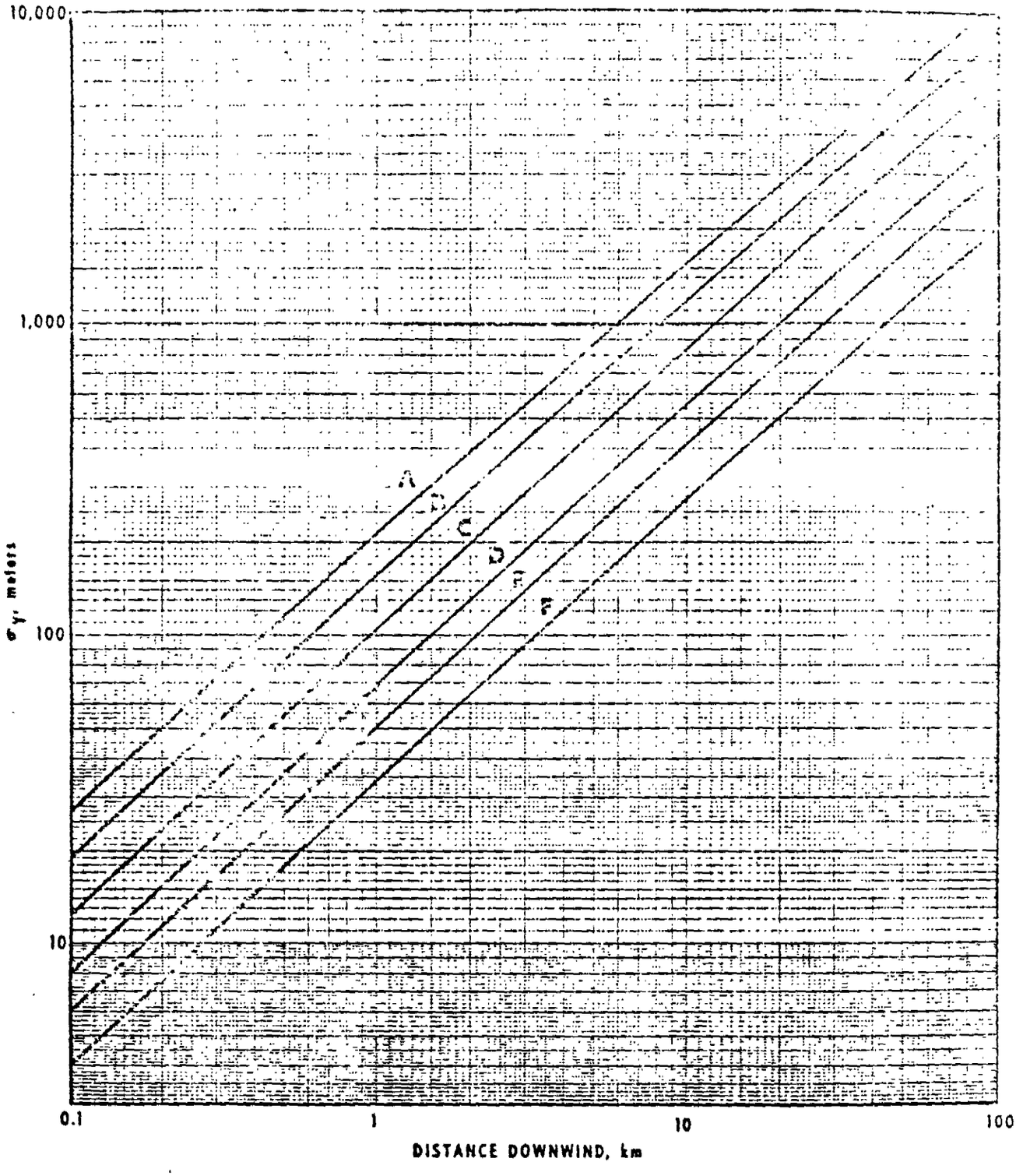

Figure 1 – Horizontal dispersion coefficient as a function of downwind distance from the source.

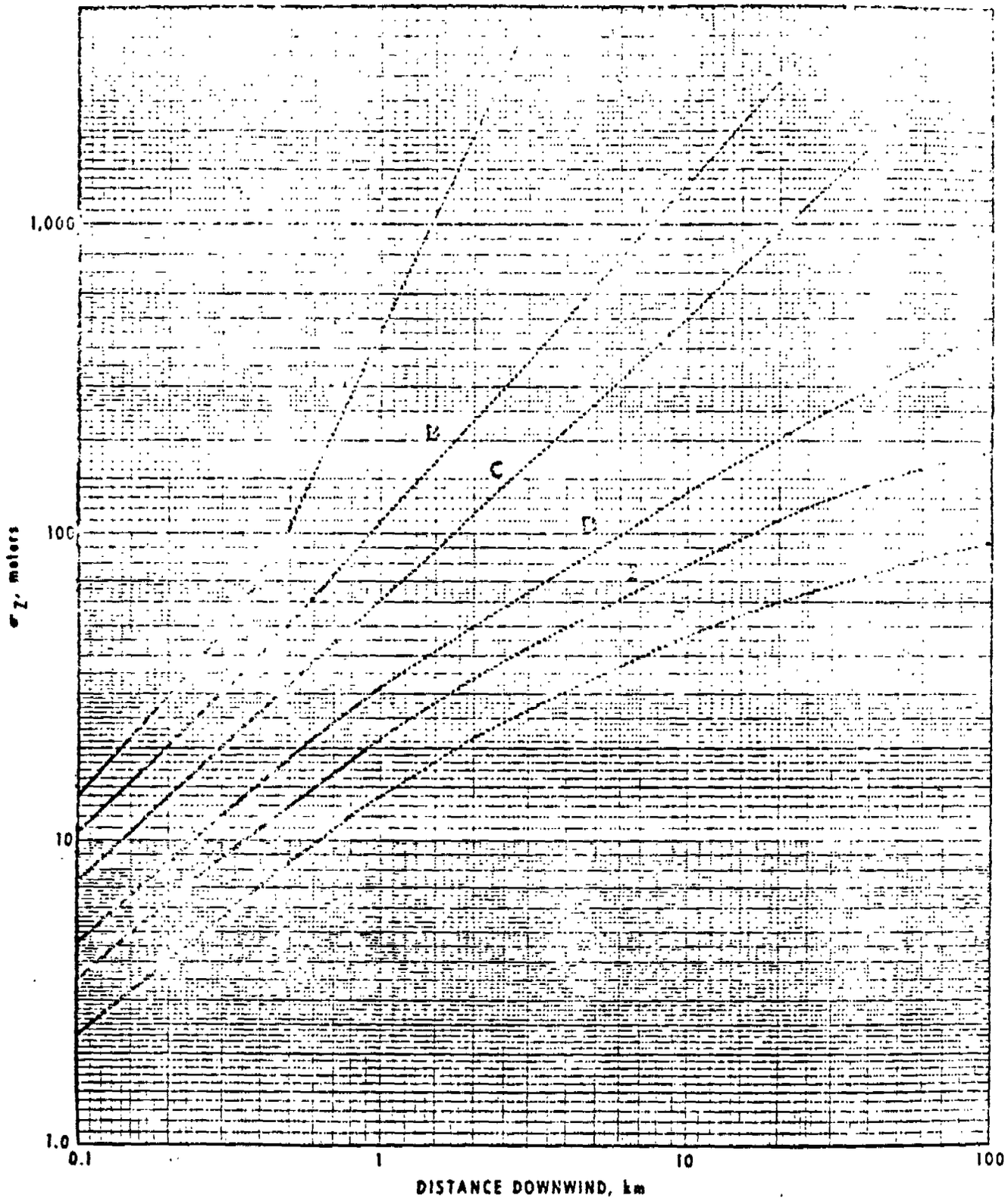

Figure 2 -Vertical dispersion coefficient as a function of downwind distance from the source.

