Acme Coke
11236 S. Torrence Ave.
Chicago IL 60617

acmecoke.com

Document archive

Best Management Practice
Dated: January 1988

Recovered from site on Jan 23 2021

ACME STEEL COMPANY

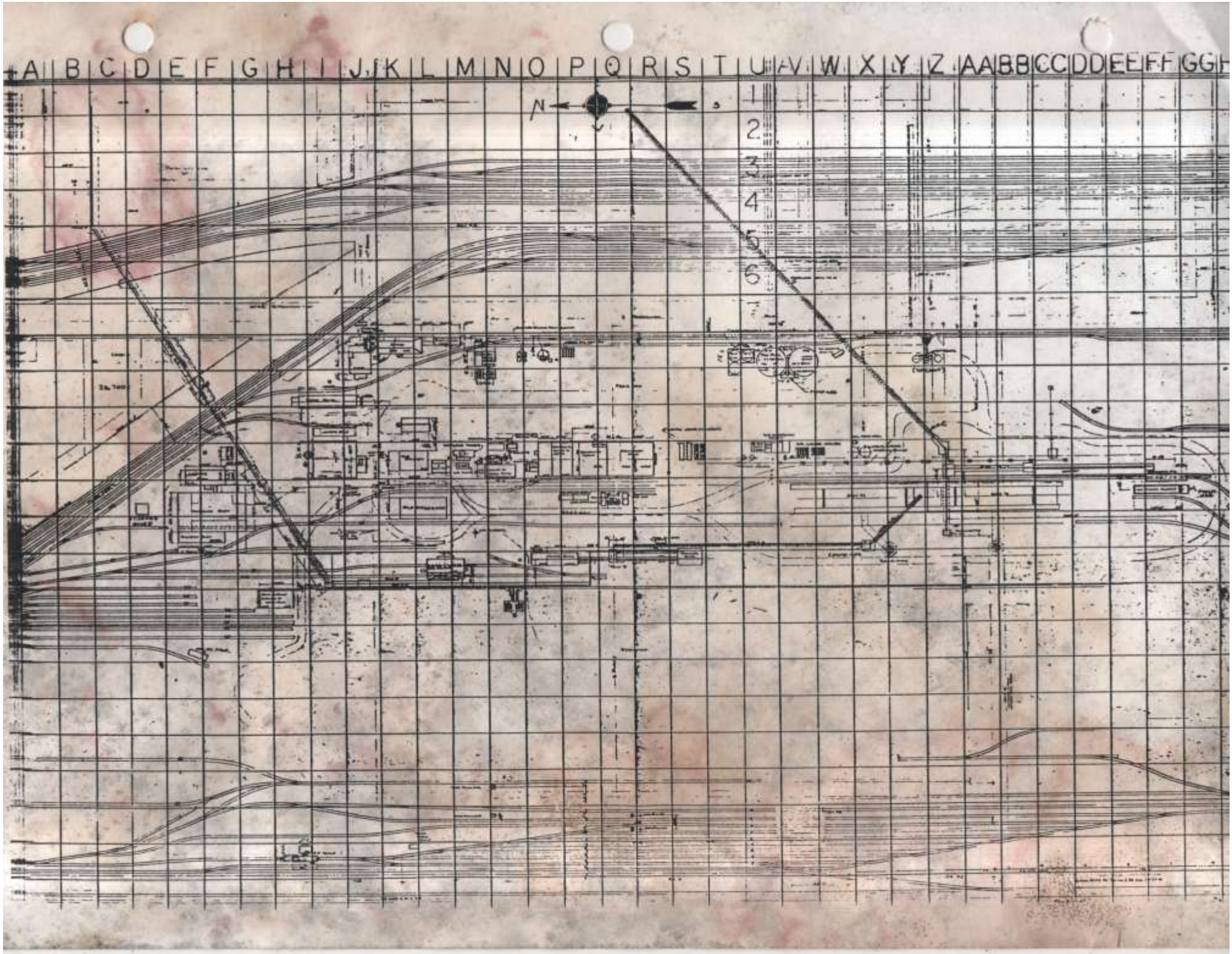
CHICAGO COKE PLANT

BEST MANAGEMENT PRACTICES PLAN

January 2, 1986
Revised: January 4, 1988

Copy No. _____

1. Manager - Environmental Services
2. Coke Plant Superintendent
3. Coke Plant By-Products General Foreman
4. Coke Plant Gatehouse


A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD EE FF GG
N
1
2
3
4
5
6

Acme Steel Company
Best Management Practices
Chicago Coke Plant

January 2, 1986
Revised: January 4, 1988

I GENERAL REQUIREMENTS

B. Management/Engineering Review

The following Best Management Practices Plan which was developed for our Chicago Coke Plant, has been reviewed by the following:

J. Garzella 1-20-88
J. Garzella
Superintendent
Chicago Coke Plant
Acme Steel Company

J. A. DiMauro 1-21-88
J. A. DiMauro
Director - Engineering
Acme Steel Company

II SPECIFIC REQUIREMENTS (continued)

B. Reporting of BMP Incidents - Internal to Acme Steel (continued)

3. Coke Plant Key Personnel

	Monday - Friday 8:00 a.m. - 4:30 p.m. (312) 933-5170	All Other Times
1. Jack Garzella, Coke Plant Superintendent	Ext. 5100	(219) 733-2151
2. R. J. O'Hearn, Asst. Plant Superintendent	Ext. 5102	(219) 937-3550
3. J. Harris, General Foreman - By-Products	Ext. 5105	(312) 335-1475

