



TTS
MOC
G.H. TRAYLOR 23
L.V. CRALLEY 25

H. A. SEMKEN

~~MR. H. F. CHRISCO~~

ROCKDALE WORKS

~~ROCKDALE WORKS~~

December 20, 1968

Copy to: Dr. L. V. Cralley, Pittsburgh

CONFIDENTIAL

RE: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on December 19 with the following present: H. A. Semken, J. H. Greene, B. M. Starner, R. E. Freeman, H. D. Franklin, and R. C. Ashurst.

Occupational Exposure Cases: None were reported to the first Aid during September, October, and November.

F Level: The fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 8 ppm in August, 5 ppm in September, 7 ppm in October and 11 ppm in November. Rainfall in the above months amounted to 1.06, 5.55, .18, and 7.77 inches respectively. Total rainfall year-to-date of 49.04 inches is the second largest since the beginning of operations at Rockdale.

Petition For Variance: A Variance from the application of Regulation I to the emissions of our lignite dryer stack was granted by the Texas Air Control Board for a one-year period beginning October 17, 1968. This Variance provides that quarterly progress reports be submitted to the Board.

Crucible and Trough Liner Repairs: One of our brickmasons has again expressed concern about the hazard to his health from exposure to asbestos dust. In response to an earlier complaint by this employee, we ordered a power operated agitator for mixing the asbestos shorts and Lumnite cement, and an exhaust fan to be installed in the wall of the room where this work was done. It was also recommended that he wear an approved respirator, which he has done since that time. At the time of his complaint, the agitator was in operation; the exhaust fan had just been received and was not installed. The fan has since been installed and he has again complained that, although it did a good job in keeping the room air clean, it just blew it out on employees who might be working in the courtyard.

Air Pollution Meeting: On November 7, H. A. Semken attended a meeting of the TCC Air Conservation Committee, in Houston. The Committee met with the Executive Secretary and Asst. Executive Secretary of the Texas Air Control Board to discuss proposed regulations on Fluorides and Equivalent Opacity.

It was agreed that the proposed regulation on fluorides would be postponed pending more study of the suggested limits. It was also agreed that a representative of the TCC would appear before the Board at their December 18 meeting to comment on the "Equivalent Opacity" Regulation.

At their December 18 meeting, the Texas Air Control Board decided to postpone consideration of an amendment of Regulation I until their next meeting, in January.

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Compliance With Air Quality Standards: In anticipation of the adoption of air quality standards for fluorides by the Texas Air Control Board, we have begun a study of a monitoring program to show compliance with such a regulation. This program would include monitoring both forage and air in the vicinity of the Plant.

Noise Levels: Although the addition of rubber lined belts around the wheels of the Wheelabrator has lowered the noise level somewhat, the overall noise level in the carbon rodding area is, in our opinion, too high.

The addition of several new, high-noise-level units in this area make it desirable that noise levels be again measured in these areas. We will contact Mr. Bonney to see if his equipment can be borrowed.

Chlorine in Bldg. 34: Revisions to the system and changes made in chlorine handling practices since early this year have generally resulted in a clear-air building, and complaints have been relatively few. However, occasional equipment failure or poor practices result in raw chlorine being introduced into the department. Every effort will be made to reduce or eliminate these occasions.

On other occasions, atmospheric conditions result in the chlorine and chlorine compounds, exhausted thru the stacks, being brought back into the building thru the ventilators. Considering the addition soon of skim recovery equipment, scrubbers appear to be the best method for solving this problem. We are considering scrubbers using ash jet lake system water as a scrubbing medium.

The roof ventilator fans are capable of changing the air in the building every 2.2 minutes. This appears adequate.

Scrubber System: Fourth quarter sampling and analytical work is complete.

Due to operating problems, no progress was made on the design and testing of the revised P-51 hood. For the same reason, no progress was made on wire replacement in the Western CMP units.

Dryer Stack Clean-up: As a result of poor efficiencies of the 500 cfm moving bed filter, more work is being done on bench scale. Various moisture level lignites, petroleum coke, and sized sand are being studied as filter media by Professor Harris, at Texas A&M University. These results should help determine feasibility of the moving bed filter.

Two wet pilot scrubber units will be tested as soon as possible. Equipment needed for the installation of the Centrifix unit, a low energy scrubber, is on order. Western Precipitation is now in process of firming up quotes for their variable venturi scrubber.

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Mr. H. F. Chriseo

December 20, 1968

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Installation of the corrosion test system is nearing completion and should be in operation by January 1.