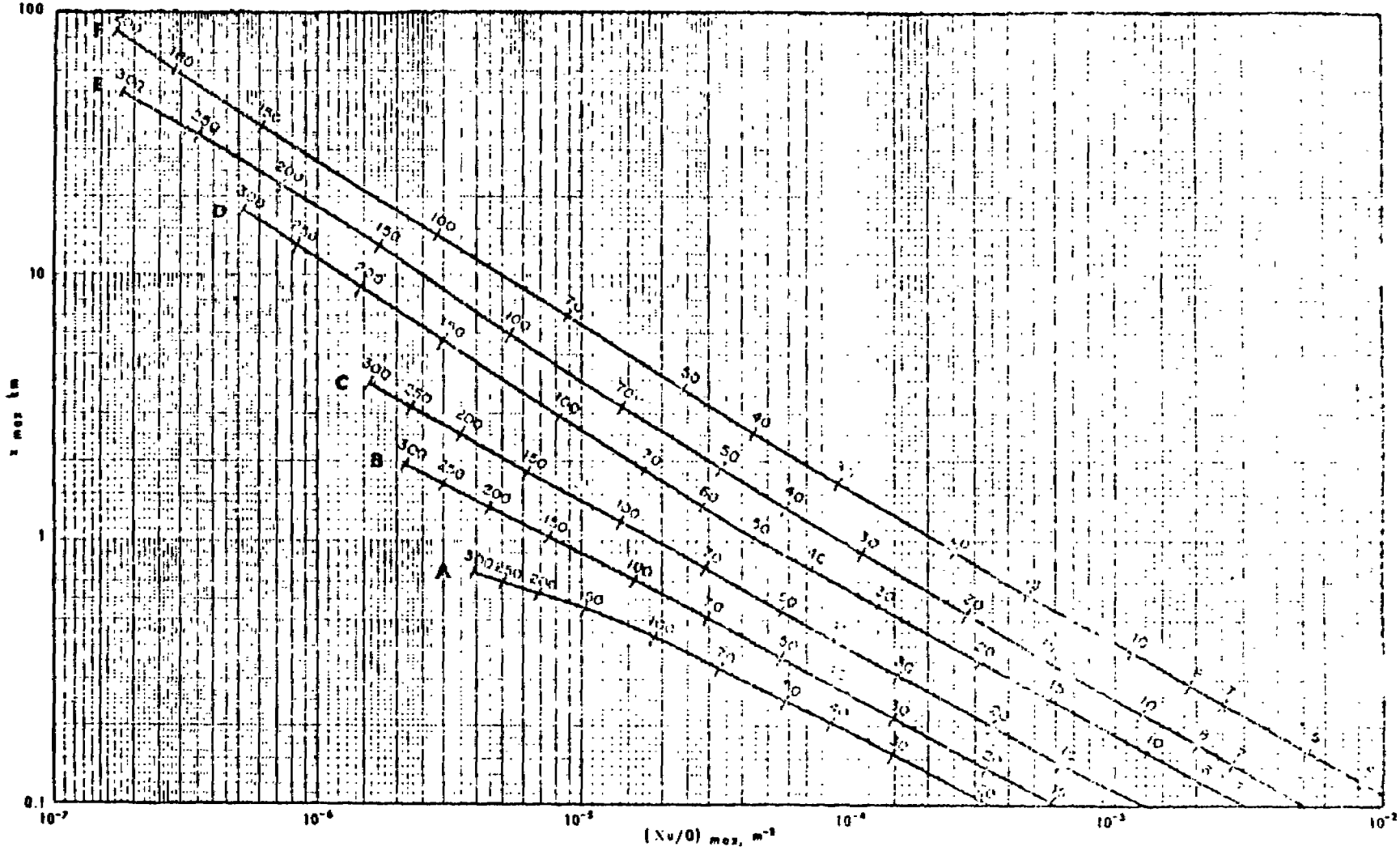

Figure 3 Distance of maximum concentration and maximum x_u/Q as a function of stability (curves) and effective height (meters) of emission (numbers).

SOLUTIONS TO EXPONENTIALS B = exp (—0.5A²)