4. Environmental Services Personnel

1. J. A. DiMauro, Director of Engineering	Ext. 2446	(219) 769-4849
2. M. R. Ebert, Supervisor Industrial Hygiene	Ext. 2193	(312) 868-2567
3. D. J. Holmberg, Manager - Environmental Services	Ext. 2438	(312) 849-7637
4. R. J. Oblon, Sr. Industrial Hygienist	Ext. 2193	(219) 659-2503
5. T. J. Rysiewicz, Manager - Environmental Affairs	Ext. 2866	(312) 460-6735
6. J. Waldschmidt, Supervisor - Environmental Laboratory	Ext. 2215	(312) 481-6871

II SPECIFIC REQUIREMENTS (continued)

C. Environmental Control Agency Inspections and Notifications

As a separate, and publicly held company, Acme Steel has total responsibility for its environmental affairs. These responsibilities include handling any inspections by an environmental control agency and making the appropriate agency notification when an incident requiring an emergency response occurs at one of its facilities.

These activities may involve contact with representatives of several organizations, including air, water, and toxic substance pollution control agencies on federal, state, and local levels, the United States Coast Guard, Metropolitan Sanitary District, and National Response Center. In order to protect the rights of Acme Steel Company, the following procedures and recommendations should be followed when contact with the above agencies is made.

1. General

a. A friendly, courteous, and professional attitude should be maintained with agency representatives.

b. The questioning of non-management personnel by an agency representative is prohibited unless authorization to do so is received from plant management.

c. There is no legal obligation to answer any agency questions relating to production capabilities, operating times and procedures, maintenance procedures and schedules, future commitments by Acme Steel Company or the quantity, type and causes of any observed emissions, discharges, or spills. Questions of these types will be answered in a letter by plant management.

d. When responding to an agency representative during an inspection or because of an incident, only the facts and not conjectures or rumors should be communicated.

e. Any requests for information by news media or by concerned citizens should be referred to the Public Relations Department of Acme Steel Company for a response.

December 3, 1987

ACME STEEL COMPANY
CHICAGO COKE PLANT

Inventory of Liquid Storage and Process Vessels
and Tanks

C-1 Tar

A. Tar Storage Tank (#)
B. Tar Storage Tank - No.5 (#)
C. Tar Storage Tank - No.7 (#)
D. Tar Storage Tank - No.8 (*)
E. Tar Storage Tanks (2) (*) - No.13 (South) and No.14 (North)
F. Tar Decanters (2) (*)
G. Tar Collector Tank (*)

C-2 Acid

A. Sulfuric Acid Storage Tank (#)
B. Sulfuric Acid Storage Tank - Cyanide Destruction System (*)
C. Sulfuric Acid Storage Tank - Sulfate Building (*)

C-3 Caustic

A. Caustic Soda Storage Tank - HKC Scrubber (#) - Dismantled 1987
B. Caustic Soda Storage Tank - HKC Scrubber (*)
C. Caustic Soda Storage Tank - Ammonia Still (*)

C-4 Fuel

A. Diesel Fuel Oil Storage Tank - Coal Handling (*)
B. Gasoline Storage Tank - Oil House (*)

C-5 Flushing Liquor/Weak Ammonia Liquor

A. Flushing Liquor Collector Tank (*)
B. Weak Ammonia Liquor Storage Tanks (2) (*)
C. Weak Ammonia Liquor Storage Tank (*)

C-6 Ammonium Sulfate Slurry

A. Circulating Tank - Sulfate Building (*)
B. Suspension Tank (Crystallizer Tank) - Sulfate Building (*)
C. Surge Tank - Sulfate Building (*)
D. Ammonium Sulfate Slurry Tank (*)

C-7 Wash Oil

A. Wash Oil Decanters (2) (*)
B. Circulating Wash Oil Tanks (2) (*)
C. Muck Tank (*)
D. Wash Oil Storage Tanks (2) - Light Oil Building (*)

C-8 Oil Storage Tank - Coal Handling (*)

C-9 Light Oil Storage Tank (*)

C-10 Tar Decanter Sludge Dumpsters (2) (*)

C-11 Ferrameen Tanks (2) (*)

C-12 Propane Tanks (2) (#)

C-13 Naphthalene Storage Tank (#)

C-14 Torch Oil Storage Tanks (2) - Car Dumper Station (#)

