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LEGAL DEPT.

DATE January 15, 1974

SUBJECT: REVISED AIR COMPLIANCE
SCHEDULE - NON HYDROCARBON

MORANDUM

TO: Mr. J. M. DeVoe

The attached subject schedule is for your review and approval. This revision includes the recommendations made by Mr. G. Von Bodungen of the Louisiana Air Control Commission at the meeting reported to you in our memorandum dated November 30, 1973.

P. B. Cornell, Manager
Baton Rouge North Works

FPT/RMT:ef

Attach.

cc: Mr. E. E. James
Mr. J. M. Quinn
Mr. J. E. Bowler
Mr. T. D. Kent
Mr. C. R. Walbridge



ASI-PR 0004090



Industrial Chemicals Division

ALLIED CHEMICAL CORPORATION

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

(504) 356-3341

DRAFT

Mr. John E. Trygg
Technical Secretary
Louisiana Air Control Commission
P. O. Box 60630
New Orleans, Louisiana 70160

Dear Mr. Trygg:

The attached is a revised Compliance Schedule which we believe will satisfy deficiencies reviewed with Messrs. Von Bodungen, Ledet and Lassaigue. We plan to submit an updated Emission Inventory within the first quarter of 1974. No great changes are expected in the previously reported emissions.

Very truly yours,

P. B. Cornell, Manager
Baton Rouge North Works

FPT/RMT:ef

Attach.

ASI-PR 0004091

BATON ROUGE NORTH WORKS
INDUSTRIAL CHEMICALS DIVISION
ALLIED CHEMICAL CORPORATION

REVISED AIR COMPLIANCE SCHEDULE

JANUARY 1974

I. GENERAL

One of the principle products at this location is soda ash (sodium carbonate). The production of this product involves the following operations: calcining, conveying, grinding, screening, packing and loading. The effect from these operations creates a fugitive particulate (dust) condition, and our compliance schedule for abatement puts heavy emphasis on bag, dust collection systems.

The Works' testing program has been primarily for dust fallout within its battery limits. The reason for this measurement is due to the relatively large and dense particles which agglomerate in a humid atmosphere and fall as fugitive dust within the perimeter of the Works.

Relative to State ambient standards, it is believed that fugitive particulate (dust) falls out much nearer the source than can be predicated by dispersion calculations. There is also a question on the value of dispersion calculations considering the multiple sources involved in an industrial complex. The dispersion calculations should incorporate valid point source data, accountability for all variables (meteorology) and computer programs applicable to the problem. The above technique and expertise were not available at this location so that no dispersion calculations were made on fugitive dusts.

Dust fallout data over the last year indicate the soda ash fugitive dusts settle out and meet the State ambient standard in a distance of less than a quarter of a mile from the source and, in general, within the boundaries of our plant. Limestone dust settles at a much faster rate. (Limestone is a major raw material used in the soda ash process).

Attached for reference to this revised compliance schedule is the schedule submitted on August 23, 1972.

II. EMISSION STANDARDS

Section 18.0 - Smoke Control

1) General burning of natural gas as fuel for power generation, calcining soda ash and cracking is in compliance. These operations use natural gas which rarely produces smoke.

2) Emission of smoke from vertical kilns during intermittent charging operations is in compliance. Charging of each kiln with limestone and coke seldom exceeds Ringelmann 1.

3) Smoke generated in decoking of furnace tubes in the vinyl chloride monomer operation is not in compliance.

- a. The furnace tubes are heated and blown with air and steam twice per month for 18 hours each time. During the initial stage of this operation Ringelmann 1 is exceeded for a period of 15-20 minutes. After the initial period during intermittent spalling with air, the smoke does not exceed Ringelmann 1 for more than four minutes in sixty consecutive minutes.
- b. The decoking procedure is a shutdown and start-up operation and on this basis we are asking the commission to approve compliance status under exemption 18.4 and/or 18.6.2 based on the limited amount of smoke being emitted in an unpopulated area of the plant.

