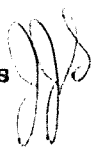


April 20, 1979

4530

Air Management Files

James J. Surfus 

Compliance Inspection - Freeman Chemical Corporation

On April 17, 1979, Mr. Bill Polley and the writer conducted a compliance inspection at the Freeman Chemical Corporation facility in the Village of Saukville, Ozaukee County. Mr. Paul Schaefer, Plant Manager, provided a plant tour and explained the processes. The facility manufactures three types of intermediate type products for industry applications.

- 1.) Alkyd resins (thermosetting) are formed by the anhydride reaction of phthalic anhydride and a glycol. Plasticizing resins are used in lacquers, drying resins are used in varnish-type coatings and hard resins are used in both lacquer and varnish coatings to improve hardness and gloss.
- 2.) Polyester resins (thermosetting) such as styrene, are polymerized in a reaction kettle and shipped by truck to industries which use the resins in fiber glass applications (shower stalls, boats, etc.).
- 3.) Urethane resins for cushions.

Batch production occurs in 5 reaction kettles heated by natural gas firing. Two 1000 gallon kettles and three 3500 gallon kettles are located in one building. A larger 8000 gallon kettle and a number of small 500 gallon pilot plant kettles are located in an adjacent building.

Raw material is pumped to the reaction kettles from above and underground storage tanks on site. Seventy-five percent of the batches occur with just liquid raw materials, and 25% occur with liquid and solid raw materials, which can be bags of powder or briquettes which are manually dumped into the kettles. Typical reactions occur at about 400°F in the kettles. Each kettle has a condenser with non-contact cooling water. The esterification reactions in the kettle drive off water vapor and product which is cooled in the condenser. The condenser is vented to the atmosphere and the condensibles collect in a decant vessel. At a different time in the reaction, the kettle vapors can pass through a packed column which is used to separate the water and glycol mixture. Again, the non-condensibles are vented directly to the atmosphere and the glycols are reclaimed. After the reaction is complete, the product is pumped to a thinning tank where additional solvents and additives are injected. The thinning tanks are vented directly to the atmosphere. The final

liquid product is passed through a filter press before being pumped into trucks for shipment.

Approximately 8000 gallons of liquid organic waste is produced each week and collected in tanker trucks. Wastewater from washdown and other uses on the site are collected and burned in a liquid waste incinerator along with the liquid organic waste. During the inspection the liquid waste incinerator was in operation and plume opacity was less than 5%. However, spillage of the liquid organic waste around the pumps and pipe flanges was quite evident. An area of ground of perhaps 50 square feet was soaked with the liquid spillage. Mr. Schaefer indicated that he intends to strip the top 6 inches of ground in the area around the incinerator and dispose of it at the Germantown landfill. A layer of lime will be spread over the area and then covered with crushed gravel. He indicated this is done every spring.

Summary

All chemical storage tanks contained liquids having a vapor pressure of less than 1.5 psia at 70°F and thus in compliance with NR 154.13(4).

The odors at the facility were not obnoxious but could be described as distinct and sweet. An odor survey was conducted in July 1974, which indicated 75% of the respondents claimed the odor to be objectionable. However, a Department order to control odors was not issued since Freeman Chemical voluntarily made some in-plant changes to minimize odors. During 1978, five complaints were received. The complaint investigations have never detected a violation of NR 154 but are either unresolved as to specific cause (perhaps a process upset or spillage) or attributed to an incinerator malfunction.

No violations of NR 154 were detected during the inspection. Surveillance of this facility will continue on a complaint basis.

JJS:jlh

cc: Bureau of Air Management ←

MEMO - 8-4-76

FROM - F. W. MICHALSKI

TO - R. REDDICH

SUBJECT - RESPONSE TO LETTER FROM DEPT. OF HOUSING

& URBAN DEVELOPMENT, DATED 7-26-76

On April 26, 1971 a meeting was held in
Dept Washington to review the review of other
concerns from the Deerean Chemical Co. in
the Deerean Chemical Co. Along with the complaints
a petition with 307 signatures had been
submitted, objecting to put burning of waste
chemicals.