The notation 2.16 E-1 means 2.16 x 10^{-1}

A	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
	B									
0.00	1.00E 0	1.00E 0	10.00E -1	10.00E -1	9.99E -1	9.99E -1	9.98E -1	9.98E -1	9.97E -1	9.96E -1
0.10	9.95E -1	9.94E -1	9.93E -1	9.92E -1	9.90E -1	9.89E -1	9.87E -1	9.86E -1	9.84E -1	9.82E -1
0.20	9.80E -1	9.78E -1	9.76E -1	9.74E -1	9.72E -1	9.69E -1	9.67E -1	9.64E -1	9.62E -1	9.59E -1
0.30	9.56E -1	9.53E -1	9.50E -1	9.47E -1	9.44E -1	9.41E -1	9.37E -1	9.34E -1	9.30E -1	9.27E -1
0.40	9.23E -1	9.19E -1	9.14E -1	9.12E -1	9.08E -1	9.04E -1	9.00E -1	8.95E -1	8.91E -1	8.87E -1
0.50	8.83E -1	8.78E -1	8.74E -1	8.69E -1	8.64E -1	8.60E -1	8.55E -1	8.50E -1	8.44E -1	8.40E -1
0.60	8.35E -1	8.30E -1	8.25E -1	8.20E -1	8.15E -1	8.10E -1	8.04E -1	7.99E -1	7.94E -1	7.88E -1
0.70	7.83E -1	7.77E -1	7.72E -1	7.66E -1	7.61E -1	7.55E -1	7.49E -1	7.44E -1	7.38E -1	7.32E -1
0.80	7.26E -1	7.20E -1	7.14E -1	7.09E -1	7.03E -1	6.97E -1	6.91E -1	6.85E -1	6.79E -1	6.73E -1
0.90	6.67E -1	6.61E -1	6.55E -1	6.49E -1	6.43E -1	6.37E -1	6.31E -1	6.25E -1	6.19E -1	6.13E -1
1.00	6.07E -1	6.01E -1	5.94E -1	5.88E -1	5.82E -1	5.76E -1	5.70E -1	5.64E -1	5.58E -1	5.52E -1
1.10	5.46E -1	5.40E -1	5.34E -1	5.28E -1	5.22E -1	5.16E -1	5.10E -1	5.04E -1	4.99E -1	4.93E -1
1.20	4.87E -1	4.81E -1	4.75E -1	4.69E -1	4.64E -1	4.58E -1	4.52E -1	4.46E -1	4.41E -1	4.35E -1
1.30	4.30E -1	4.24E -1	4.19E -1	4.13E -1	4.08E -1	4.02E -1	3.97E -1	3.91E -1	3.86E -1	3.81E -1
1.40	3.75E -1	3.70E -1	3.65E -1	3.60E -1	3.55E -1	3.50E -1	3.45E -1	3.39E -1	3.35E -1	3.30E -1
1.50	3.25E -1	3.20E -1	3.15E -1	3.10E -1	3.06E -1	3.01E -1	2.96E -1	2.92E -1	2.87E -1	2.83E -1
1.60	2.78E -1	2.74E -1	2.69E -1	2.65E -1	2.61E -1	2.56E -1	2.52E -1	2.48E -1	2.44E -1	2.40E -1
1.70	2.36E -1	2.32E -1	2.28E -1	2.24E -1	2.20E -1	2.16E -1	2.13E -1	2.09E -1	2.05E -1	2.02E -1
1.80	1.98E -1	1.94E -1	1.91E -1	1.87E -1	1.84E -1	1.81E -1	1.77E -1	1.74E -1	1.71E -1	1.68E -1
1.90	1.65E -1	1.61E -1	1.59E -1	1.55E -1	1.52E -1	1.49E -1	1.47E -1	1.44E -1	1.41E -1	1.38E -1
2.00	1.35E -1	1.33E -1	1.30E -1	1.27E -1	1.25E -1	1.22E -1	1.20E -1	1.17E -1	1.15E -1	1.13E -1
2.10	1.10E -1	1.08E -1	1.04E -1	1.04E -1	1.01E -1	9.91E -2	9.70E -2	9.50E -2	9.29E -2	9.09E -2
2.20	8.89E -2	8.70E -2	8.51E -2	8.32E -2	8.14E -2	7.96E -2	7.78E -2	7.60E -2	7.43E -2	7.27E -2
2.30	7.10E -2	6.94E -2	6.78E -2	6.62E -2	6.47E -2	6.32E -2	6.17E -2	6.03E -2	5.89E -2	5.75E -2
2.40	5.61E -2	5.48E -2	5.35E -2	5.22E -2	5.10E -2	4.97E -2	4.85E -2	4.73E -2	4.62E -2	4.51E -2
2.50	4.39E -2	4.29E -2	4.19E -2	4.07E -2	3.97E -2	3.87E -2	3.78E -2	3.68E -2	3.59E -2	3.49E -2
2.60	3.41E -2	3.32E -2	3.23E -2	3.15E -2	3.07E -2	2.99E -2	2.91E -2	2.83E -2	2.76E -2	2.68E -2
2.70	2.61E -2	2.54E -2	2.47E -2	2.41E -2	2.34E -2	2.28E -2	2.22E -2	2.16E -2	2.10E -2	2.04E -2
2.80	1.98E -2	1.93E -2	1.88E -2	1.82E -2	1.77E -2	1.72E -2	1.67E -2	1.63E -2	1.58E -2	1.54E -2
2.90	1.49E -2	1.45E -2	1.41E -2	1.37E -2	1.33E -2	1.29E -2	1.25E -2	1.22E -2	1.18E -2	1.15E -2
3.00	1.11E -2	1.08E -2	1.05E -2	1.02E -2	9.85E -3	9.55E -3	9.26E -3	8.98E -3	8.71E -3	8.45E -3
3.10	8.19E -3	7.94E -3	7.70E -3	7.46E -3	7.23E -3	7.00E -3	6.79E -3	6.58E -3	6.37E -3	6.17E -3
3.20	5.98E -3	5.79E -3	5.60E -3	5.42E -3	5.25E -3	5.09E -3	4.92E -3	4.77E -3	4.61E -3	4.46E -3
3.30	4.32E -3	4.18E -3	4.04E -3	3.91E -3	3.78E -3	3.66E -3	3.54E -3	3.42E -3	3.31E -3	3.20E -3
3.40	3.09E -3	2.99E -3	2.89E -3	2.79E -3	2.69E -3	2.60E -3	2.51E -3	2.43E -3	2.35E -3	2.27E -3
3.50	2.19E -3	2.11E -3	2.04E -3	1.97E -3	1.90E -3	1.83E -3	1.77E -3	1.71E -3	1.65E -3	1.59E -3
3.60	1.53E -3	1.49E -3	1.43E -3	1.38E -3	1.33E -3	1.28E -3	1.23E -3	1.19E -3	1.15E -3	1.11E -3
3.70	1.07E -3	1.03E -3	9.89E -4	9.53E -4	9.18E -4	8.84E -4	8.51E -4	8.20E -4	7.89E -4	7.60E -4
3.80	7.32E -4	7.05E -4	6.79E -4	6.53E -4	6.28E -4	6.04E -4	5.82E -4	5.60E -4	5.38E -4	5.18E -4
3.90	4.98E -4	4.79E -4	4.61E -4	4.43E -4	4.26E -4	4.09E -4	3.93E -4	3.78E -4	3.63E -4	3.49E -4
4.00	3.36E -4	3.22E -4	3.10E -4	2.97E -4	2.86E -4	2.74E -4	2.63E -4	2.53E -4	2.43E -4	2.33E -4
4.10	2.24E -4	2.15E -4	2.06E -4	1.98E -4	1.90E -4	1.82E -4	1.75E -4	1.68E -4	1.61E -4	1.54E -4
4.20	1.48E -4	1.42E -4	1.36E -4	1.30E -4	1.25E -4	1.20E -4	1.15E -4	1.10E -4	1.05E -4	1.01E -4
4.30	9.66E -5	9.25E -5	8.86E -5	8.49E -5	8.13E -5	7.78E -5	7.45E -5	7.13E -5	6.83E -5	6.53E -5
4.40	6.25E -5	5.98E -5	5.72E -5	5.48E -5	5.24E -5	5.01E -5	4.79E -5	4.59E -5	4.38E -5	4.19E -5
4.50	4.01E -5	3.83E -5	3.66E -5	3.50E -5	3.34E -5	3.20E -5	3.05E -5	2.92E -5	2.79E -5	2.66E -5
4.60	2.54E -5	2.43E -5	2.32E -5	2.21E -5	2.11E -5	2.02E -5	1.93E -5	1.84E -5	1.75E -5	1.67E -5
4.70	1.60E -5	1.52E -5	1.45E -5	1.39E -5	1.32E -5	1.26E -5	1.20E -5	1.15E -5	1.09E -5	1.04E -5
4.80	9.93E -6	9.46E -6	9.02E -6	8.59E -6	8.19E -6	7.80E -6	7.43E -6	7.08E -6	6.74E -6	6.42E -6
4.90	6.11E -6	5.82E -6	5.54E -6	5.28E -6	5.04E -6	4.79E -6	4.56E -6	4.33E -6	4.12E -6	3.92E -6