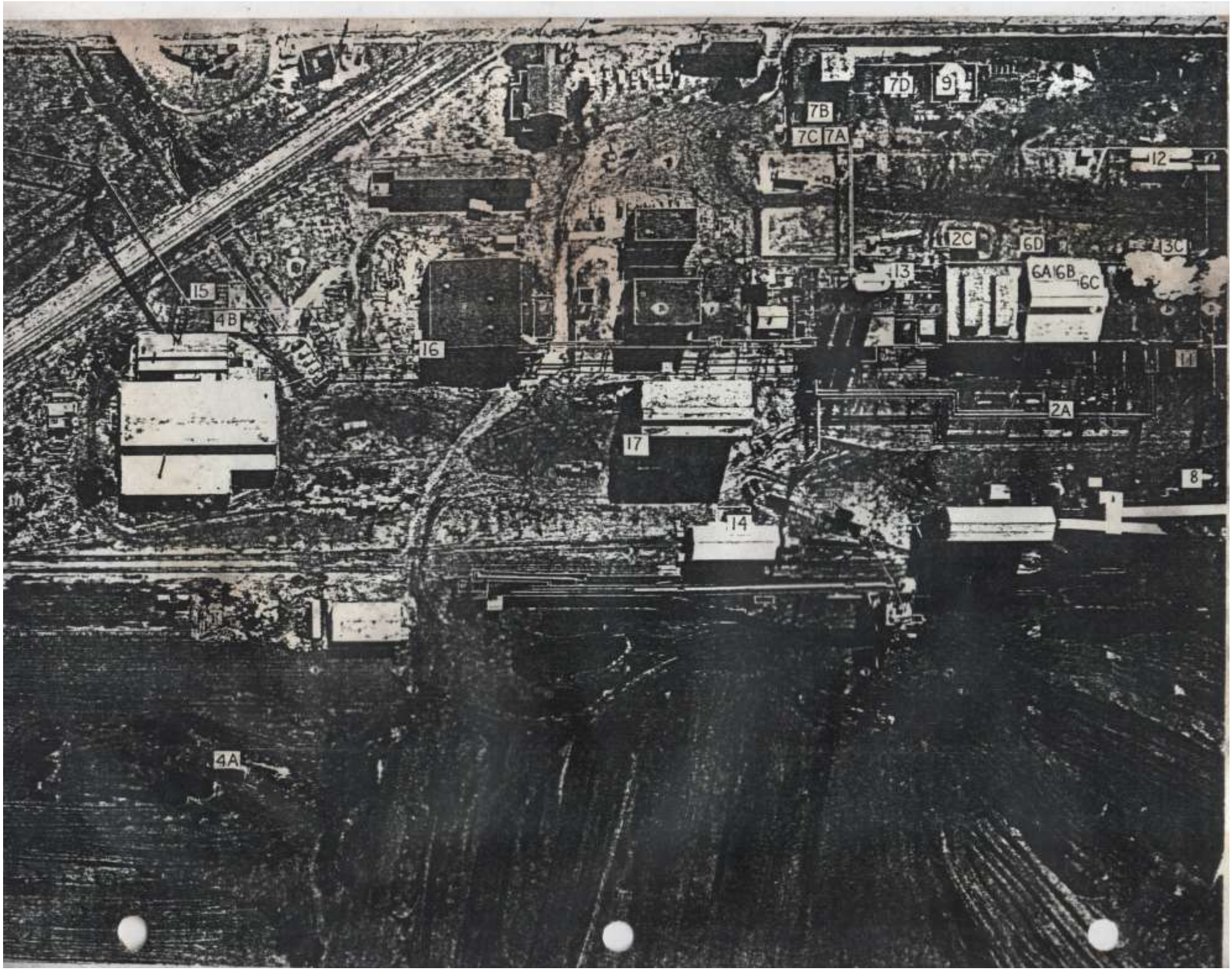
C-15 Drum Storage Area (*)

C-16 Chlorine Tanks (5) (*)

C-17 Lignosulfonate (Nalco Dust-Ban) Tank (*)

(#) Currently out of service.
(*) Present a potential for release of substances to the environment.


1C
1D
1E
1A
1B
5C
2B
3A
3B
1O
5A
1G
1I
5B
1F


7D
9
7B
7C
7A
12
2C
6D
3C
13
6A
6B
6C
15
4B
16
11
2A
17
8
14
4A

C-1 Tar

A. Tar Storage Tank

- Welded steel
- Installed 1943
- Contents: out of service

B. Tar Storage Tank - No. 5

- Riveted steel on concrete base
- Installed 1912
- 26' dia. x 34'10" ht.
- Capacity 121,000 gal.
- Contents: out of service (contains some tar)

C. Tar Storage Tank - No. 7

- Riveted steel on concrete base
- Installed 1912
- 26' dia. x 34'10" ht.
- Capacity 121,000 gal.
- Contents: out of service

D. Tar Storage Tank - No. 8

- Riveted steel on concrete base
- Installed 1912
- 26' dia. x 34'10" ht.
- Capacity 121,000 gal.
- Contents: Tar

E. Tar Storage Tanks (2) - No. 13 (South) and No. 14 (North)

- Two riveted steel tanks on concrete base
- Installed 1912
- 60' dia. x 40'8" original ht.
- Original capacity 1,000,000 gal.; current capacity 700,000 gal. each
- Contents: Tar

Description: Tar is a material produced and recovered as a by-product during the coking cycle. It is composed of a multitude of organic compounds which are principally hydrocarbons. The liquid, black in color, is somewhat viscous at ordinary temperatures and has a specific gravity greater than water. Tar does not readily vaporize at ordinary temperatures except for traces of lower boiling point fractions.

Characteristics:

1. Relatively hot as stored (140°F to 180°F).
2. Very fluid when hot.
3. Fairly viscous at low temperatures - 32°F.
4. Does not ignite readily but will burn.
5. Somewhat of an irritant when in contact with the skin.
6. Heavier than water.

Hazards:

1. Combustible - will burn.
2. When burning, it produces volumes of black smoke.
3. Creates slippery surfaces.
4. Adheres stubbornly to most surfaces.

C-1 Tar

F. Tar Decanters

- Two rectangular steel tanks
- Installed about 1955

- Capacity 27,000 gal. each
- Contents: Tar

Description: The tar decanters are rectangular steel tanks in which tar is separated from the flushing liquor by gravity separation. These tanks are process tanks and are not used for storage. The tar and flushing liquor are decanted off separately into individual collector tanks.