Results of the meeting were:

1. - Examine use of the air curtain detector
 to existing incinerator.
2. - Weekly program reports on modification
 to existing incinerator.
3. - Target date 5-15-71 to install after-
 burners in existing incinerator.
4. - Commit the Deerean Corporation as
 B. City (negative committee) to answer
 air pollution complaints.

8-27-76 memo from R. Reddich to F. W. Michalski
subject: Deerean Chemical Co. memo

Agency

3-11-75 From - W. White to J. Bevington

Results of survey conclude that an order could be issued based on the survey. — However a plant visit on 10-21-75 by B. Jiggs, S. Schultz and Ed. W. Bygraves report that the situation had changed. Freeman Chemical has taken corrective steps, no disagreeable odors were detected. No complaints from 2-22-74 to 3-11-75.

8-11-75 Complaint - Smoke stacks.

4-23-76 No. 1's observations - smoke from well under limitations, odor ~~not~~ detected at a distance of 1 to 2 blocks from the plant. - very light

7-30-76 No smoke - odor detected at E. French and Blair streets - No. 2 on a scale of 1 to 5

8-4-76 No smoke - odor detected 1 1/2 blocks west of the plant - No. 1 to 2 on a scale of 5

Elmer W. Friedlander

21-70 Thank you letter to Hilda. Sentinal from M. J. Mollen

8-70 Letter to D. Evans from Sentinal reporter - other complaints

30-70 Complaint - Pitt burning of waste chemicals

4-70 Letter A. Strupinski to D. Evans - report letter of

24-71 complaint from Sen. Proxmire and P. Atamuro -

not up hearing with interested parties

waiting to be held on 4-15-71 at Pt. Washington court-

house - no Madison people will attend - reports be sent

to D. Evans

26-71 Complaint from Mrs. Atamuro

26-71 " position (307 petitions)

14-71 Meeting date changed to 4-26-71 - 7:45 PM

28-71 Report on meeting

1. Discontinue use of air curtain destructor

2. Weekly progress reports on modifications

to existing incinerator

3. Target date 5-15-71 to install

afterburner in existing incinerator

4. Commit the Steamers Corporation to

ensure air pollution complaints are

through D. Pitts R.S.

- 16-71 Complaint from Mrs. Agnew, lives 2 miles north of
Sarasville (odor)
- 5-71 Reply to complainant - to notify - D.N.R. - Freeman Chem. -
on D. Obitz R. S. Ogden Co. County
- 6-71 Letter of complaint from W. J. Shively D. A. to
J. O. Vogt and also request a copy of order to comply.
- 20-71 Letter to W. J. Shively from Brooks Beckler -
E. Thompson's contact W. J. Shively - D.N.R.
does not have an order on Freeman Chemical.
- 22-71 Memo from E. Thompson to D. Evans - site animals
- 5-21-71, conclusion of this office is, close the file.
- ~~4-72~~ D. Obitz assuming local control.
- 1-9-72 Letter from 7th grade (complaint)
- 2-0-72 " " students "
- 2-2-72 Reply to students letter
- 1-9-73 Information request D. Randall (action/partic.)
- 2-8-73 Color complaint memo from Joe Long to W. Worthington
- 4-74 Color complaint
- 2-74 Letter of complaint (odor)
- 1-8-74 to complaint - smoke from stack
- 2-2-74 to chemical odor survey - results
- 2-1-74 to corrective measures taken since 7-25-74
1. Dintellect food smell flame detector on
receptive water meter water.
 2. Train operators

3. Review process to coal separation point in kettle
4. Remedial actions & operator training to eliminate spills
- 75 Items - D. BRL to H. Borington
- 9-75 Complaint - smoke and odor
- 10-76 " " odor (imitates the eyes)

S. A. ...
... Co

December 13, 1968

Mr. William Q. Kehr, Regional Program Chief
Solid Wastes Program
Bureau of Disease Prevention and Environmental
Control
National Center of Urban and Industrial Health
Room 712 433 West Van Buren Street
Chicago, Illinois 60607

Dear Mr. Kehr:

In response to our telephone conversations, I am enclosing a copy of Dr. Stephen E. Freeman's letter regarding the Freeman Chemical Corporation open pit burner. I believe the letter will answer your questions on the matter.

