

1.1 TITLE

Aroclors - Increase Aroclor Capacity - Organic Division

At Anniston Plant - CEA 1430
At W GK Plant - CEA 1800

1.2 SUMMARY

The objectives of this project are to,

- a) Provide adequate finished goods storage facilities at Anniston and W GK to assure a minimum inventory of the various Aroclors and Aroclor blends so that bulk shipments can be made on demand.
- b) Provide at Anniston for blending and drumming of the several Aroclors with other components without interfering with primary production facilities.
- c) Minimize potential for cross contamination of products.
- d) Provide loading facilities for tank trucks and tank cars and unloading facilities for raw materials in tank cars.
- e) Provide additional raw material storage at W GK for biphenyl and at Anniston for TCB and TTCB.
- f) Provide at Anniston new expanded facilities for flaking and bagging biphenyl and solid Aroclors.
- g) Provide new facilities at W GK to increase plant capacity from 29.5M lbs./year to 69.5M lbs./year.
- h) Provide an overall production capacity for liquid Aroclors of up to 30% more than indicated in the latest Sales forecasts.
- i) Provide for an orderly expansion of the W GK and Anniston Aroclor facilities.

Addition of these facilities will result in capacity increases over the present standard⁽¹⁾ capacity as follows:

69.5
33
122.5
1.3 (97.0)
= 126.1

At WGK,	Liquid	40.0M	lbs./year
At Anniston,	Liquid	5.7M	lbs./year
	Solid	1.0M	lbs./year

No!
No!

(1) Note - Standard capacities at present are:

At WGK,	Liquid	29.5M	lbs./year
At Anniston,	Liquid	48.0M	lbs./year
	Solid	10.0M	lbs./year

The installation at Anniston will include finished storage and blending tanks, two flakers for solid Aroclors and biphenyl, a drumming station, tank car spur and loading facilities and bagging station for solid Aroclors and biphenyl.

The installation at WGK will include a new continuous chlorination line, blow tank, intermediate storage, distillation equipment, continuous clay treatment facilities, finished storage tanks, and a biphenyl storage tank with additional rail spur and unloading docks.

Desired completion dates:

Tank farm at WGK	July 1, 1968
Tank farm at Anniston	August 1, 1968
Flaking facilities at Anniston	September 1, 1968
New production facilities at WGK	December 1, 1968

1.3 PROCESS TECHNOLOGY

1.31 Process Description

Aroclors are the reaction products formed by the chlorination of biphenyl and/or terphenyls using an iron catalyst. The by-product HCl gas produced is absorbed in water to produce muriatic acid.

Crude Aroclors are produced in chlorinator reaction vessels, air blown and distilled. Liquid Aroclors are earth treated, filtered and loaded for shipment. Solid Aroclors are drummed, flaked or flaked and milled and packaged for shipment.

Distillation residues are discarded as waste or sold as Montars.

A numerical system of nomenclature is used for identifying the various Aroclors.

Product yields are calculated on both chlorine and biphenyl and are different for each plant and for each Aroclor produced. They are recorded in the respective plant cost standards.

Process documents:

"Standard Operating Instructions for Aroclors - Anniston Plant" - April 1966 - M. J. Williams

"Standard Manufacturing Process for Aroclors - Anniston Plant" - September 1966 - M. J. Williams

"Process Description for the Manufacture of Aroclors - Department 246 - WGK Plant" - October 1966 - D. E. Harris

"Process Description for the Manufacture of Pyranols and Inerteens - Department A246 - WGK Plant" - October 1966 - D. E. Harris

"Standard Manufacturing Process for Pydraul A-200 - Department B-246 - WGK Plant" - October 1966 - D. E. Harris

"Operating Instructions - Aroclor and Pyranols - Departments 246 and A246 - WGK Plant" - August 1966 - V. Brawley

"Final Report on the Continuous Chlorination of Biphenyl" - June 4, 1957 - R. A. Simone

"Tentative Process for Continuous Chlorination of Biphenyl" - March 23, 1956 - R. A. Simone

"Final Report on the Continuous Chlorination of Aroclors - Plant Demonstration" - May 7, 1958 - R. A. Simone

1.32 Raw Materials

1.321 Specifications

Reference is made to the respective standard process manuals for raw material specifications. Raw materials at Anniston, for this project, are the Aroclors and additives used in blends and mixes and at the flakers. Raw materials at WGK are the materials used for the manufacture of Aroclors. A list of materials follows:

<u>Plant</u>	<u>Material Code</u>	<u>Date</u>	<u>Material</u>
WGK (246)	82601	12/8/64	Diphenyl
	33500	1/7/66	Ferric Chloride, Anhydride
	38800	7/21/66	Lime, Hydrated
	19409	1/21/66	Attapulugus Earth 200/UP
	43099	2/18/65	Nitrogen Gas
	81059	6/29/66	Chlorine, Liquid
Anniston (27)	82612	6/17/66	Aroclor 1242 Electrical Grade
	81102	1/10/64	Aroclor 1248 Electrical Grade
	82641	7/5/64	Aroclor 1248 Non-Electrical Grade
	82613	6/28/64	Aroclor 1254 Electrical Grade
	82613	7/15/64	Aroclor 1254 Non-Electrical Grade
	82614	2/7/62	Aroclor 1260 Electrical Grade
	82614	7/15/64	Aroclor 1260 Non-Electrical Grade
	82615	3/2/66	Aroclor 1262
	36100	5/26/66	Glycidyl Phenyl Ether (1)
	60200	6/3/65	Trichlorobenzene (1)
	58500	8/29/63	Tetrachlorobenzene (1)
	61320	12/23/63	Epoxide 201
	-	-	Toluene
	64010	12/18/64	Xylene

(1) WGK Specification

1.322 Sources

WGK

Biphenyl

Received from the Anniston Plant in 20,000 gallon unlined steel, steam heated tank cars. Transferred to an existing 25,000 gallon storage tank.

Chlorine

Received direct from WGK's Department 232 in a 4" transfer line. This line is being replaced by a 6" transfer line in the third quarter of 1967.

Ferric Chloride

Received from the warehouse in 2 lb. glass containers.

Lime, Hydrated

Received from the warehouse in 100 lb. bags.

Attapulgus Earth

Received from the warehouse in 50 lb. bags.

Nitrogen Gas

Supplied by a bulk station located in the tank farm area.

Anniston

Aroclors are transferred by pipeline direct from department to storage and from storage tanks to mix tanks, to drumming station and to flakers.

Glycidyl Phenyl Ether

Received from the warehouse in 55 gallon drums.

Trichlorobenzene

Received from Hooker Chemical Company in 8,000 gallon steel tank cars.

Tetrachlorobenzene

Received from Hooker Chemical in 8,000 gallon tank cars.

Epoxide 221

Received from warehouse in 55 gallon drums.

Toluene

Received from warehouse in 55 gallon drums.

Xylene

Received from warehouse in 55 gallon drums.

1.33 Products and By-Products

1.331 Quality Considerations

Marketing stresses that quality protection is the most effective means of protecting our present sales position of electrical grade Aroclors. Plant studies have shown that the use of aluminum tanks and aluminum transfer piping systems coupled with inert blanking of in-process and finished goods storage tanks will give us maximum protection.

1.332 Specifications

Reference is made to the respective standard process manuals for finished goods specifications. Finished products at Anniston, for this project, are the completed blends from mix tanks and solids from the flakers. At WGK, finished products, are the liquid Aroclors and Montars. A list of products follows:

Product Code Anniston	Date	Product Code WGK	Date	Product
82611	10/28/63	8115	4/7/64	Aroclor 1232
82612	6/17/66	81101	6/17/66	Aroclor 1242 Electrical Grade
82612	7/15/64	81101	7/15/64	Aroclor 1242 Non-Electrical Grade
81102	1/10/64	81102	1/10/64	Aroclor 1248 Electrical Grade
82641	7/15/64	81102	7/15/64	Aroclor 1248 Non-Electrical Grade
82613	6/28/65	81103	6/28/65	Aroclor 1254 Electrical Grade
82613	7/15/64	81103	7/15/64	Aroclor 1254 Non-Electrical Grade
82614	5/25/66	81105	5/25/66	Aroclor 1260 Electrical Grade
82614	6/15/64	81105	6/15/64	Aroclor 1260 Non-Electrical Grade
82615	3/2/66	81107	3/2/66	Aroclor 1262 Non-Electrical Grade
---	7/15/64	82868	7/15/64	Montars 1, 2
---	7/15/64	82868	7/15/64	Montars 314
82622	3/11/66			Aroclor 5460
82621	3/15/66			Aroclor 5442
82620	3/11/66			Aroclor 5060
82619	3/11/66			Aroclor 4465
82618	3/11/66			Aroclor 2565
82616	3/11/66			Aroclor 1268
82601	7/8/65			Biphenyl
82649	4/18/66			Inerteen PPO
82658	4/18/66			Al3B3B
82681	5/3/67			Inerteen 54201 KA
82659	3/11/66			Aroclor 1260 - 10% Toluene
82661	3/15/66			Aroclor 1262 - 10% Toluene
82685	3/9/66			Therminol FRO
82664	4/17/58			Aroclor 1254 - 10% Toluene