Characteristics:

1. The combined material is hot (180°F).
2. The atmosphere in the tank may be combustible.
3. The liquid flushing liquor is not combustible.
4. The liquid tar is combustible but only at moderately elevated temperatures.

Hazards:

1. The liquid is hot and therefore can cause burns.
2. The tar is slightly irritating to the skin.
3. The fumes may be combustible.

Emergency Procedures:

In the event of a line or tank rupture:

1. Plug or contain the rupture or leak. Care must be exercised to avoid direct contact with the liquid to avoid burns.
2. If the leak cannot be stopped, isolate the unit by closing the inlet valves.
3. Contain the spill using coke breeze and/or coal.
4. Pump the decanter empty.

C-1 Tar

G. Tar Collecter Tank

- Welded steel
- Installed 1957
- 10' dia. x 38' long
- Capacity 21,000 gal.
- Contents: Tar

Description: The tar collector tank is used to accumulate and heat tar before it is transferred to storage tanks.

Characteristics:

1. The tar is hot (220°F to 250°F), and very fluid.
2. Does not ignite readily but will burn.
3. Somewhat of an irritant when in contact with the skin.
4. Heavier than water.

Hazards:

1. Combustible - will burn.
2. When burning, it produces volumes of black smoke.
3. Creates slippery surfaces.
4. Adheres stubbornly to most surfaces.
5. Tar vapors - flammable.

Emergency Procedures:

The tar collector tank is not diked and in the event of a tank failure or failure of a valve discharging from the tank, these procedures should be followed:

1. Stop the leak if possible - do not come in direct contact since the tar may be hot. It is also a skin irritant.
2. Contain the spill if possible by using coke breeze or coal. Use the material to build dam or dikes using front-end loaders.
3. Transfer as much tar as possible from the affected tank to the storage tanks.

C-2 Acid

A. Sulfuric Acid Storage Tank

- Welded steel
- Installed 1953
- 12'dia. x 30' long
- Capacity 24,000 gal.
- Contents: out of service

B. Sulfuric Acid Storage Tank - Cyanide Destruction System

- Welded steel
- Installed 1980
- 8' dia. x 20' ht.
- Capacity 75,000 gal.
- Reinforced concrete dike, 14'8" x 17' inside x 5' ht.
- Dike capacity - 9,300 gals.
- Contents: out of service

C. Sulfuric Acid Storage Tank - Sulfate Building

- Welded steel
- Installed
- 12' dia. x 30' long
- Capacity: 24,000 gal.
- Earthen dike, 22' x 40' inside x 4'3" ht
- Dike capacity 37,000 gallons
- Contents: Sulfuric acid

Description: Sulphuric acid is used in the production of Ammonium Sulphate for removal of ammonia from Coke Oven gas. It is a strong acid. It is colorless to dark brown, oily and much heavier than water. In high concentrations, it reacts very slowly with most metals but reacts very rapidly in low concentrations.

Characteristics:

1. Reacts slowly at high concentrations but quite rapidly at low concentrations with most metals.
2. Reacts violently when water is added to acid, evolving a great deal of heat.
3. It dissociates releasing hydrogen gas.
4. It attacks organic material (human tissue).

Hazards:

1. The release of hydrogen gas creates a highly explosive atmosphere in the top of the vessel.
2. Reacts violently when water is added to acid. NEVER ADD WATER TO ACID!!!
3. Dilute concentrations react rapidly with most metals except lead and some stainless steels.
4. Attacks organic material (human tissue). Use rubber gloves and clothing for protection. ALWAYS USE EYE PROTECTION WHEN HANDLING ACID!!!

Emergency Procedures:

1. Avoid direct contact with water.
2. The storage tank is diked; therefore any release due to failure of the tank or valve leading to or from the tank should be contained within the dike. In the event of a leak or rupture:

   a. If fumes are present, keep all personnel clear of area - stay upwind.
   b. Use protective clothing and self-contained breathing equipment if it is necessary to enter the area.
   c. If acid or fumes come in direct contact with the skin or any mucous membrane, WASH WITH COPIOUS AMOUNTS OF WATER.
   d. Spilled acid should be neutralized with sodium hydroxide, soda ash or some similar base.
   e. Follow D.O.T. Emergency Response Guide No. 39.

C-3 Caustic

A. Caustic Soda Storage Tank - HKC Scrubber

. Contents: out of service; dismantled - 1987

B. Caustic Soda Storage Tank - HKC Scrubber

. Insulated welded steel
. Installed 1978
. 8'6" dia. x 7'6" ht.
. Capacity 3,000 gal.
. Reinforced concrete dike
. Dike capacity
. Contents: out of service

C-3 Caustic

C. Caustic Soda Storage Tank - Ammonia Still

- Fiberglass tank mounted on reinforced concrete floor
- Originally installed at cyanide destruction system in 1980 moved to ammonia still location in 1985
- 12'1" dia. x 19'5" ht.
- Capacity 15,440 gal.
- Reinforced concrete dike, 14'10" x 15'2" inside x 4'8" ht.
- Capacity of dike 24,000 gal.
- Contents: Sodium hydroxide soln. (50%)

Description: Caustic soda (NaOH) is used in the ammonia still to treat the ammonia liquor leaving the free leg.