You will note that the pit burner is located at Saukville, rather than at Port Washington. Saukville is located approximately 3 miles west of Port Washington and 14 miles north of the Ozaukee-Milwaukee County line.

If we can be of further assistance, please contact us accordingly.

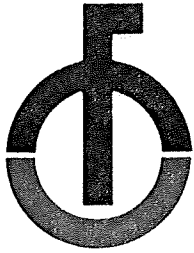
Very truly yours,
Division of Environmental Protection

Avery N. Wells, Chief
Solid Waste Disposal Section

ANW:nlc

Enclosure

file copy



FREEMAN CHEMICAL CORPORATION

Subsidiary of the H. H. Robertson Company, Pittsburgh, Pennsylvania
P.O. BOX 247, PORT WASHINGTON, WIS. 53074, PHONE 414-284-5541

December 6, 1968

Mr. Avery Wells, Acting Chief
Solid Waste Disposal Section
Wisconsin Department of Natural Resources
P. O. Box 450
Madison, Wisconsin 53701

Dear Mr. Wells:

In response to your telephone call regarding the open pit burner for disposal of waste materials, the burner is located at our manufacturing plant in Saukville, Wisconsin. It is owned by the Freeman Chemical Corporation. Arrangements can be made to see the operation by contacting the Chief Engineer, Mr. John A. Bell, or in his absence, the Plant Manager, Mr. Russell Cerk. It would be advisable to make arrangements in advance since the unit is not used every day.

The unit is used to dispose of filter earth saturated with solvents such as xylene, toluene, petroleum naphtha plus alkyd resins and polyester resins. In addition to this material, filter paper saturated with resin and solvent is also included together with general factory combustible trash including wooden pallets and some times rubber tires. Loose paper and paper bags are disposed of in a separate incinerator unit because the pit incinerator is not equipped with a spark arrestor screen which would be necessary with any material that would tend to blow out of the pit. The unit is generally in operation two or three times during the week for a period of approximately eight hours at one time.

The pit is constructed of concrete block with an air gap and an inner liner of fire brick supported away from the concrete block to allow an air gap approximately 3-4" wide. The inside dimensions of the pit are 8' wide x 12' long x 10½' deep. The combustion air is supplied by a series of nozzles about 2½-3" in diameter located along the 12' length and aimed into the pit at an angle approximately 45° but variable. Air is supplied by a blower energized by a 75 hp motor supplying approximately 15,000 cu. ft. per minute of air.

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Dept. Nat. Res.

Mr. Avery Wells
December 6, 1968
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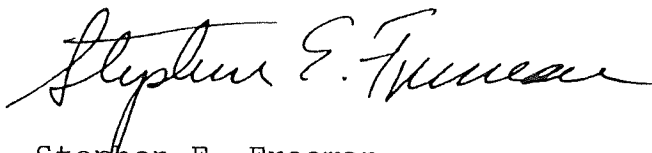
The charging rate depends somewhat on the contents of the material being charged but normally the unit will handle the combustible filter earth in fiber drums containing approximately 200 pounds of material varying to somewhat lighter weight if a lot of filter paper is present. The unit will handle about 10,000 to 12,000 pounds of this type of waste in an eight hour day.

We would be pleased to arrange for you or any other people with similar authority to observe the unit in action. We realize it is not completely perfect and would welcome engineering advice and effort to improve the efficiency of the unit; however, it is the best type of device we have found for the purpose of disposing of these highly flammable and smoke producing materials. We find that the unit is quite effective after it is heated up but it does cause some smoke evolution in the early cold stage of operation. From our experience with a closed incinerator, which is also present on the premises and can be observed, the open pit incinerator is faster, has greater capacity and freedom from danger from exploding containers.

We would be glad to discuss further details with yourself or other people interested in the operation if you would be kind enough to set up a date in advance. In order to contact us, please call the general office of Freeman Chemical Corporation located in Port Washington, Wisconsin - telephone 414 284-5541.

Sincerely

FREEMAN CHEMICAL CORPORATION



Stephen E. Freeman
President

SEF:kcc