1.333 Packaging and Shipping

Liquid Aroclors

At both Anniston and WGK, liquid Aroclors are shipped in the following manner:

Tank Trucks

Size - 4,000 gallon

Materials of Construction - All electrical grade Aroclors are loaded into SS trailers. Non-electrical grade Aroclors may be shipped in steel trailer tanks.

Tank Cars

Size - 4,000 or 8,000 gallon

Materials of Construction - All electrical grade Aroclors are loaded into solid aluminum cars or in tin, zinc or aluminum spray-lined cars. Non-electrical grade Aroclors may be shipped in steel cars.

Drums and Cars

Size - 5, 30 or 55 gallon

Materials of Construction - Lacquer-lined containers.

Solid Aroclors

At Anniston, solid Aroclors are packaged in 5 and 40 gallon galvanized steel drums as a solid and in 41 gallon fibre drums as flakes. Biphenyl and Aroclor 5460 are packaged in bags as follows (major part of the production):

Bags

Aroclor 5460

Net weight - 100 lbs., St. Regis No. PCBG-32A.

Size - 18" X 6" X 34" with a 5" valve.

Type - Sewn Valve (SV).

Biphenyl

Net weight - 50 lbs., St. Regis No. PCBG-145A.

Size - 16-3/4" X 5" X 33" with 5-1/2" valve.

Type - Sewn Valve (SV).

HB-40

At Anniston, HB-40 is packaged in 5 and 55 gallon steel drums.

1.34 Waste Streams

WGK

1,250 lbs./day of HCl gas absorbed in a 50 GPM water stream (0.21%) will be discharged from the continuous blow tank into the plant sewer. Other process losses are of a minor nature.

Anniston

No change is expected in waste discharges as a result of this project. A dust collector will be installed to control Aroclor dusts from the milling operation of Aroclor 1268.

1.35 Personnel, Property and Public Hazards

Chlorine Gas

Causes eye, skin and mucous membrane irritation. In strong concentrations canister gas masks, Scott Air Paks, or oxygen breathing apparatus are required.

Biphenyl

Solid at normal temperatures. Fumes are toxic over a prolonged period of exposure. The flash point is 235 F.

HCl Gas

Fumes are very toxic and hazardous to teeth, skin, eyes and mucous membranes. In strong concentrations, rubber protective equipment and approved pack or cannister gas masks are required.

Ferric Chloride

Solid at normal temperatures. Material is not toxic but presents an eye hazard.

Xylene

Fumes are very toxic. Limiting explosion concentration is 1.27 to 7.0% by volume in air. The flash point is 40°F.

Trichlorobenzene

Solid at normal temperatures. Fumes are medium toxic. Fire point is above 210°F.

Crude Aroclors

During processing, Aroclors are generally hot, 100°C or above, and can cause serious thermal burns. Continuous or repeated skin contact must be avoided. Vapors at room temperatures should not be breathed in a confined space. At elevated temperatures, fumes are quite toxic. Continuous or repeated skin contact with Aroclor must be avoided by the use of gloves and protective garments.

1.4 MANUFACTURING FACILITIES

1.41 Description

1.411 General

The following information is included in the Appendix of this report:

Equipment Flow Sheets
Suggested Equipment Layout
Equipment Lists
Scopes of Work
Preliminary Schedule
Project Loss Prevention Report

1.412 For Anniston

New storage and blending tanks to be added:

Aroclor 1242	54,000 gallon	(2 - 27,000 gallon)
" 1248	18,000 "	
" 1254	54,000 "	(2 - 27,000 gallon)
" 1260	18,000 "	
" 1262	18,000 "	
" 1221/1232	18,000 "	
Inerteen PPO and		
Al3B	30,000 "	(1 - 12,000 gallon)
TCB	12,000 "	(1 - 18,000 gallon)
TTCB	12,000 "	

An existing 2,000 gallon mixing tank will be relocated.