A = 12A

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ASI 00005874

TABLE 1A SOLUTIONS TO EXPONENTIALS

A	0.00 B	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
5.00	3.73E -6	3.55E -6	3.37E -6	3.21E -6	3.05E -6	2.90E -6	2.76E -6	2.62E -6	2.49E -6	2.37E -6
5.10	2.25E -6	2.14E -6	2.03E -6	1.93E -6	1.83E -6	1.74E -6	1.65E -6	1.57E -6	1.49E -6	1.42E -6
5.20	1.34E -6	1.28E -6	1.21E -6	1.15E -6	1.09E -6	1.04E -6	9.82E -7	9.32E -7	8.84E -7	8.38E -7
5.30	7.95E -7	7.54E -7	7.15E -7	6.78E -7	6.43E -7	6.09E -7	5.77E -7	5.47E -7	5.19E -7	4.91E -7
5.40	4.68E -7	4.41E -7	4.18E -7	3.96E -7	3.75E -7	3.55E -7	3.36E -7	3.18E -7	3.01E -7	2.85E -7
5.50	2.70E -7	2.56E -7	2.42E -7	2.29E -7	2.17E -7	2.05E -7	1.94E -7	1.83E -7	1.73E -7	1.64E -7
5.60	1.55E -7	1.47E -7	1.39E -7	1.31E -7	1.24E -7	1.17E -7	1.11E -7	1.05E -7	9.87E -8	9.32E -8
5.70	8.81E -8	8.32E -8	7.84E -8	7.42E -8	7.01E -8	6.62E -8	6.25E -8	5.90E -8	5.57E -8	5.25E -8
5.80	4.96E -8	4.68E -8	4.41E -8	4.16E -8	3.93E -8	3.70E -8	3.49E -8	3.29E -8	3.11E -8	2.93E -8
5.90	2.76E -8	2.60E -8	2.45E -8	2.31E -8	2.19E -8	2.05E -8	1.94E -8	1.82E -8	1.72E -8	1.62E -8
6.00	1.52E -8	1.43E -8	1.35E -8	1.27E -8	1.20E -8	1.13E -8	1.06E -8	9.98E -9	9.39E -9	8.84E -9
6.10	8.32E -9	7.82E -9	7.36E -9	6.92E -9	6.51E -9	6.12E -9	5.76E -9	5.41E -9	5.09E -9	4.79E -9
6.20	4.50E -9	4.23E -9	3.97E -9	3.73E -9	3.51E -9	3.29E -9	3.09E -9	2.91E -9	2.73E -9	2.56E -9
6.30	2.41E -9	2.26E -9	2.12E -9	1.99E -9	1.87E -9	1.75E -9	1.65E -9	1.55E -9	1.45E -9	1.36E -9
6.40	1.28E -9	1.20E -9	1.12E -9	1.05E -9	9.87E-10	9.25E-10	8.67E-10	8.13E-10	7.62E-10	7.14E-10
6.50	6.69E-10	6.27E-10	5.88E-10	5.50E-10	5.16E-10	4.83E-10	4.52E-10	4.24E-10	3.97E-10	3.71E-10
6.60	3.48E-10	3.25E-10	3.05E-10	2.85E-10	2.67E-10	2.50E-10	2.34E-10	2.19E-10	2.04E-10	1.91E-10
6.70	1.79E-10	1.67E-10	1.56E-10	1.46E-10	1.37E-10	1.28E-10	1.19E-10	1.12E-10	1.04E-10	9.74E-11
6.80	9.10E-11	8.50E-11	7.94E-11	7.42E-11	6.93E-11	6.47E-11	6.04E-11	5.64E-11	5.27E-11	4.92E-11
6.90	4.59E-11	4.29E-11	4.00E-11	3.73E-11	3.48E-11	3.25E-11	3.03E-11	2.82E-11	2.63E-11	2.46E-11
7.00	2.29E-11	2.14E-11	1.99E-11	1.86E-11	1.73E-11	1.61E-11	1.50E-11	1.40E-11	1.30E-11	1.22E-11
7.10	1.13E-11	1.05E-11	9.81E-12	9.14E-12	8.51E-12	7.92E-12	7.38E-12	6.87E-12	6.39E-12	5.95E-12
7.20	5.54E-12	5.15E-12	4.79E-12	4.46E-12	4.15E-12	3.86E-12	3.59E-12	3.34E-12	3.10E-12	2.88E-12
7.30	2.68E-12	2.49E-12	2.32E-12	2.15E-12	2.00E-12	1.86E-12	1.73E-12	1.60E-12	1.49E-12	1.38E-12
7.40	1.28E-12	1.19E-12	1.11E-12	1.03E-12	9.55E-13	8.87E-13	8.23E-13	7.64E-13	7.09E-13	6.58E-13
7.50	6.10E-13	5.66E-13	5.25E-13	4.87E-13	4.52E-13	4.19E-13	3.88E-13	3.60E-13	3.34E-13	3.09E-13
7.60	2.87E-13	2.66E-13	2.46E-13	2.28E-13	2.11E-13	1.95E-13	1.81E-13	1.63E-13	1.56E-13	1.44E-13
7.70	1.34E-13	1.24E-13	1.14E-13	1.06E-13	9.80E-14	9.07E-14	8.39E-14	7.77E-14	7.19E-14	6.65E-14
7.80	6.15E-14	5.69E-14	5.24E-14	4.86E-14	4.50E-14	4.16E-14	3.84E-14	3.55E-14	3.29E-14	3.04E-14
7.90	2.80E-14	2.59E-14	2.39E-14	2.21E-14	2.04E-14	1.89E-14	1.74E-14	1.61E-14	1.49E-14	1.37E-14
8.00	1.27E-14	1.17E-14	1.08E-14	9.95E-15	9.19E-15	8.48E-15	7.82E-15	7.22E-15	6.66E-15	6.14E-15
8.10	5.64E-15	5.22E-15	4.81E-15	4.44E-15	4.09E-15	3.77E-15	3.48E-15	3.20E-15	2.95E-15	2.72E-15
8.20	4.51E-15	2.31E-15	2.13E-15	1.96E-15	1.80E-15	1.66E-15	1.53E-15	1.41E-15	1.30E-15	1.17E-15
8.30	1.10E-15	1.01E-15	9.30E-16	8.56E-16	7.87E-16	7.24E-16	6.66E-16	6.13E-16	5.64E-16	5.18E-16
8.40	4.77E-16	4.38E-16	4.03E-16	3.70E-16	3.40E-16	3.13E-16	2.87E-16	2.64E-16	2.43E-16	2.23E-16
8.50	2.05E-16	1.88E-16	1.73E-16	1.59E-16	1.46E-16	1.34E-16	1.23E-16	1.13E-16	1.03E-16	9.49E-17
8.60	8.71E-17	7.99E-17	7.33E-17	6.72E-17	6.17E-17	5.66E-17	5.19E-17	4.75E-17	4.36E-17	4.00E-17
8.70	3.67E-17	3.36E-17	3.08E-17	2.82E-17	2.59E-17	2.37E-17	2.17E-17	1.99E-17	1.82E-17	1.67E-17
8.80	1.53E-17	1.40E-17	1.28E-17	1.17E-17	1.07E-17	9.83E-18	9.00E-18	8.23E-18	7.53E-18	6.89E-18
8.90	6.31E-18	5.77E-18	5.29E-18	4.83E-18	4.41E-18	4.04E-18	3.69E-18	3.37E-18	3.08E-18	2.82E-18
9.00	4.53E-18	2.36E-18	2.15E-18	1.97E-18	1.80E-18	1.64E-18	1.50E-18	1.37E-18	1.25E-18	1.14E-18
9.10	1.04E-18	9.52E-19	8.69E-19	7.93E-19	7.24E-19	6.61E-19	6.03E-19	5.50E-19	5.02E-19	4.58E-19
9.20	4.19E-19	3.81E-19	3.47E-19	3.17E-19	2.89E-19	2.63E-19	2.40E-19	2.19E-19	1.99E-19	1.82E-19
9.30	1.66E-19	1.51E-19	1.37E-19	1.25E-19	1.14E-19	1.04E-19	9.46E-20	8.61E-20	7.84E-20	7.14E-20
9.40	6.50E-20	5.92E-20	5.38E-20	4.90E-20	4.46E-20	4.06E-20	3.69E-20	3.36E-20	3.06E-20	2.79E-20
9.50	2.53E-20	2.30E-20	2.09E-20	1.90E-20	1.73E-20	1.57E-20	1.43E-20	1.30E-20	1.18E-20	1.07E-20
9.60	9.72E-21	8.83E-21	8.02E-21	7.29E-21	6.62E-21	6.01E-21	5.46E-21	4.95E-21	4.50E-21	4.08E-21
9.70	3.70E-21	3.36E-21	3.05E-21	2.77E-21	2.51E-21	2.28E-21	2.07E-21	1.87E-21	1.70E-21	1.54E-21
9.80	1.40E-21	1.27E-21	1.15E-21	1.04E-21	9.43E-22	8.55E-22	7.75E-22	7.02E-22	6.36E-22	5.76E-22
9.90	5.22E-22	4.73E-22	4.28E-22	3.88E-22	3.51E-22	3.18E-22	2.88E-22	2.60E-22	2.36E-22	2.13E-22