H. A. SEMKEN

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R. E. Freeman
B. M. Starner
A. E. Menke
H. D. Franklin
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R. C. Ashurst

ARCH 18767

H. A. SEMKEN

ROCKDALE WORKS

October 3, 1968

~~MR. H. F. CHIRISCO~~

~~ROCKDALE WORKS~~

Copy to: Dr. L. V. Cralley, Pittsburgh

CONFIDENTIAL

RE: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on September/25 with the following present: H. A. Semken, J. H. Greene, R. E. Freeman, H. D. Franklin, B. M. Starner, and A. E. Menke.

Occupational Exposure Cases: None were reported to the First Aid during July and August.

F Level: The fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 12 ppm in June and 6 ppm in July. Rainfall in the above months amounted to 8.58 and 3.84 inches respectively.

Petition For Variance: A Petition for Variance from the application of Regulation No. 1 of the Texas Air Control Board to the emissions of our lignite dryer stack was submitted to the Executive Secretary of the Board on August 19. Favorable responses, recommending that the Petition for Variance be granted, have been sent to the Secretary by the Mayor of Rockdale and the Acting Director of the Milam County Health Department. The Board will consider the request at its next meeting, scheduled for the early part of October.

Scrubber System: Third quarter sampling and analytical work is complete.

Wire replacement in Western CMP units is 2/3 complete. Completion is anticipated in the fourth quarter.

The program of following up Process Engineering measurements with corrective action by maintenance personnel is being strengthened.

Engineering of a modified version of the improved pot hood is under way. Construction and testing is planned for the fourth quarter.

Ambient Air--Suspended Particulate Matter: On August 23, air samples were taken at 3.6 miles, bearing 15° and at 3.1 miles, bearing 187°. During sampling, the wind averaged 7 mph from bearing 135-225°. The downwind sample averaged 52.1 micrograms/M³ and the upwind sample 54.3 micrograms/M³. On August 27, samples were taken at 1.1 miles, bearing 270° and at 1.3 miles, bearing 90°. During sampling, the wind averaged 7 mph from bearing 45-90°. The downwind sample averaged 80.3 micrograms/M³ and the upwind sample 53.9 micrograms/M³. Plant operating conditions were normal during both sampling periods.

ARCH 18768

Potroom Atmosphere: The Union has entered a grievance contending that gas fumes and dust in the potrooms are hazardous to the health of the employees and that the Company should take steps to correct these conditions both on the floor and in the cranes in the potrooms. }

Dryer Stack Clean-up: Operating characteristics of the dry bed filter were checked using undried lignite as a filter media. Prevention of water condensation is the problem with the contacting of high moisture gas and wet lignite. Work will be concentrated in this area to attempt to solve this problem. Operation of a filter of such design depends on a continuous dry bed. Other filter media will also be tested if necessary.

H. A. SEMKEN

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H. A. SEMKEN

ROCKDALE WORKS

July 17, 1967

CONFIDENTIAL

~~MR. H. P. CHRISCO~~

~~ROCKDALE WORKS~~

Copy to: Dr. L. V. Cralley, Pittsburgh

RE: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on July 14 with the following present:

H. A. Semken, C. H. Meyers, H. D. Franklin, and E. W. Ostendorf.

Occupational Exposure Cases: None were reported to the First Aid during May and June.

F Level: The fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 29 ppm in April. Rainfall in April amounted to 3.24 inches.

Audiometric Testing: Audiometric testing was begun in June. This is now a regular part of a pre-employment physical examination. Older employees working in what is considered excessive noise level areas will be examined each year at the time of their annual physical. Employees working in borderline noise level areas will be examined at least every other year and employees from safe level areas will be tested at least once every five years.

Air & Water Pollution Meetings: On May 31, H. A. Semken attended an Industrial Hygiene and Air Pollution Conference in Austin, sponsored by the Texas State Department of Health and others. On June 29, H. A. Semken attended the meeting of the Water Pollution Advisory Board, in Houston.

Potroom Atmosphere: Haze conditions generally continue to be normal. Overall condition of covers and placement of covers is good. C. H. Meyers investigated a complaint that the fans in Lines 5 and 6 were not removing fumes as well as fans in other lines. It was found that fume collection flows between 1966 and present were above average except for two minor exceptions in the second quarter of 1966.