One covered loading dock for tank cars.

One covered loading dock for tank cars and trailers.

A new railroad spur.

Four existing 12,000 gallon storage tanks with submerged pumps will be dismantled and scrapped.

New drumming facilities to be added include a high speed drumming scale and a conveyor system to bring empty drums to the scale and take filled drums away from the scale.

New flaking and bagging facilities to be added:

Storage for Aroclor 5460, 1268 and biphenyl.

Flaker for solid Aroclors

Flaker for biphenyl

Mill for Aroclor 1268

High speed bagging machines for Aroclor
5460 flakes and biphenyl flakes

Conveyor system to take filled bags away
from bagging machines

Fume control system for Aroclor 1268

The existing Aroclor and biphenyl flakers
will be dismantled together with the present
Aroclor feed tank.

A suitable building (120' X 60') to house the
drumming and flaking operations.

Pipelines from Department 27 to tank farm as
follows:

One line for Aroclor 1242 from existing
12,000 gallon day tank

One line for Aroclor 1248 and 1221

One line for Aroclor 1254 from existing
12,000 gallon day tank

One line for Aroclor 1260

One line for Aroclor 1262

Pipelines from tank farm to mix tanks:

One line for Aroclor 1242

One line for Aroclor 1254

One line for Aroclor 1260

One line for Aroclor 1248 and 1262

Pipelines from tank farm to loading spots and
drum filling:

One line for A13B

One line for KA and PPO

One line for Xylene and Toluene blends
(drum filling only)

One line for HB-40 (drum filling only)

One line for Aroclor 1242

One line for Aroclor 1254

One line for Aroclor 1221, 1232, 1248, 1262

One line for Aroclor 1260

Pumps will be provided as follows:

One for Aroclor 1242 transfer at tank farm

One for Aroclor 1254 transfer at tank farm

One for Aroclor 1248/1221, 1232/1262 transfer at tank farm

One for Aroclor 1260 transfer at tank farm

One for Mix tank and PPO tank transfer

One for Xylene Mix tank transfer

One for TCB, TTCB tank car unloading

One for TCB, TTCB transfer to Mix tank

Three to transfer Aroclors from Building 27 to storage

1.413 For W. G. Krummrich

New storage tanks to be added:

Aroclor 1242	44,000 gallon (2 - 22,000 gallon)
Aroclor 1248	22,000 gallon
Aroclor 1254	22,000 gallon
Aroclor 1260	22,000 gallon
Biphenyl	100,000 gallon

A new railroad spur

Two unloading docks for biphenyl cars

Three existing 15,000 gallon storage tanks with submerged pumps will be dismantled.

Pipelines from day tanks to tank farm as follows:

One line for Aroclor 1242

One line for Aroclor 1248

One line for Aroclor 1254

One line for Aroclor 1260

Pipelines from tank farm to loading spots and drum filling:

One line for Aroclor 1242

One line for Aroclor 1248

One line for Aroclor 1254

One line for Aroclor 1260

Pumps will be added as follows:

One for Aroclor 1248 transfer

One for Aroclor 1254 transfer

One for Aroclor 1260 transfer

One for Aroclor 1242 transfer

Facilities to produce 40M lbs./year of Aroclor 1242:

A continuous chlorinator chain consisting of biphenyl mix and continuous feed tank, four chlorination tanks, four mass circulating pumps and four external air coolers.

A continuous blow tank and intermediate storage tank.

Two semi-continuous distillation systems consisting of still pot, external circulating system with therminol heating, entrainment separator, vapor condenser, receiver and vacuum steam ejector.

Two continuous porocel treatment systems consisting of feed tank, absorber, cleanup filter and product receivers. One train will have two absorbers to provide flexibility.

A complete therminol heating, storage and circulating system.

Additions to the existing control room to provide space for a foreman and motor control center.