CONVERSION FACTORS

ENGLISH TO METRIC UNITS

Quantity	English Unit	X	Conversion Factor	=	Metric Unit
Stack Height	ft		0.3048		m
Stack Velocity	ft/sec		0.3048		m/sec
Gravity	ft/sec^2		0.3048		m/sec^2
Volume Emission	ft^3/sec		2.832×10^{-2}		m^3/sec
Wind speed	mph		0.4470		m/sec
	knots		0.5148		m/sec
Ambient Temperature	deg F		5/9 (deg F -32)		deg C
Absolute Temperature	deg F		5/9 (deg F -32) +273		deg A
Atmosphere Pressure	in Hg		25.4005		mm Hg
Weight	lb		453.6		gm
Rate of Pollutant Emission	lb/hr		0.126		gm/sec
Concentration by Volume (0 deg C, 1000 mb)	ppm		$\frac{\text{Molecular Weight}}{22.4}$		mg/m^3

LOUISIANA STATE AIR CONTROL COMMISSION
P. O. P 60630, NEW ORLEANS, LA. 70160
Telephone: (504) 527-5119

EMISSION INVENTORY QUESTIONAIRE (Revision of 5/1/74)

Allied Chemical Corporation
(name of company)

Industrial Chemicals Division
(parent company; if above is a division)

Submitted by company on July P, 1974
(date)

This inventory includes emissions:

☐ presently existing

☒ both presently existing and those proposed additional emissions to be existing by 4th Quarter 1974 (date).

File a separate report for each of your plants physically located in Louisiana. This inventory covers the following plant location:

Baton Rouge North Works (name of plant in company usage) | Baton Rouge (nearest town) | East Baton Rouge (parish of plant site)

INSTRUCTIONS: Answer all questions. This inventory is requested under the authority of the Louisiana Air Control law, Act 259 of 1964, which gives to the Louisiana Air Control Commission the power to develop such facts and make such investigations as are consistent with the purposes of this law. (La. Revised Statues, Chap. 12, Title 40, Section 2201 et seq.)

If certain questions are not applicable, please indicate "none" or "not applicable" ("not applicable" may be abbreviated as N.A.). Emission data is best obtained by actual stack test, but may also be obtained by material balance, by the use of "emission factors" (see Compilation of Air Pollution Emission Factors, E.P.A. publication No. AP-42), or by the use of published industry data. The company is responsible for the accuracy of the data given. This data may be checked on-site by state or federal agencies. The giving of knowingly false information may subject the givers to penalties provided by law.

Terms such as "nil", "trace", "negligible", "not significant", etc., are not acceptable. However, "less than xxx pounds per hour", or a similar statement, will be satisfactory (may be abbreviated as "<xx#/hr"). Please attach additional sheets if more space is needed.

An updated report should be submitted in the future when any one pollutant (e.g., total SO_2, total CO, etc.) changes more than 10% from reported values.

ITEM 1 . . . ORGANIZATION ACTIVITIES

A. This facility usually operates 7 days per week. This facility is not in operation on N.A. (days of the week not normally operating)

B. This facility, as a whole, typically operates 365 days per year. (365 minus typical downtime and maintenance turnaround)

C. Peak production season is Varies, not consistent. (name months)

D. Shifts normally operated are as follows:

☐ 7am to 3pm ☐ 3pm to 11pm ☐ 11pm to 7am
☐ 8am to 4pm ☐ 4pm to 12midnight ☐ midnight to 8am
☒ other, specify 6 AM to 2 PM, 2 PM to 10 PM, 10 PM to 6 AM

E. Approximate number of employees at this location is 950.

ASI 00005877

F. If the facility, as a whole, operates intermittently, give details on lines below:

N.A.

G. Ownership of facility. Please check ~~one~~ of the following: where applicable:

- ☒ corporation, partnership, or sole proprietorship
- ☐ utility
- ☐ city government
- ☐ state government
- ☐ federal government
- ☒ other, specify Industrial Development Board of the Parish of GBK, Inc.

H. Please check off the descriptive name that applies to your operation:

- ☒ chemical
- ☐ paint & varnish
- ☐ feed & grain
- ☐ fertilizers
- ☐ fish meal
- ☐ sugar cane
- ☐ coffee roasting
- ☐ other, specify
- ☐ aluminum ore reduction
- ☐ ferroalloy production
- ☐ iron & steel mills
- ☐ aluminum production
- ☐ gray iron foundry
- ☐ steel foundry
- ☐ zinc processes
- ☐ asphalt roofing
- ☐ asphaltic concrete
- ☐ bricks
- ☐ cement
- ☐ concrete batching
- ☐ pulp & paper
- ☐ lumber or particleboard

I. Please give a very brief description of your operations, with emphasis on any possible sources of air pollution. Inorganic: Products are soda ash, caustic and chlorine. The raw materials are limestone, salt and coke. Emissions of particulates and smoke are associated with burning of limestone to produce soda ash which is powdery and subject to being emitted when handled. Ammonia use and recovery is subject to being emitted. Electrolysis of brine produces caustic, chlorine and hydrogen which are subject to being emitted.
Organics: Chlorination of ethylene produces ethylene dichloride (EDC). Cracking of EDC produces vinyl chloride monomer (VCM). These operations are subject to emissions.

ITEM 2 . . . FUEL USE BY FACILITY AS A WHOLE Give figures for presently existing conditions, or, if this form is being submitted in conjunction with an Application for Approval of Emissions for a proposed change, for the proposed consumption.

Basis 1973 consumptions adjusted for substituting oil for 40% of nat.gas to be effective 4th Quarter 1974	Consumption Rate (give usual units)	Sulfur Content (% by weight)	Heat Content BTU's	Heat Content per (specify units)
A. Natural gas	0,209,229 M CuFt	0.0007	1,060	Cu.Ft.(60°F&30"Hg)
B. Process gas	1,402,715 M CuFt	Less than above	275	Cu.Ft.(60°F&30"Hg)
C. No. 1 to 4 fuel oil	45,197,000 gals.	0.7 max.	18,800	Lb.
D. No. 5 or 6 fuel oil	N.A.			
E. Bark/ wood chips	N.A.			
F. Coal (specify ash content and whether anthracite or bituminous)	N.A.			
G. Other (specify below)	Diesel: 95,961 gals.	0.18	18,800	Lb.
	Gasoline: 40,100 gal.	0.016	19,100	Lb
	L.P. gas: 3,152 gals.	0.073	19,900	Lb.

H. If a "fuel" is also used, in whole or part, as a "raw material" (i.e., is incorporated into the intermediate or final products), please give details below:
Limestone, mixed with approximately 8% coke is burned in the vertical shaft kilns. The CO_2 derived from both the decomposition of the stone and the burning of the coke is used in the soda ash process.