Characteristics:

1. Reacts with acids evolving heat.
2. Very corrosive; attacks organic materials (human tissue).

Hazards:

1. Causes burns on contact with all body tissues, frequently with deep ulceration.
2. Contact with the eyes very rapidly causes severe damage.
3. Inhalation of dusts or mist of this compound is capable of causing injury to the entire respiratory tract.
4. When handling, wear protective clothing, including rubber gloves, eye goggles and face shield.

Emergency Procedures:

1. Avoid direct contact with water.
2. The storage tank is diked; therefore any release due to failure of the tank or valve leading to or from the tank should be contained within the dike. In the event of a leak or rupture:

   a. If fumes or mists are present, keep all personnel clear of area - stay upwind.
   b. Use protective clothing, including rubber gloves, eye goggles and face shield, if it is necessary to enter the area.
   c. If the material comes in direct contact with the skin or any mucous membrane, WASH WITH COPIOUS AMOUNTS OF WATER.
   D. Spilled caustic should be neutralized with dilute sulfuric acid or some similar acid.
   e. Follow D.E.T. Emergency Response Guide No. 60.

C-4 Fuel

A. Diesel Fuel Oil Storage Tank - Coal Handling

- Metal tank on concrete piers
- Erected 1957 (from salvage)
- 87" dia. x 35' long
- Capacity 12,000 gal.
- Concrete dike, 39'9" x 14'10" inside x 5' ht.
- Dike capacity 22,000 gal.
- Contents: No. 2 fuel oil

Description: Diesel fuel oil is a crude petroleum oil distillate which is not very viscous. It is a non-volatile liquid with a moderate flash point above 150°F and a moderate ignition temperature above 600°F. The oil must be thoroughly mixed with air to afford complete combustion.

Characteristics:

1. It is lighter than water.
2. Stable liquid.
3. It will not readily ignite unless exposed to moderate heat.
4. It burns but produces large clouds of black smoke due to incomplete combustion. It must be thoroughly mixed with air for complete combustion.
5. It poses no immediate health hazards.

Hazards:

1. It will burn.
2. Produces clouds of black smoke.
3. Water may not be effective in extinguishing fire.

Emergency Procedures:

The tank is completely diked and therefore should not present a problem outside of the diked area. In the event of a leak, the following steps should be taken:

1. Stop the leak if possible.
2. Notify the General Foreman of the emergency.
3. Stop oil deliveries until repairs can be accomplished.
4. Arrange to empty the tank if possible.

In the event of fire:

1. Call the Chicago Fire Department.
2. Use dry chemical fire extinguishers to control or extinguish fire.

C-4 Fuel

B. Gasoline Storage Tank - Oil House

- Welded steel
- Underground, vented
- Installed 1983
- Capacity: 500 gal.
- Contents: Gasoline

Description: Gasoline is stored in an underground tank. Gasoline is a petroleum distillate which is highly volatile having a low flash point - less than 45° F.

Characteristics:

1. Highly volatile liquid.
2. Low flash point less than 45° F.
3. Explosive limits vapors in air 1.4% to 7.6%.
4. It is lighter than water.
5. It is mildly irritating to tissue.

Hazards:

1. It can develop an explosive atmosphere.
2. It will burn.
3. It is irritating to tissue.

Emergency Procedures:

Any tank failure will first manifest itself by water infiltrating the gasoline. Since the tank is underground and gasoline being lighter than water, ground water will flow into the tank. With any tank failure the following steps should be taken:

1. Discontinue shipments of gasoline.
2. Pump contents into safe containers.
3. Fill the tank with water for complete purge.
4. Follow D.O.T. Emergency Response Guide No. 27.

C-5 Flushing Liquor/Weak Ammonia Liquor

A. Flushing Liquor Collector Tank

- Welded steel
- Installed 1957
- 10' dia. x 38' long
- Capacity 21,000 gal.
- Contents: Flushing liquor

Description: Weak ammonia liquor/flushing liquor is an aqueous condensate recovered from the Coke oven gas. It is recirculated to cool the gas. Weak ammonia liquor has a very low concentration of ammonia which does not create a hazard.

Characteristics:

1. Hot water with some dissolved salts of ammonia with small percentages of free ammonia.

Hazards:

1. The solution is hot, about 180°F.
2. Small amounts of entrained tar/oil may be deposited in the tank when the tank is emptied.

Emergency Procedures:

1. Notify department supervisor.
2. Stop the leak if possible; if not, transfer to one of the other storage tanks or notify the MSD and pump the tank empty to the sanitary sewer.
3. For the undiked tanks, contain overflow with sand or coke breeze barrier to prevent exposure to the public thoroughfare or to plant personnel.

C-5 Flushing Liquor/Weak Ammonia Liquor

B. Weak Ammonia Liquor Storage Tanks (2)

- Two welded steel tanks, open tops
- Installed 1957
- 24' dia. x 30' ht
- Capacity 100,000 gal. each
- Contents: Weak ammonia liquor

C. Weak Ammonia Liquor Storage Tank

- Steel plate tank mounted on reinforced concrete pad
- Erected 1985
- 40' dia. x 32' ht
- Capacity 300,000 gal.
- Reinforced concrete dike, 180' x 48'6" inside x 6'ht
- Dike capacity 392,000 gal.
- Contents: Weak ammonia liquor

Description: Weak ammonia liquor/flushing liquor is an aqueous condensate recovered from the Coke oven gas. It is recirculated to cool the gas. Weak ammonia liquor has a very low concentration of ammonia which does not create a hazard.