ARCH 18770

Area Inspection: Dr. L. V. Cralley, E. A. LeQuire, and H. A. Semken inspected vegetation, including row crops, and tree foliage in an area around the Plant on June 26. Condition of vegetation in the area is generally good. Overall condition appeared equally as good, or better, than last year. This is somewhat surprising since we are experiencing a drought period, and fluoride levels are higher than normal. Dr. Cralley will submit a formal report later.

Scrubber System: Second quarter efficiency results showed marked improvement over the previous quarter in both particulate and total fluoride collection. The R 410 fume alumina contactor is presently being tested. Results thus far are widely scattered. This may be the result of sampling troubles.

T. B. Bonney Visit: T. B. Bonney visited Rockdale on July 13 to help set up a check-off system to facilitate a periodic inspection of all areas where health hazards or industrial hygiene problems exist. This program will be started this month.

Cool-Flo Suit: One unit was purchased for use at the cast iron pouring station. The unit has been satisfactory from a cooling standpoint but is a little heavy, makes looking up more difficult, is not quite long enough, and hinders hearing. The unit is being used during the hotter part of the day and it is believed it will be used more as the men become accustomed to it.

Dryer Stack Clean-up: Professor Harris is in the last month of his research contract on the dryer stack clean-up problem. He will propose a scrubber for immediate solution of the problem and a moving bed of lignite, as a dry filter, for a long-range solution.

A proposal was received from Koppers concerning a test program to evaluate the

Mr. H. F. Chrisco

July 17, 1967

Page 3.

effectiveness of a dry electrostatic precipitator on mixtures of boiler and dryer stack gases. An RFA written to cover the cost of this program is being held in Pittsburgh pending the receipt of more information.

H. A. SEMKEN

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H. A. Bower
E. W. Ostendorf
C. H. Meyers
H. D. Franklin
J. H. Greene

ARCH 18772

H. A. SEMKEN

ROCKDALE WORKS

June 25, 1965

~~MR. H. P. CHRISCO~~

~~ROCKDALE WORKS~~

Copy to: ~~Dr. L. V. Cralley - Pittsburgh~~

CONFIDENTIAL

Re: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on June 24 with the following present:

H. A. Semken, E. W. Ostendorf, H. D. Franklin, and J. H. Greene.

Occupational Exposure Cases: None were reported to the First Aid during April and May.

F Level: The fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 31 ppm in March, 35 ppm in April, and 13 ppm in May. Rainfall in the above months amounted to 1.61, 2.53, and 8.34 inches respectively.

Lunch Rooms and Toilet Areas: Present plans are to modify all of the potroom center passage lunch rooms and toilets so that the floor plan will be like that in Line 1. Floors in each of the three rooms will be sloped to a floor drain. Painting the walls to a height of four feet with epoxy paint and a sprayed-on, urethane covering for the floor is being considered. This will permit the areas to be flushed down. An inspection system will be instituted to evaluate cleanliness.

Scrubber Efficiency Tests: Overall fluoride collection efficiency of the fume-collecting units varied from 87.0 to 90.2%, averaging 88.8% for all units tested in the first quarter. Particulate collection efficiency averaged 83.9%. Fluoride concentration in the scrubber exhaust averaged .456 mg/SCF. Sampling

ARCH 18773.

for the second quarter is essentially complete and analytical work is approximately 60% complete. Some sampling was omitted from the second quarter program due to water being off the scrubbers while lines were being cleaned, and to the poor condition of the deck supports on the Line 5 - 6 units.

Scrubber System: The mains from Bldg. 76 to all towers are now in an equal-to-new condition. Nozzle headers on about 50% of the towers have been cleaned and work is continuing on the others. Mist eliminators are in good condition on all except 6 units. Three months will be required for the necessary repairs to the Line 5 - 6 towers. The west side of the settling basin at Bldg. 76 is down for repairs to the flights and chains.

Chlorine in Bldg. 34: Complaints continue to be received about the concentration of chlorine in the building atmosphere. Recently an electrician became extremely nauseated while working on a crane in the south end of the building. He said that there was a bluish-green haze in the atmosphere which had a pungent odor like chlorine. During the shift, chlorine fluxing was performed and skim flux was added to furnaces 7 and 8. A Chlorine-in-Air Detector has been ordered and spot checks will be made to determine chlorine levels, particularly during fluxing operations and when complaints are received. Personnel in the area believe that the chlorine concentration would be greatly reduced if the furnace flues were cleaned.

Plant and Area Inspection: Dr. L. V. Cralley and H. A. Semken inspected the Plant and the area around the Plant on June 1 and 2. Marked improvement was noted in potroom atmospheric conditions. Improvement, which may have been partially due to the heavy rainfall in April, was also noted in areas around the Plant. Dr. Cralley will submit a formal report later.