ITEM 3 . . . MATERIALS USED, PRODUCED, STORED, OR TRANSPORTED

A. Raw materials used at this facility:

Name of material	Amount (use units mentioned in regulations, if applicable)	How stored (Be specific - e.g., floating roof tank, fixed roof tank, etc.)	How moved (Pipeline, tank truck, etc.)
See next page			

B. Intermediate Products:

See next page			

C. Products:

See next page			

ITEM 4 . . . EMISSION INFORMATION ON THE ENTIRE PLANT AS A WHOLE The rates given here should correspond to the sum of the individual rates of the point sources listed in the Item 5 columns, for each individual type of air pollutant.

	Material Name (if requested)	Emission Rate (Lbs./hour)	Emission Rate (Short tons/Yr.)
A. PARTICULATE SOLIDS OR LIQUIDS			
1. Carbonaceous	Soot coke smoke	-	-
2. Mineral (specify)	NaCl, Na_2CO_3, $CaCO_3$	Mostly fugitive	-
3. Organic (specify)	See Ad'da 1	See Ad'da 1	See Ad'da 1
4. Asbestos particles	(In compliance)		
5. Other (specify)			
B. ORGANIC GASES OR VAPORS (If material belongs in multiple classes, put in most reactive)			
1. Alkanes	See Ad'da 1	See Ad'da 1	See Ad'da 1
2. Alkenes/ Dienes (specify)	"	"	"
3. Alkynes (specify)	"	"	"
4. Aromatics	"	"	"
5. Alcohols (specify)	"	"	"
6. Halogenated (specify)	"	"	"
7. Other (specify) "	"	"	"
8. Other (specify)	"	"	"
C. INORGANIC GASES OR VAPORS			
1. Sulfur dioxide		612	2,679
2. Hydrogen sulfide		-	-
3. Carbon monoxide		1,468	6,429
4. Nitrogen oxides	(proposed oil burn.)	67	293
5. [illegible]		103	451
6. [illegible]	See Ad'da 1	See Ad'da 1	See Ad'da 1
7. Mercaptans/ [illegible] sulfides			
8. Other (specify)			

ITEM 3

A. Raw materials used at this facility:

Name of material	Yr. 1973 Amount	How stored	How moved
1) Sodium chloride	1,893,773 NT	Salt dome	Solution mining, pipeline
2) Calcium carbonate	735,975 NT	Limestone pile	Scoup, rail & belt
3) Coke	64,768 NT	Coke pile	Scoup, rail & belt
4) Ammonia (carrier catalyst)	5,263 NT	Fixed roof storage tanks	Rail & pipeline
5) Hydrogen sulphide(carrier inhibitor)	814 NT	Fixed roof storage tanks	Rail & pipeline
6) Ethylene	98,157 NT	Not stored	Pipeline
7) Solvesso 150 (solvent)	50,000 NT	Fixed roof storage tanks	Rail & pipeline
8) Chlorine (purchased)	3,770 NT	Rail cars	Rail & pipeline

B. Intermediate Products:

1) Sodium chloride, brine	1,552,246 NT NaCl	Fixed roof storage tanks	Pipeline
2) Sodium bicarbonate	962,885 NT	Soda floor piles	Conveyors
3) Chlorine	162,580 NT gas	Not stored	Pipeline
4) Ethylene dichloride	127,593 NT	Fixed roof storage tanks	Pipeline

C. Products:

1) Sodium chloride	77,390 NT	Elevated storage bin	Conveyors & rail
2) Sodium chloride, brine	264,137 NT NaCl	Fixed roof storage tanks	Pipeline
3) Sodium carbonate	607,535 NT	Storehouse	Conveyors, rail & marine
4) Sodium hydroxide	264,254 NT	Fixed roof storage tanks	Pipeline, rail & marine
5) Chlorine	12,220 NT	High pressure storages	Pipeline & rail
6) Ethylene dichloride	100,660 NT	Fixed roof storage tanks	Pipeline, rail & marine
7) Vinyl chloride	136,170 NT	High pressure storage vessels	Pipeline & rail

15. . . POINT SOURCE INFORMATION ON EACH POINT (STACK) FOR EACH POLLUTANT

	Point Source Identification Number. *Please use same number on plot plan showing source locations, and in any hand or computer done calculations*	Descriptive name of the source. *Please use layman's terms if the name commonly used is not fully descriptive.* (If one stack has more than one pollutant, i.e., SO_2, CO, etc., allow this one stack the same number of lines as pollutants.)	Can stack be sampled? Yes	Can stack be sampled? No	Point elevation above grade *See note 1, page 7* meters	Stack diameter *See note 2, page 7* meters	Gas exit velocity meters per second
1	1	Flare stack, Brine Wells		x	15.2	0.15	-
2	2	Preheater stack, Brine Wells		x	2.44	0.25	8.36
3	3	#1 heater stack, Brine Wells		x	9.14	0.61	1.4
4	4 thru 5	#2 heater stack, Brine Wells		x	1.52	0.3	1.7
5	6 thru 8	#3 heater stack, Brine Wells		x	4.57	0.61	1.1
6	9 thru 10	#4 heater stack, Brine Wells		x	1.52	0.25	1.22
7	11	#5 heater stack, Brine Wells		x	4.57	0.41	0.91
8	12	#6 heater stack, Brine Wells		x	6.09	0.61	1.64
9	13 thru 25	Vertical lime kilns		x	0	N.A.	N.A.
10	13 thru 25	Vertical lime kilns		x	0	N.A.	N.A.
11	26	Kilns dust collector, North	x		29.9	0.91	18.9
12	27	Kilns dust collector, N.Central	x		29.9	0.51	12.8
13	28	Kilns dust collector, S.Central	x		29.9	0.48	12.8
14	29	Kilns dust collector, South		x	29.9	0.25	-
15	33 thru 34	Lime slakers (MLT)		x	32.0	0.76	-
16	35 thru 37	Lime spalls (MLT)		x	15.2	0.30	-
17	33 thru 41	Soda column vents (LCL)	x		54.0	0.41	3.92
18	38 thru 41	Soda column vents (LCL)	x		54.0	0.41	3.92
19	42 thru 45	Vacuum engine vents (LV FLR)	x		37.2	0.41	3.48
20	46 thru 47	Ammonia absorbers (LAB)	x		8.5	0.15	2.26
21	48 thru 51	Light soda ash dryers		x	51.8	2.13	1.44
22	52 thru 55	Bag dust collector (S.A.)	x		51.8	0.30	-
23	56 thru 61	Steam turbine power house	x		24.4	2.13	5.96
24	56 thru 61	Steam turbine power house	x		24.4	2.13	5.96
25	62	Old Power House	x		24.4	2.13	4.36
26	63 thru 66	Gas turbine power house	x		10.1	2.74	5.33
27	67	Bag dust collector, F&L, N.		x	27.4	0.61	-
28	68	Bag dust collector, Buell classifier		x	32.9	0.71	-
29	69	Bag dust collector, F&L South		x	28.9	0.46	-
30	70	Bag dust collector, rotary class.		x	27.7	0.46	-
31	71	Bag dust collector, house system		x	27.7	0.46	-
32	72	Bag vacuum cleaner		x	27.4	0.15	-
33	73	Dense Ash scrubber (RGS)		x	27.4	0.71	-
34	74	Dense Ash scrubber (Ducon)		x	32.0	0.91	-
35	75 thru 93	South chlorine, hydrogen vents	x		7.62	0.07	2.33
36	94	South salt scrubber, conveyor	x		15.85	0.33	-
37	95	North salt scrubber, dryer	x		18.29	0.45	-
38	96-98	North chlorine, hydrogen vents		x	12.19	0.91	N.A.
39	99	North chlorine, mastic pots		x	9.14	0.33	N.A.
40	100	North chlorine, lead furnace	x		9.14	0.76	24.9
41	101	North chlorine, tinning furnace		x	9.14	0.25	-
42	102	North chlorine, acid dip		x	9.14	0.46	N.A.
43	103 thru 114	Vinyl cracking furnaces		x	15.24	0.51	7.63
44	115	Vinyl chloride(VCM) process		x	60.35	0.41	32.3
45	116	Neutralization pond bypass		x	7.62	0.15	-