1.42 Design Capacity

1.421 Anniston

Finished Product Storage

<u>Product</u>	<u>Recommended⁽¹⁾ (gal.)</u>	<u>Provided (gal.)</u>	<u>Future Need (gal.) (1970)</u>
1221	13,050	18,000	27,000
1232	14,000		
1242	97,500	66,000 ⁽²⁾	
1248	20,800	18,000	
1254	51,500	66,000 ⁽²⁾	
1260	20,900	18,000	
1262	5,550	18,000	
TOTAL	223,300	204,000	27,000

Increased flexibility in the storage area will allow a capacity increase of 5.7M lbs./year (from 48M to 53.7M).

Estimated tank car shipments for 1971:	372 (3)
Estimated tank trailer shipments for 1971:	66 (3)
Estimated drum shipments for 1971:	25,610 (3)
Estimated can shipments for 1971:	2,030 (3)

(1) Letter from HJD to RSY 5/18/67.

(2) Includes 12,000 gallon of day storage.

(3) Anniston Job No. 370-720 (1) by R. H. Taylor

Mixing and Drumming Area

A new 12,000 gallon mix tank, a relocated 2,000 gallon mix tank and an 18,000 gallon mix tank to provide for:

Estimated tank car shipments for 1971:	55 (3)
Estimated tank truck shipments for 1971:	1 (3)
Estimated drum shipments for 1971:	5,764 (3)
Estimated can shipments for 1971:	1,312 (3)

A new drumming station with associated conveyors to handle 150 drums/day. (Basis: 8 hrs./day, 260 days/year, 75% OST)

Flaking and Bagging

Aroclor flaking capacity (Aroclor 5460) 41,500 lbs./day (Basis: 8 hrs./day, 365 days/year, 75% OST)

Aroclor bagging capacity 2 bags/min.

Biphenyl flaking capacity 18,300 lbs./day (Basis: 8 hrs./day, 365 days/year, 75% OST)

Biphenyl bagging capacity 2 bags/min.

Flaking and bagging design will allow these operations to be carried out on a one-shift basis, seven days a week. Exception is Aroclor 1268 which will be flaked and packaged on a three-shift basis, seven days a week (3% of production).

Raw Material Storage

<u>Raw Material</u>	<u>Provided (gal.)</u>
TTCB	12,000
TCB	12,000

1.422 WGK

Finished Product Storage

<u>Product</u>	<u>Recommended⁽¹⁾ (gal.)</u>	<u>Provided (gal.)</u>	<u>Future Need (gal.) (1970)</u>
1242	132,000	84,000 ⁽²⁾	66,000
1248	25,200	42,000 ⁽³⁾	
1254	34,400	42,000 ⁽⁴⁾	
1260	<u>20,200</u>	<u>22,000</u>	
TOTAL	211,800	190,000	66,000

Estimated tank car shipments for 1971:	112
Estimated tank trailer shipments for 1971:	306
Estimated drum shipments for 1971:	12,200
Estimated can shipments for 1971:	765

- (1) Letter from HJD to RSY 5/18/67.
- (2) Includes 40M gallons on hand storage.
- (3) Includes 20M gallons on hand storage. Extra storage required for operating flexibility.
- (4) Include 20M gallons on hand storage.

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Raw Material Storage

<u>Raw Material</u>	<u>Provided (gal.)</u>
Biphenyl	125,000 (5)

(5) Includes 25M gallons on hand storage.

Provides capacity for 4 - 20,000 gallon cars and six days' supply at increased rate.

New unloading track and docks provide four days turnaround time at increased rate.

New Manufacturing Facilities

Continuous chlorination:

Basis: Producing Aroclor 1142
OST: 7,950 hrs./year
Rate: 43M lbs./year

Semicontinuous distillation and earth treatment:

Basis: Producing Aroclor 1242
OST: 7,950 hrs./year
Rate: 40M lbs./year

For the overall product group, after these additions are completed, Anniston and WGK plant capacity will be as follows, M lbs./year:

	<u>Present Capacity</u>	<u>New Capacity</u>	<u>Increase in Capacity</u>
Anniston	48.0	53.7	5.7
WGK	<u>29.5</u>	<u>69.5</u>	<u>40.0</u>
TOTAL CAPACITY	77.5	123.2	45.7

Based on 1971 requirements for both plants (July 1967 Sales Forecast), excess capacity at that time will be:

New Capacity	123.2M lbs./year
Required in 1971	<u>99.2M lbs./year</u>
Excess Capacity	24.0M lbs./year
Excess Capacity	24.2%

1.43 Flexibility Requirements

1.431 Anniston

Increased storage capacity and blending facilities will allow for better utilization of present still capacity. This will be accomplished by longer runs on the same product and result in increased production capacity.