4) The brine well storage system for Ethane and Ethylene near Plaquemine, Louisiana is in compliance.

- a. Pressure release venting for repair of lines, etc., does not cause smoke to exceed Ringelmann 1 more than an aggregate time of six hours in any ten consecutive days. The location for this operation is in an unpopulated oil field area.

5) Smoke emission from Test Burning of Standby Fuel Oil for power generation is in compliance.

- a. The standby fuel oil facilities are tested periodically for readiness in event of a natural gas outage. The smoke emitted during the changeover from gas to oil will be controlled within the limit of four minutes in any sixty consecutive minutes.

6) Flaring of gases from the Dichloroethane (EDC) and vinyl chloride operation is in compliance.

- a. Smoke emission from flaring during this operation does not exceed Ringelmann 1 more than an aggregate time of six hours in any ten consecutive days. It should be noted here that this flaring will be reduced when the hydrocarbon compliance plan submitted October 10, 1973 and further clarified by letter dated January 7, 1974, is implemented.

7) Smoke emissions from Lead Melting Furnace is in compliance.

- a. The lead recovery process used for rebuilding diaphragm cells involves some organic matter which burns off in the lead melting furnace. The smoke generated during this operation will be controlled so that a Ringelmann 1 will not be exceeded for more than four minutes in sixty consecutive minutes.

Section 19.0 - Particulate Control

1) Soda ash loading operations into ships and barges are considered to be in compliance on the basis of our fallout sampling over the past year. These fugitive dusts are covered further below under part III - Ambient Air Standards.

2) Salt drying, conveying and loading operations are in compliance.

Process weight	25,000 lbs/hr.
Emission allowed	22 lbs/hr.
Stack tests on wet scrubber	18 lbs/hr.

3) Decoking of furnace tubes in the vinyl chloride monomer operation are in compliance.

Process weight	20,000 lbs/hr.
Emission allowed	19 lbs/hr.
Calculated emissions	6 lbs/hr.

The furnace tubes are heated twice per month for 18 hours. During this time the tubes are blown with air and steam for one to two minutes every thirty minutes. Estimate 200 lbs. carbon is half burned and blown out during each 18-hour period.

4) Lime slakers producing milk of lime are in compliance.

Process weight	1,650 tons dry lime + 5500 tons water per day
Particulate emissions allowed	62 lbs/hr.
Estimated emissions	None visible (steam)

5) Vertical lime kilns during limestone charging operations are considered to be in compliance on basis of our fallout sampling over the past year. These fugitive dusts are covered further, below under part III, Ambient Air Standards.

-4-

6) Other sources of particulate fugitive dust and their respective compliance schedules were designated as Plans 1-4 and were submitted to the Air Control Commission on August 23, 1972 (see attached). Following is a review of emission data in these plans.

Plan 1 - Design and install new dust collecting systems on lime kilns discharges and conveyors.

Process weight	1650 tons/day
Particulate emissions allowed	47 lbs/hour
Estimated emissions	260 lbs/hour

Expected emissions after installation of planned equipment -
30 lbs/hour

Plan 2 - Purchase and install three improved bag dust collector systems to replace present ones in Nos. 1, 3 and 4 elevator towers in soda ash section.

Process weight	6600 tons/day
Particulate emissions allowed	61 lbs/hour
Estimated emissions	600 lbs/hour

Expected emissions after installation of planned equipment -
55 lbs/hour

Plan 3 - Purchase and replace four bag dust systems in dense ash operating systems.

Process weight	1800 tons/day
Particulate emission allowed	48 lbs/hour
Estimated emissions	300 lbs/hour

Expected emissions after installation of planned equipment -
30 lbs/hour

Plan 4 - Design and install dust collecting systems on soda ash loadings into trucks and rail cars.