ITEM 5 . . . POINT SOURCE INFORMATION, CONTINUED:

Line No.	Stack volume flow rate Actual cubic meters per second *	Stack Temp. °C	This Point's operating times (typical) hours per day	days per week	weeks per year	Air Contaminant Name or symbol	Concentration in exit gases. For vapors or gases, use units of parts per million by volume to dry air. For solids use milligrams per cubic meter	Maximum actual continuous emission rate grams per second *	Method of determining emission rate See note 3 on page 7	Yearly emission rate Short tons per year *
1	-	36-56	-	-	-	Smoke	-	-	Visual	-
2	0.41	204	-	-	-	None	-	-	Visual	-
3	0.41	204	-	-	-	None	-	-	Visual	-
4	0.24	204	-	-	-	None	-	-	Visual	-
5	0.96	93	24	7	52	None	-	-	Visual	-
6	0.12	204	-	-	-	None	-	-	Visual	-
7	0.12	93	24	7	52	None	-	-	Visual	-
8	0.46	93	24	7	52	None	-	-	Visual	-
9	NA	NA	24	7	52	CO	5,997	36.6	2 & 4	1,273
10	NA	NA	24	7	52	Particulates	-	-	-	-
11	12.46	22	24	7	52	Particulates	1,881	23.43	1	813
12	2.63	21	24	7	52	Particulates	6,067	15.9	1	55
13	2.38	21	24	7	52	Particulates	465	1.1	1	38
14	-	-	24	7	52	Particulates	-	-	-	-
15	-	-	24	7	52	(mostly water vapor)		-	-	-
16	-	-	24	7	52	(mostly water vapor)		-	-	-
17	2.07	21	24	7	52	CO	11,061	107.9	2 & 4	3,750
18	2.07	21	24	7	52	NH_3	1,657	9.8	2 & 4	341
19	1.84	26.1	24	7	52	NH_3	600	3.0	2 & 4	103
20	0.08	21.1	24	7	52	NH_3	3,000	0.2	2 & 4	7
21	20.53	460	24	7	52	None	-	-	Visual	-
22	-	-	24	7	52	(no visible emission)		-	Visual	-
23	127.23	149	24	7	52	SO_2	330	77	2 & 4	2679
24	127.23	149	24	7	52	Particulates	13	1.65	2 & 4	57
25	15.51	149	24	7	52	None	-	NA	2 & 4	-
26	125.55	204	24	7	52	None	-	-	2 & 4	-
27	-	-	24	7	52	(no visible emissions)		-	Visual	-
28	-	-	0	0	0	(not in use)		-	Visual	-
29	-	-	24	7	52	(no visible emissions)		-	Visual	-
30	-	-	24	7	52	(no visible emissions)		-	Visual	-
31	-	-	24	7	52	(no visible emissions)		-	Visual	-
32	-	-		7	52	(no visible emissions)		-	Visual	-
33	-	-	24	7	52	(no visible emissions)		-	Visual	-
34	-	-	24	7	52	(no visible emissions)		-	Visual	-
35	0.17	43	24	7	52	Hydrogen	950,000	16.4	2 & 4	570
36			24	7	52	NaCl	-	-	-	-
37			24	7	52	NaCl	-	-	-	-
38	NA	NA	0	0	0	(emergency use only)		NA	Visual	NA
39	NA	NA	0	0	0	(not in use)		NA	Visual	NA
40	11.33	427	16	7	52	Pb	0.6	0.01	1	0.24
41	NA	NA	0	0	0	(not in use)	-	NA	NA	NA
42	NA	NA	0	0	0	(not in use)	-	NA	NA	NA
43	18.7	427	24	7	52	None	-	-	Visual	-
44	4.16	37	24	7	52	All gases	See Add 1	See Add 1	2 & 4	See Add 1
45	-	-	-	-	-	(Emergency use only)		NA	NA	NA

*Represents total emission for all stacks in group.

5. . . POINT SOURCE INFORMATION, CONTINUED:

	Percent of Annual Throughput (to total 100%)				If this source (stack) is from a fuel-burning heater or boiler, give the maximum duty rating in million BTU per hour of such heater or boiler	Air Pollution Control Equipment Identification Code *See note 4, page 7*	Estimated Control Efficiency Percent by weight of uncontrolled emission removed. *See note 5, page 7.*
	Dec Jan Feb %	Mar Apr May %	June July Aug %	Sept Oct Nov %	*		
1	25	25	25	25	NA	000	
2	-	-	-	-	3.5	NA	NA
3	-	-	-	-	3.5	NA	NA
4	-	-	-	-	2.0	NA	NA
5	25	25	25	25	8.0	NA	NA
6	-	-	-	-	1.0	NA	NA
7	25	25	25	25	1.0	NA	NA
8	-	-	-	-	4.0	NA	NA
9	25	25	25	25	NA	000	0
10	25	25	25	25	NA	000	0
11	25	25	25	25	NA	008	about 10%
12	25	25	25	25	NA	008	About 70%
13	25	25	25	25	NA	008	about 70%
14	25	25	25	25	NA	008	about 70%
15	25	25	25	25	NA	NA	NA
16	25	25	25	25	NA	NA	NA
17	25	25	25	25	NA	000	0
18	25	25	25	25	NA	000	0
19	25	25	25	25	NA	000	0
20	25	25	25	25	NA	000	0
21	25	25	25	25	300	NA	NA
22	25	25	25	25	NA	017	NA
23	25	25	25	25	820	000	0
24	25	25	25	25	820	000	0
25	25	25	25	25	128	NA	0
26	25	25	25	25	813	000	0
27	25	25	25	25	NA	017	about 99%
28	NA	NA	NA	NA	NA	017	about 99%
29	25	25	25	25	NA	017	about 99%
30	25	25	25	25	NA	017	about 99%
31	25	25	25	25	NA	017	about 99%
32	25	25	25	25	NA	017	about 99%
33	25	25	25	25	NA	002	about 95%
34	25	25	25	25	NA	002	about 95%
35	25	25	25	25	NA	000	0
36	25	25	25	25	NA	002	
37	25	25	25	25	2.86	002	
38	NA	NA	NA	NA	NA	021	100%
39	NA	NA	NA	NA	NA	NA	NA
40	25	25	25	25	0.11	000	0
41	NA	NA	NA	NA	NA	NA	NA
42	NA	NA	NA	NA	NA	NA	NA
43	25	25	25	25	74.0	NA	NA
44	25	25	25	25	NA	000	0
45	25	25	25	25	NA	000	0

*Represents total for all stacks in group.

ES TO ITEM 5:

. If there is no clear-cut point of emission, no stack height (e.g., burning dumps, ultiple leaking valves, dust from moving equipment, etc.), put a zero in this column.

. For non-round exits, use the equivalent diameter, equal to 1.128 times the square oot of the cross-sectional area at the point of discharge.