Characteristics:

1. Hot water with some dissolved salts of ammonia with small percentages of free ammonia.

Hazards:

1. The solution is hot, about 180°F.
2. Small amounts of entrained tar/oil may be deposited in the tank when the tank is emptied.

Emergency Procedures:

1. Notify department supervisor.
2. Stop the leak if possible; if not, transfer to one of the other storage tanks or notify the MSD and pump the tank empty to the sanitary sewer.
3. For the undiked tanks, contain overflow with sand or coke breeze barrier to prevent exposure to the public thoroughfare or to plant personnel.

C-6 Ammonium Sulfate Slurry

A. Circulating Tank - Sulfate Building

- Stainless steel
- Installed 1958
- 11' dia. x 12' ht, tapers to bottom
- Capacity: 6,300 gallons
- Contents: Ammonium sulfate solution

B. Suspension Tank - Sulfate Building (crystallizer tank)

- Stainless steel
- Installed 1958
- 9' dia. x 14'9" ht
- Capacity: 6,600 gallons
- Contents: Ammonium sulfate solution

Description: The coke oven gas ammonia removal system consists of an absorber, a circulating tank and a suspension tank. A water/sulfuric acid solution is circulated through the system to remove ammonia from the coke oven gas stream. At the completion of a "kill", the circulation tank is filled with water to within 3'-4' of the top and sulfuric acid is added until it reaches 1%, at which concentration it is maintained. When the specific gravity reaches 1.235, the acid is shut off and the solution continues to be circulated, absorbing ammonia, until the pH reaches 6.5 or higher. The solution is then pumped from the suspension tank to an ammonium sulfate slurry tank. As solution is removed from the system, fresh water is added to the circulation tank. When the specific gravity of the solution in the suspension tank drops to 1.08 the "kill" is complete.

Characteristics:

1. Relatively hot as circulated.
2. Contains 0-6% sulfuric acid.
3. Contains 0-45% ammonium sulfate.
4. The liquid will not burn.

Hazards:

1. The liquid is hot and therefore can cause burns.
2. The liquid may be corrosive.
3. When handling, wear protective clothing, including rubber gloves, eye goggles and face shield.

Emergency Procedures:

1. By-pass and shutdown absorber.
2. Any spill would be contained in the sulfate building basement, from which it could be pumped out and recovered.

C-6 Ammonium Sulfate Slurry

C. Surge Tank - Sulfate Building

- Stainless steel
- Installed 1958
- 7' dia. x 8'4" tapers to bottom
- Capacity
- Contents: out of service

C-6 Ammonium Sulfate Slurry

D. Ammonium Sulfate Slurry Tank

- Fiberglass
- Originally installed for caustic storage at Furnace Plant Sinter Plant CVX scrubber; moved to Coke Plant location about 1983
- 11' dia. x 22' ht.
- Capacity: 15,600 gal.
- Contents: Ammonium sulfate slurry

Description: The coke oven gas ammonia removal system consists of an absorber, a circulating tank and a suspension tank. A water/sulfuric acid solution is circulated through the system to remove ammonia from the coke oven gas stream. At the completion of a "kill", the circulation tank is filled with water to within 1'-4' of the top and sulfuric acid is added until it reaches 1%, at which concentration it is maintained. When the specific gravity reaches 1.235, the acid is shut off and the solution continues to be circulated, absorbing ammonia, until the pH reaches 6.5 or higher. The solution is then pumped from the suspension tank to an ammonium sulfate slurry tank. As solution is removed from the system, fresh water is added to the circulation tank. When the specific gravity of the solution in the suspension tank drops to 1.08 the "kill" is complete.

Characteristics:

1. Contains 0-45% ammonium sulfate.
2. The liquid will not burn.

Hazards:

1. The liquid may be corrosive.
2. When handling, wear protective clothing, including rubber gloves, eye goggles and face shield.

Emergency Procedures:

1. Notify department supervisor.
2. Stop the leak if possible: if not, contain the overflow with a sand or coke breeze barrier.
3. Pump dike/tank empty with a vacuum truck.

C-7 Wash Oil

A. Wash Oil Decanters (2)

- Two welded steel tanks
- Installed ?
- 8' dia. x 32' long
- Capacity 12,000 gal.
- Concrete pit around tanks
- Contents: Wash (straw) oil

Description: Absorbent oil is a petroleum based distillate similar in properties to fuel oil. It is used in light oil recovery from the coke oven gas. It is not very viscous and has a moderate flash and ignition temperature. A concrete pit is underlies both storage tanks.

Characteristics:

1. It is lighter than water.
2. It will not readily ignite unless exposed to moderate heat.
3. It burns but produces large clouds of black smoke due to imcomplete combustion.
4. It poses no immediate health hazards.

Hazards:

1. It will burn.
2. Produces clouds of black smoke.
3. Water may not be effective in extinguishing fire.

Emergency Procedures:

A concrete pit underlies the storage tanks and should contain any spill. In the event of a leak, the following steps should be taken:

1. Stop the leak if possible.
2. Notify the General Foreman of the emergency.
3. Stop oil deliveries until repairs can be accomplished.
4. Arrange to empty the tank if possible.