Process weight (Light Ash) loading	35 tons/hour
Particulate emissions allowed	42 lbs/hour
Estimated emissions	175 lbs/hour
Design criteria to be satisfied	30 lbs/hour

Process weight (Dense Ash) loading	70 tons/hour
Particulate emissions allowed	47 lbs/hour
Estimated emissions	88 lbs/hour
Design criteria to be satisfied	35 lbs/hour

Section 20.0 - Incinerator Standards

Question 1 through 4 under incinerator compliance schedule guidelines are not applicable. We are in compliance because we use our refuse as land fill and do no open burning.

Section 21.0 - Fuel Burning Equipment Standards

We are in compliance because clean natural gas is used as fuel.

Section A22.0 - Volatile Organic Compound Control

This section is covered by our Hydrocarbon Compliance Schedule submitted on October 10, 1973 and further clarified by letter dated January 7, 1974.

Section 24.0 - Sulfur Dioxide Control

Sulfur dioxide from combustion of natural gas at the Baton Rouge North Works is in compliance.

Natural gas contains less than 1 ppm sulfur. The resulting combustion products are within state standards at the property lines.

Section 25.0 - Carbon Monoxide Control

Carbon monoxide from vertical kiln operations is in compliance based on being an existing operation and being classified as a priority III region. We have no new sources of carbon monoxide.

Section 26.0 - Nitric Acid Industry Standards

Not applicable industry.

III. AMBIENT AIR STANDARDS

Section 9.0 - Suspended Particulate Level Control and

Section 10.0 - Dustfall Level Control

In reference to both of the above sections, as previously indicated, our problem area is fugitive dust. These fugitive dusts, soda ash and limestone, are relatively large, heavy particulate which settle rapidly after becoming airborne. Our dust fallout data indicates compliance and implementation of our compliance plans Nos. 1 through 4 should further improve particulates to the atmosphere.

Examples of soda ash and lime dust sources and their effects on dust fall at the property lines are as follows:

1) The soda ash loading operation into ships and barges is located on the east bank of the Mississippi River and several precautions are taken to minimize dusting. The loading spout is maintained near the bottom of the vessels' holds to prevent a high freefall of the ash. The holds' covers are kept as closed as possible, and plastic sheeting is used on holds in some areas to minimize escape of dust. With these precautions, the dust fallout along the river from this operation compare with the state's ambient standard as follows:

North Property Line	= 5.8 tons soda ash/square mile/30 days
South Property Line	= 13.8 " " " "
Ambient Standard	= 20.0 tons dust/square mile/30 days

2) Fugitive dusts are created by intermittent charging of limestone and coke into the vertical kilns. Much handling by belt conveyors and proportioning and feeding equipment is involved. Wetting of the coke and stone at critical points is practical to minimize dusting. Most of these particulates settle quickly, and the average fallout along the property lines compare with the state's criteria as follows:

Average along property lines	= 8.3 tons limestone/sq. mile/30 days
Ambient Standard	= 20.0 tons dust/sq. mile/30 days

Section 11.0 - Outdoor Burning Standards
Section 12.0 - Sulfur Dioxide Level Control
Section 13.0 - Carbon Monoxide Level Control
Section 16.0 - Nitrogen Oxide Level Control

These above parameters (Sections 11.0, 12.0, 13.0 and 16.0) are in compliance or are not applicable as reported under Part II, Emission Standards.

Section 14.0 - Hydrocarbon Level Control
Section 15.0 - Oxidant Level Control

These sections are covered by our Hydrocarbon Compliance Schedule submitted on October 10, 1973. A supplemental schedule covering Sections 14.0 and 15.0 will be submitted based on Federal approval of state regulations, as per guideline instructions and further clarified by letter dated January 7, 1974.

IV. INCREMENTS OF PROGRESS

Increments of progress are given in the attachment of the original compliance schedule submitted dated August 23, 1972.

Periodic progress reports will be made to the Technical Secretary on the status of BRNW compliance schedule at six month intervals.