. Enter the number of the method used, as follows:

(1) By actual stack test
(2) By material balance
(3) By use of E.P.A. emission factors
(4) By making a conservative estimate based on engineering analysis
(5) By use of industry emission factors other than those supplied by the E.P.A.

4. Enter the proper code number, taken from the list below:

000	No control equipment on this source		
002	Wet scrubber	028	Eliminate fuel oil combustion
005	Gravity collector	029	Change all fuel use to natural gas
008	Centrifugal collector	039	Catalytic Oxidation - Flue gas desulfurization
011	Electrostatic precipitator		
013	Gas scrubber	041	Dry limestone injection
014	Mist eliminator	042	Wet limestone injection
017	Fabric filter	045	Sulfur recovery plant use
019	Catalytic afterburner	046	Reduced emissions by changing process
021	Direct flame afterburner		

Only control devices that reduce the uncontrolled emissions normally associated with the specific process should be reported. Do not report equipment that is a normal part of the source activity even though the quantity of pollutants emitted may be reduced. For example, a recovery furnace is a normal part of a kraft pulp mill and should not be reported as pollutant control equipment.

5. Assume that the pollutant load entering the control equipment is the normal, uncontrolled quantity for that specific process. If removal efficiency for a particular pollutant is unknown, leave the space blank; if there is no effective removal, then enter a zero in the column.

ITEM 6 . . . PLANT LOCATION FOR AIR QUALITY MODELING

Please provide below the Universal Transverse Mercator zone number and coordinates of your plant, to the nearest one-tenth kilometer. The zone number is 15 for all locations except the extreme Eastern-most areas of Louisiana, the zone 15/zone 16 dividing line runs north-south about through New Orleans. The UTM coordinates can be f und on U. S. Geological Survey maps, scale 1:24,000, for your area.

Zone No. 15 Horizontal coordinate 30°29'47" Vertical coordinate 91°11'21"

ITEM 7 . . . COMPLIANCE STATUS Does your facility have an approved "Compliance Schedule" on file with the Louisiana Air Control Commission? ☒ Yes. ☐ No. If yes, state whether or not all actions listed in the schedule, if any, have been completed. ☐ Have been completed, or no action was required. ☐ Has not been completed yet, but the timetable of increments of progress is on schedule to date. ☒ Has not been completed yet, and unavoidabl circumstances have forced us to fall behind on the timetable as s

ITEM 8 . . . REFUSE COLLECTION AND DISPOSAL

A. Amount of combustible refuse disposed of per year: 365 N.T.
(give the applicable units)

. Description of refuse; check off applicable catagories:
- ☒ Paper scrap
- ☐ Rubber scrap
- ☒ Wood scraps & sawdust
- ☐ Wet garbage or animal wastes
- ☒ Other, specify: Asbestos and general plant rubbish

C. Method of refuse disposal; check off applicable catagories:
- ☐ City pickup
- ☐ On-site dump
- ☐ On-site incineration
- ☐ Contractor pickup
- ☐ On-site outdoor burning
- ☒ On-site landfill
- ☐ Other, specify:

D. If disposal is by contractor pickup, give the name and address of the contractor below:
N A.

E. The on-site incinerator, if any, has the following design features: N.A.
- ☐ No on-site incinerator
- ☐ Single chamber
- ☐ Multible chamber
- ☐ Afterburners
- ☐ Primary & secondary burners installed
- ☐ Water scrubber installed
- ☐ Waste material is disposed of by being burned in a boiler

F. Incinerator equipment data (if applicable):
Manufacturer: N.A.
Model: NA
Capacity: N.A. Years in operation:

ITEM 9 . . . SUPPLEMENTARY INFORMATION

A. Approximately how much money have you spent on air pollution control equipment and operation in the past 10 years? Equipment $ 1,300,000 Operation $ 1,800,000

B. Please supply a unit plot plan or map which shows the locations of stacks or other emission point sources, together with the source identification numbers from Item 5, the plant boundaries, a distance scale, and the direction North. Please also show, on a separate diagram if necessary, the location of the plant in relation to nearest highways, r sidential areas, and towns.

ATTACH THE PLOT PLANS, MAPS, OR DIAGRAMS TO THIS QUESTIONAIRE.

ITEM 10 . . . TOXIC GASES/HAZARDOUS MATERIALS

A. Are there any substances used or produced in your facility which could cause immediate injury to life or property, if they were emitted to the atmosphere, which are not already listed in this form as one of those which is presently being emitted to the atmosphere? (e.g., Chlorine held for use in purifying cooling water, toxic gases gases used as catalysts, etc., which ordinarily do not escape) Please list any such substances below. If none, please so state.
Chlorine, anhydrous NH_3, anhydrous HCl, vinyl chloride monomer

B. Does your facility use or produce asbestos, mercury (other than laboratory use), or beryllium in any amount whatsoever? If answer is yes, give details bel... ... sheet. If answer is no, please write "No" below:
Yes, we use asbestos to produce cell diaphragms.

11 . . . PERSONNEL AND CERTIFICATION

The manager of the facility, at the location covered by this questionaire, is as lows:

e:	Paul B. Cornell
le:	Plant Manager
e of Company:	Allied Chemical Corp., Industrial Chemicals Div., Baton Rouge No Wks.
siness street address/ P.O. Box:	P.O. Box 271
ty or town, Parish, Zip code:	Baton Rouge, East Baton Rouge Parish, 70821
siness area code/ telephone No.:	356-3341

Person to contact at the site of the facility about air pollution control, if fferent from the above:

me:	
tle:	
siness telephone No./ extension:	

. If the company's air pollution control correspondence and documents are prepared at company headquarters office, at a different site, give the information on the person o be contacted below:

lame:	N.A.
Title:	
Name of Company: (or parent Company)	
Business street address/ P.O. Box:	
City, Parish or County, Zip code:	
Business area code/ telephone No.:	

D. Person who prepared this report: *(If the same as one of the above, just give the name)*

Name:	Frank P. Turk
Title:	Supervisor-Environmental Control
Firm: (if prepared by a consultant)	N.A.
Company: (if prepared in-house)	Same
Firm or Company street address:	Same
City, Parish or County, Zip code:	Same
Area code/ telephone number:	Same

E. CERTIFICATION. I CERTIFY THAT THE INFORMATION PROVIDED ON THIS SUBMITTAL (INCLUDING ATTACHMENTS) IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Handwritten signature of manager, or other official

P. B. Cornell, Plant Manager

Printed or typed name of official above & title

July 8, 1974

Date

ASI 00005886

ADDENDA 1

ITEM 44, STACK 115

NAME OF CONTAMINANT	CONCENTRATION ppm	EMISSION RATE GRAMS/SEC	EMISSION RATE SHORT TONS/YR.
Vinyl Chloride (C_2H_4Cl)	400	3.8	131.4
Ethyl Chloride (C_2H_5Cl)	800	8.4	293.5
Chloroprene (C_4H_5Cl)	900	13.2	459.9
CCl_4/1-1 EDC(≈85% CCl_4)	1900	43.7	1519.9
Benzene (C_6H_6)	100	1.5	52.6
Triene (C_2HCl_3)	-	0.3	8.8
Chloroform ($CHCl_3$)	1500	28.4	985.5
1-2 EDC (C_2H_4Cl)	7700	123.7	4301.2
Ethylene (C_2H_4)	8300	38.2	1327.1
Carbon Monoxide (CO)	8800	40.5	1406.0
Solvesso 150 (90% C_{10}-C_{11})	-	1.3	43.8
Totals		303	10529.7