1.432 W GK

Based on the sales forecast of July 1967 for the Aroclor product group, batch units will produce Aroclors 1248, 1254 and 1260. The maximum capacity of these units is as follows for each Aroclor:

Aroclor 1248

$\frac{8,750 \text{ hrs.}}{8.5 \text{ hrs./ba.}} \times 7,200 \text{ lb./ba.} \times 5 \text{ chlor} \times 92\% \text{ OST} = 34.4 \text{ M lbs.}$

Aroclor 1254

$\frac{8,750 \text{ hrs.}}{10.5 \text{ hrs./ba.}} \times 8,040 \text{ lb./ba.} \times 5 \text{ chlor} \times 92\% \text{ OST} = 30.8 \text{ M lbs.}$

Aroclor 1260

$\frac{8,750 \text{ hrs.}}{12.5 \text{ hrs./ba.}} \times 9,100 \text{ lb./ba.} \times 5 \text{ chlor} \times 92\% \text{ OST} = 29.2 \text{ M lbs.}$

For the year 1971, the maximum batch capacity will be:

For Aroclor 1248: $34.4 \text{ M lbs.} \times 21\%^{(1)} = 7.25 \text{ M lbs.}$

For Aroclor 1254: $30.8 \text{ M lbs.} \times 35\%^{(1)} = 10.80 \text{ M lbs.}$

For Aroclor 1260: $29.2 \text{ M lbs.} \times 43\%^{(1)} = \underline{12.60 \text{ M lbs.}}$

Total Batch Capacity on this basis = 30.65 M lbs.

(1) From the July 1967 Sales Forecast for 1971.

Requirements for 1971 are 20.3M lbs., leaving an excess capacity of 51% at WGK.

For 1971, the continuous system capacity utilization will be 25.6M lbs., leaving an excess capacity of 56% at WGK.

Flexibility will be designed into the WGK distillation systems to allow for the following operations:

Still No. 1 (existing) Aroclor 1260, 1262

Still No. 2 (existing) Boil down still to separate Montars (residues) from all products, Aroclors 1242, 1248, 1254, 1260 and 1262.

Still No. 3 (New) Aroclor 1242 or 1254

Still No. 4 (New) Aroclor 1242 or 1254

1.44 Future Expansion

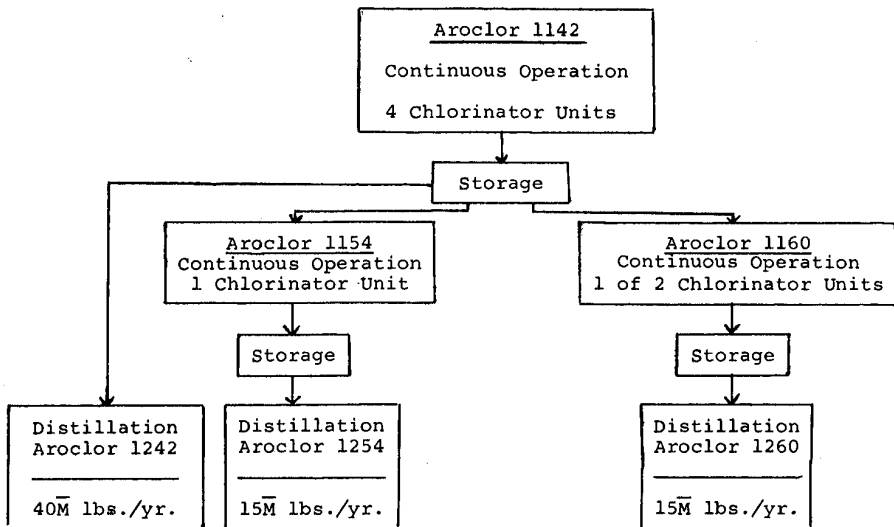
1.441 Anniston

At the completion of this expansion, space will be available to the north of Building 27 for the addition of a complete new solid Aroclor line. Space is available in the tank farm area for additional tankage.

Flaking and drumming capacity can be increased by adding additional personnel and operating on a 2 or 3 shift basis.