In the event of fire:

1. Call the Chicago Fire Department.
2. Use dry chemical fire extinguishers to control or extinguish fire.

C-7 Wash Oil

B. Circulating Wash Oil Tanks

- Two riveted steel tanks (one hot oil & one cold oil)
- Installed 1923
- 7' dia. x 26' long
- Capacity: 7,500 gal. each
- Concrete dike, 60' x 49' inside x 4' ht.
- Dike capacity 81,000 gallons
- Contents: Wash (straw) oil

Description: The hot wash oil circulation tank receives the hot wash oil from the hot oil decanter; the hot oil circulation pump pumps the oil from the hot oil circulation tank to the heat exchangers.

The cold wash oil circulation tank receives the wash oil from the cold oil decanter. The cold oil circulation pump pumps the oil from the cold oil circulation tank to the light oil scrubbers.

Characteristics:

1. The oil is combustible.
2. It is difficult to ignite at ambient temperatures.
3. The vapors are combustible.
4. It has similar properties of diesel fuel oil.
5. It is lighter than water.
6. The oil in the hot wash oil circulation tank is hot (in excess of 180°F).

Hazards:

1. It will burn.
2. It is lighter than water. Water will tend to spread a fire. Use steam or dry chemical to extinguish.
3. The oil in the hot wash oil circulation tank will cause burns at normal operating temperature.

Emergency Procedures:

1. Hot Wash Oil Circulation Tank: Shut down light oil plant but continue to run the hot and cold oil circulating pumps until hot oil circulation tank is empty.

2. Cold Wash Oil Circulation Tank: Shut down light oil plant but continue to run the cold oil circulating pump until the cold oil circulation tank is empty.

C-7 Wash Oil

C. Muck Tank

- Riveted steel
- Installed 1923
- 7' dia. x 26' long
- Capacity: 7,500 gal.
- Concrete dike, 60' x 49' inside x 4' ht
- Dike capacity 81,000 gallons
- Contents: Absortion oil

Description: The muck tank is a tank in which emulsified wash oil (muck), which contains tarry material and dirt, may be heated with steam to separate good wash oil from the remainder of the material. It is a batch process and the good oil is decanted off and returned to circulation.

Characteristics:

1. Oily sludge (muck).
2. High in water content but lighter than water.
3. Will not ignite at ordinary temperatures.

Hazards:

1. Will be combustible when water is removed.
2. May leave combustible vapors.
3. Will create slippery surfaces.

Emergency Procedures:

1. Discontinue transfers to the tank.
2. Pump tank empty.

C-7 Wash Oil

D. Wash Oil Storage Tanks (2)

- Two riveted steel tanks (one hot oil & one cold oil)
- Installed 1923
- 26' long x 10' wide x 9'-6" high
- Capacity: 18,000 gal. each
- Concrete dike, 60' x 49' inside x 4' ht
- Dike capacity 81,000 gallons
- Contents: Wash (straw) oil

Description: The hot and cold wash oil decanters are two rectangular steel tanks which are used to separate water from the wash oil before it is recirculated. Some muck is also deposited in the process.

Characteristics:

1. Combustible.
2. Difficult to ignite at ambient temperatures.
3. Similar to diesel fuel oil in all respects.
4. It is lighter than water.

Hazards:

1. It will burn.
2. It can produce combustible vapors.
3. Hot oil temperature is normally at 200°F.

Emergency Procedures:

1. Bypass the decanter by closing the inlet valve and diverting flow to the circulation tank.
2. In the event oil cannot be diverted from the decanter, shut down the light oil plant until repairs can be made.

C-8 Oil Storage Tank - Coal Handling

Oil Storage - Coal Handling

- Steel plate tank, mounted on reinforced concrete cradles
- 9' dia. x 29' long
- Capacity 14,000 gal.
- Reinforced concrete dike, 15'8" x 36' inside x 5' ht
- Dike capacity 21,000 gal.
- Contents: Bulk density oil

Description: Oil is stored in diked tank and is used for bulk density control in the Coal Handling Department.

Characteristics:

1. Ambient temperature.
2. Combustible.
3. Lighter than water.

Hazards:

1. Combustible - will burn.
2. It is difficult to ignite at ambient temperatures.
3. Vapors may be combustible.
4. It is lighter than water. Water will tend to spread a fire; use steam or dry chemical to extinguish.

Emergency Procedures:

The tank is completely diked and therefore should not present a problem outside of the diked area. In the event of a leak, the following steps should be taken:

1. Stop the leak if possible.
2. Notify the General Foreman of the emergency.
3. Stop oil deliveries until repairs can be accomplished.
4. Arrange to empty the tank if possible.

In the event of fire:

1. Call the Chicago Fire Department.
2. Use dry chemical fire extinguishers to control or extinguish fire.

C-9 Light Oil Storage Tank

Light Oil Storage Tank

- Riveted steel
- Installed 1918
- 26' dia. x 25'5" ht
- Capacity 77,140 gal. (64,000 gals. usable)
- Reinforced concrete dike, 39' x 45' inside x 7'6" ht
- Dike capacity 98,000 gallons
- Contents: Light oil

Description: Light oil is a derivative of coal and is recovered as a by-product from the coking process of coal. Its main constituents are Benzene, Toluene and Xylene. All of these constituents volatilize readily at low temperatures (below normal ambient temperatures) and are highly combustible in low concentrations. Benzene, Toluene and Xylene vapors are very heavy, 2.5 to 3 times as heavy as air, and therefore tend to lie close to the ground. Light oil is lighter than water and therefore will float on top of water.