Dryer Stack Clean-up: In April, a series of tests on the Koppers precipitator was made, operating it as a wet precipitator. Efficiencies were higher than those of any tests yet performed. It was decided to move this unit to another location to clear the way for the installation of the multistage unit and to run another series of wet tests over a three-week period. This series of tests was completed on June 11. Efficiencies on the nine tests performed ranged from 96.25 to 99.21, with all efficiencies except two being above 98%. It was decided that this completed the tests on the Koppers unit and it has been returned. Erection of a multistage precipitator is nearing completion and it is expected that tests will start about the middle of July.

H. A. SEMKEN

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H. D. Franklin
C. H. Meyers
E. W. Ostendorf
J. H. Greene

1. The first of these is the fact that the majority of the population of the United States is of European descent. This is a fact which has been recognized by the government and the people of the United States for many years. It is a fact which has been recognized by the government and the people of the United States for many years. It is a fact which has been recognized by the government and the people of the United States for many years.

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ARCH 18776

H. A. SEMKEN
ROCKDALE WORKS

April 9, 1965

CONFIDENTIAL

~~MR. H. F. CHRISCO~~

~~ROCKDALE WORKS~~

Copy to: Dr. L. V. Gralley - Pittsburgh

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F B C -
R 2420

RE: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on April 8 with the following present:

H. A. Semken, J. H. Greene, E. W. Ostendorf, and H. D. Franklin.

Occupational Exposure Cases: One case was reported to the First Aid in February and one case in March. Both were the result of exposure to chlorine gas in Bldg. 34. The exposure in February was due to a leak at a hose connection and the March exposure was due to a leak from a faulty hose. It is our understanding that a governmental agency in Austin has been contacted by the president of the local union regarding the chlorine exposure in Bldg. 34.

F Level: The fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 14 ppm in December and 16 ppm in both January and February. While these values are somewhat higher than those obtained in the immediately preceding months, they are about normal for this season of the year and are within what is considered to be an acceptable range. Rainfall in the above months amounted to 1.07, 2.63, and 5.60 inches respectively.

Lunch Rooms and Toilet Areas: An RFA will be submitted this quarter to make the recommended revisions to one of the toilet-lunchroom areas in the potroom center passageway.

Scrubber Efficiency Tests: Sampling and analytical work in connection with the first quarter test program is complete. Results will be available within a few days.

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Scrubber System: Cleaning of the lines is approximately 30% complete. The discharge header at Bldg. 76 has been installed and the main header has been cleaned from 76 to just south of Bldg. 40. The reaction tank at Bldg. 76 is essentially cleaned. The mixer in this tank has been removed for repairs and the lower mixer bearing is yet to be replaced. In making these repairs, water has been shut off the scrubber system for 106 hours. Yet to be cleaned are: the main header from Bldg. 40 to Bldg. 6, the laterals to all scrubbers, and all spray headers and nozzles. This will require approximately 15 days.

Use of Asbestos in Potlining Operations: The following comments are in response to a request for information on this subject by potlining personnel: Asbestosis, a disease resulting only from breathing asbestos dust, is now recognized as being a significant industrial exposure hazard. Even intermittent exposures to high concentrations, over long periods of time, can result in varying degrees of asbestosis according to individual susceptibility. There have been reports of an increased incidence of lung cancer in persons with asbestosis. Recommended maximum atmospheric concentrations (8 hours) is 5 million particles per cubic foot of air. Exposure is best controlled by local exhaust ventilation or, for intermittent exposure, an approved respirator. While it is doubtful that sufficient asbestos dust is generated in potlining operations to present a health hazard, proper precautions should be observed when dusting does occur.

LVC
TSC

Dryer Stack Clean-up: Twenty-three tests were conducted on the 3-tube, Koppers pilot precipitator during January, February, and March; seventeen of the tests were made with the precipitator operating as a dry unit, and six as a wet unit. Results of the dry basis tests show a low efficiency and no further work is planned on this basis. Efficiencies, operating on a wet basis, are sufficiently high to warrant running another series of tests. These will begin about the middle of April. The shell for the 3-stage Western precipitator will be completed in April. The internal

Mr. H. F. Chrisco

April 9, 1965

Page 3

parts are scheduled for delivery about the middle of June. We hope to have the precipitator assembled and ready for testing by the 15th of July.