1.442 WGK

One of the objectives of this expansion is to provide 25-30% excess production capacity for Aroclors. As we use up the excess capacity provided in this project we must consider the next step in department expansion. If we assume the product split will increase proportionally according to the latest sales forecasts, we can postulate an operation diagrammed as follows:



The layout of the new chlorination-distillation facilities at WGK will allow space for the addition of another chlorination unit, intermediate storage tanks and two additional distillation chains. Aroclor 1248 and 1262, because of the smaller requirements, would continue to be made in the batch units.

On this basis, we can postulate a productive capacity as follows for liquid Aroclors, M lbs./year:

Anniston	53.7
WGK batch units	29.5
Cont. 1242 unit	40.0
Cont. 1254 unit	15.0
Cont. 1260 unit	15.0
TOTAL CAPACITY	153.2

1.45 Physical Appearance

1.451 Anniston

Tanks of different heights will be grouped together to provide standardization.

In the flaking and drumming area, provision will be made for moving finished products directly into a new warehouse facility (when built).

1.452 W GK

Tanks will be grouped together as an extension of the present tank farm.

The new facilities will be a separate structure to the south of the existing unit.

1.46 Storage and Shipping Requirements

1.461 Anniston

Facilities provided are noted in greater detail in other parts of this report. Provision is being made for:

Raw material storage of TTCB and TCB.

Finished product storage for all liquid Aroclors.

Loading docks for tank car and tank trailer loading of products.

Moving filled bags of solid Aroclors and biphenyl to palette loading station, then to warehouse storage.

Moving drums and cans to palette loading station, then to warehouse storage.

Storage in the drumming area of the new manufacturing facility for empty drums and containers.

1.462 W GK

Provision is being made for:

Raw material storage of biphenyl.

Finished product storage for all liquid Aroclors.

Unloading docks for tank cars.

Making an existing unloading dock a loading dock for tank cars of Aroclors.

No extensions or additions are being made to the present blending and drumming facilities. W GK technical service is modifying an existing storage tank to a blend tank and revamping piping in the drumming area.

1.5 UTILITIES AND SERVICES

1.51 Utility and Service Requirements

1.511 Anniston Additions

- ✓ Steam - 100 psig-For Storage Tanks 2,000 lbs./hr.
 - For Process 500 lbs./hr.
- ✓ Purchased Water - For Process (Cleanup) 150 GPM
- ✓ Compressed Air - For Storage Tanks 20 GPM
- ✓ Plant Water - For Process (Flakers) 300 GPM
- ✓ Nitrogen - For Storage Tanks 50 SCFM
- Electric - Connected 300 HP
 - Operating 200 HP

1.512 W GK Additions

- Steam - 80 psig - For Storage Tanks 5,000 lbs./hr.
 - For Process 3,000 lbs./hr.
 - 200 psig-For Process 600 lbs./hr.
- Natural Gas - For Process 1,800 SCFH
- Purchased Water - For Process 150 GPM
- Compressed Air - For Process 100 SCFM
 - For Instruments 75 SCFM
- Electric - Connected 315 HP
 - Operating 250 HP
- Plant Water - None Required
- Nitrogen - None Required

1.52 Utility and Service Facilities

1.521 Anniston

A new spur track from main track at north of plant to 5th Street, 1700 ft. long.

A new 300 KVA pole line transformer to supply tank farm and warehouse requirements.

A new sewerage lift station to replace existing field which is in the proposed manufacturing area. The lift station will tie into an existing city sewerage line.

Relocating a 24" IPS VC acid sewer.

Installation of a steel frame prefab-type building, 120' long X 60' wide to house the flaking, drumming and bagging facilities. This building will be designed so that it can be attached to a new warehouse building which will be 120' wide X 240' long.

A 15' wide X 80' long tank truck loading station.

Relocation of existing plant parking facilities 70' wide X 120' long.

1.522 WGK

Extension of existing track 10A for 110 feet and installation of a turnover to tie existing track 10A into track 10.

Replace existing gas meter with a larger capacity meter.

Install new pump at department city water break tank with associated piping.

Install new 600 amp breaker in Sub #17. Install fans in Sub #17 transformer. Transfer feeder 8-1 from Sub #8 to Sub #17. Install an overhead feeder from Sub #17 to Building CF. Install feeder cables from breaker 8-1 to Department 246.