Characteristics:

1. **Lighter than water.**
2. **Highly volatile.**
3. **Highly combustible.**
4. **Vapors are heavier than air.**
5. **Vapors are toxic.**

Hazards:

1. **Explosion.**
2. **Fire.**
3. **Toxic.**
4. **Heavy vapors accumulate in low areas creating oxygen deficiency.**

Emergency Procedures:

The storage tank is diked; therefore, any failure to the storage tank or valve leading to or from the tank would allow light oil to fill the diked area exposing a large surface to the atmosphere which would readily volatilize vapors. Since the storage area is proximate to Torrence Avenue, the following action should be taken:

1. Notify Plant Protection to stop traffic on Torrence Avenue.
2. Call for Foam Unit of the Chicago Fire Department.
3. Shut down Light Oil Plant.
4. Establish security to prevent anyone from coming in contact with vapors downwind of the spill.
5. Cover spill with foam or dry chemical using Plant units or Chicago Fire Department.
   a. Approach spill from upwind.
6. DO NOT USE WATER!!! Light oil floats on water.
7. With light oil contained and surface sealed, the suction of the loadout pump can be modified to pump the material from the dike into tank trucks. Pump and truck must be grounded.
8. Do not permit any source of ignition near the area.
   a. Open lights.
   b. Electric motors or equipment which will cause a spark.
   c. Gasoline engines.

In the event a significant amount of light oil accumulates in the dike, the following action is necessary:

1. Notify Plant Protection to stop traffic on Torrence Avenue.
2. Establish security to prevent personnel from entering area.
3. Use self-contained breathing equipment to enter diked area and close outlet valve of the storage tank to stop leak.
4. Test area with the combustion and oxygen analyzer. When the atmosphere is safe, return the operation to normal.
5. Follow D.O.T. Emergency Response Guide No. 27.

C-10 Tar Decanter Sludge Dumpsters (s)

Tar Decanter Sludge Dumpsters

- Two welded steel dumpsters
- Installed 1984
- 5' long x 5' wide x 4' ht
- Contents: Decanter tank tar sludge

Description: When volatile matter resulting from the coking operation is processed through the by-products recovery system, a sludge forms in the tar decanter tanks. This sludge is automatically removed from the decanter tank and drops into two steel dumpsters. This material is then recycled in the coal processing operation.

Characteristics:

1. A tar-like material.
2. Does not exhibit the characteristics of ignitability; is not reactive and cannot be wind-blown.
3. USEPA Hazardous Waste Code Number K087.

Hazards:

1. Not an immediate health hazard, but avoid skin contact.
2. Should you have body contact, use "Stripease" adhesive remover to remove the sludge; then take a thorough soap shower.

Emergency Procedures:

1. Land spills are sponged up with coal or coke breeze, picked up with a "front-end loader" and returned to the sludge recycling operation.

C-11 Ferrameen Tanks (3)

Ferrameen Tanks

- Two movable welded steel tanks
- Capacity: 500 gal. each
- Contents: Ferrameen 711 or 718

Description: Ferrameen 711 and 718 are blended mixtures of amines, amides, aromatic polymers and imines in a heavy aromatic naphtha solvent. The Ferrameen in used to remove naphthalene and other deposits from the coke oven gas main.

Characteristics:

1. Combustible; keep away from heat and open flames.
2. Clear light amber liquid; not miscible with water.
3. Hydrocarbon odor.

Hazards:

1. May cause skin irritation on prolonged contact.
2. May be absorbed by skin.
3. When handling, wear rubber gloves and goggles or faceshield.

Emergency Procedures:

1. Contain and absorb on inert material for incineration in approved manner.
2. Keep sparks or open flame away during clean-up.
3. In case of contact with skin, wash well with soap and water.
4. In case of ingestion or eye contact, obtain prompt medical attention.
5. If burning, use water fog, foam, dry chemical or carbon dioxide to extinguish.

C-12 Propane Tanks (2)

Propane Tanks

. Contents: out of service

C-13 Naphthalene Sludge Storage Tank

Naphthalene Sludge Storage Tank

. Contents: out of service

C-14 Torch Oil Storage Tanks (2) - Car Dumper Station

Torch Oil Storage Tanks

. Contents: out of service

C-15 Drum Storage Area

Drum Storage Area

. Adjacent to north side of oil house.

Description: New drums (and several 5-gallon buckets) of oil and other products are stored adjacent to the north side of the oil house until use.

Characteristics:

1. The material may be combustible.
2. The material may be flammable.

Hazards:

1. The material may burn.
2. Water will tend to spread a fire.

Emergency Procedures:

1. Contain any spills or runoff by using coke breeze, dirt, coal or sand. Use the material to build dam or dikes using front-end loaders.

2. In case of fire, call the Chicago Fire Department; use dry chemical fire extinguishers to control or extinguish fire.

C-16 Chlorine Tanks (5) (*)

- 2, 1-ton steel cylinders
- Treatment of incoming river water.
- Located outside N.W. corner of powerhouse

Emergency Procedure and Information:

1. Notify the General Foreman of the emergency

2. Isolate/evacuate the area using the D.O.T. "Table of Isolation and Evacuation Distances" as a guide.

3. Follow D.O.T. Emergency Response Guide No. 20.

C-17 Lignosulfonate Tank (*)

- Plastic
- Capacity 1500 gal.
- Contents: Nalco Dust-Ban