H. A. SEMKEN

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H. D. Franklin
R. D. Hornbeck
E. W. Ostendorf
J. H. Greene
C. L. Valentine
F. K. Hyder

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ARCH 18779

May 5, 1964

H. A. SEMKEN

~~MR. J. E. DATES~~

ROCKDALE WORKS

~~ROCKDALE WORKS~~

Copy to: Dr. L. V. Cralley, Pittsburgh

CONFIDENTIAL

RE: INDUSTRIAL HYGIENE COMMITTEE MEETING

The Industrial Hygiene Committee met on April 27 with the following present: H. A. Semken, E. W. Ostendorf, J. H. Greene, H. D. Franklin, and R. D. Hornbeck. C. H. Ross attended the first part of the meeting.

Plant Industrial Hygiene Program: C. H. Ross reported on the Industrial Hygiene Training Program which he attended, in Pittsburgh, in April. Fundamentally, this program will result in a more formal and systematic approach to industrial hygiene problems. Ross, working with a representative from each department, will set up a material flow sheet for the department and will note possible industrial hygiene problem areas in the department. When data sheets are complete for all departments, they will be reviewed in Pittsburgh and a member of the Pittsburgh Industrial Hygiene Section will then visit Rockdale to help set up a periodical sampling and review schedule. With help as required, Ross will do the sampling and analytical work and will report results to the local industrial hygiene committee for action. This will be done on a monthly basis and a copy of the minutes of the meeting will be sent to Dr. Cralley.

Occupational Exposure Cases: No cases were reported to the First Aid during the first quarter.

F Level: Fluoride content of vegetation within a 2 - 3 mile radius of the Plant averaged 28 ppm in January, 22 ppm in February, and 39 ppm in March. Rainfall in the above months amounted to 3.14 inches, 1.90 inches, and 1.92 inches respectively. The above fluoride levels are, by far, the highest we have had since 1961 when we began keeping averages on these locations. This is probably due to increased line

ARCH 18780

loads and more lines being on alumina feeders, with a resulting increase in the amount of fluoride being generated. This would result in more fluoride being exhausted to the atmosphere with scrubber efficiencies remaining normal. Scrubber efficiency tests are now being made and will be evaluated as soon as they are completed. In line with the suggestions of the Task Force on Potrooms, the Committee feels that we should get prepared to do monitor testing and any other testing necessary to find where fumes are being lost to the atmosphere. In the meantime, the Committee recommends that an immediate and complete survey be made of the physical condition of the fume-collecting system and the method of operating it, particularly the scrubbers and electrostatic precipitators.

Chlorine in Building 34: Rain caps on all of the furnace stacks have now been raised. This should result in better removal of fumes during chlorine fluxing.

Lunch Rooms: Lunch rooms and toilet areas in the Plant have been improved somewhat, but much more is needed. The Committee wonders if some type of chemical cleaner could be found to be used in the toilets and urinals to help remove odors in these areas.

Dust From Building 59A: The dust removal system has been completed. Dust is collected in a load lugger which is emptied on the trash dump.

Bath Crushing in Building 37: Dust-collecting system is on order from Wheelabrator. Delivery is expected about June 1. Approximately four weeks will be required for installation.

Conference on Industrial Hygiene and Air Pollution: J. E. Yates and H. A. Semken attended this meeting, in Austin, on January 25.

Tunnel Kiln Tar String: A set of instructions on personal hygiene and use of gloves and clothing has been issued to personnel working around the tar string. Dr. Cralley will investigate protective creams which could be used.

Dust Around Ore Unloading: Installation of a fan for supplying forced fresh air to the small shelter is expected to be completed about May 1.

Dump at Mine Pit: Approximately once each week, tar from tunnel kiln operations is taken to the dump and burned. The dense black smoke evolved could be a source of bad public relations. The Committee wonders if any other method of disposing of the tar would be practical.

Fumes From Mixers: Pitch fumes from the mixers in the Carbon Plant and Potlining Departments are becoming increasingly objectionable to personnel working in these areas. Some method of removing these fumes should be investigated.

Dryer Stack Clean-up: Construction of an SO_3 generator was completed and tests were made to determine the effect of adding SO_3 to the gases from the secondary separator, on precipitator collection efficiency. No improvement was noted. In April, an efficiency deterioration test was begun, on gases from the primary separator, with power-off, closed-damper rapping of the precipitator. This will complete our present testing program. A meeting will be held with Mr. Hittner, in May, to evaluate results of previous tests and set up our future program.

H. A. SEMKEN

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J. H. Greene

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