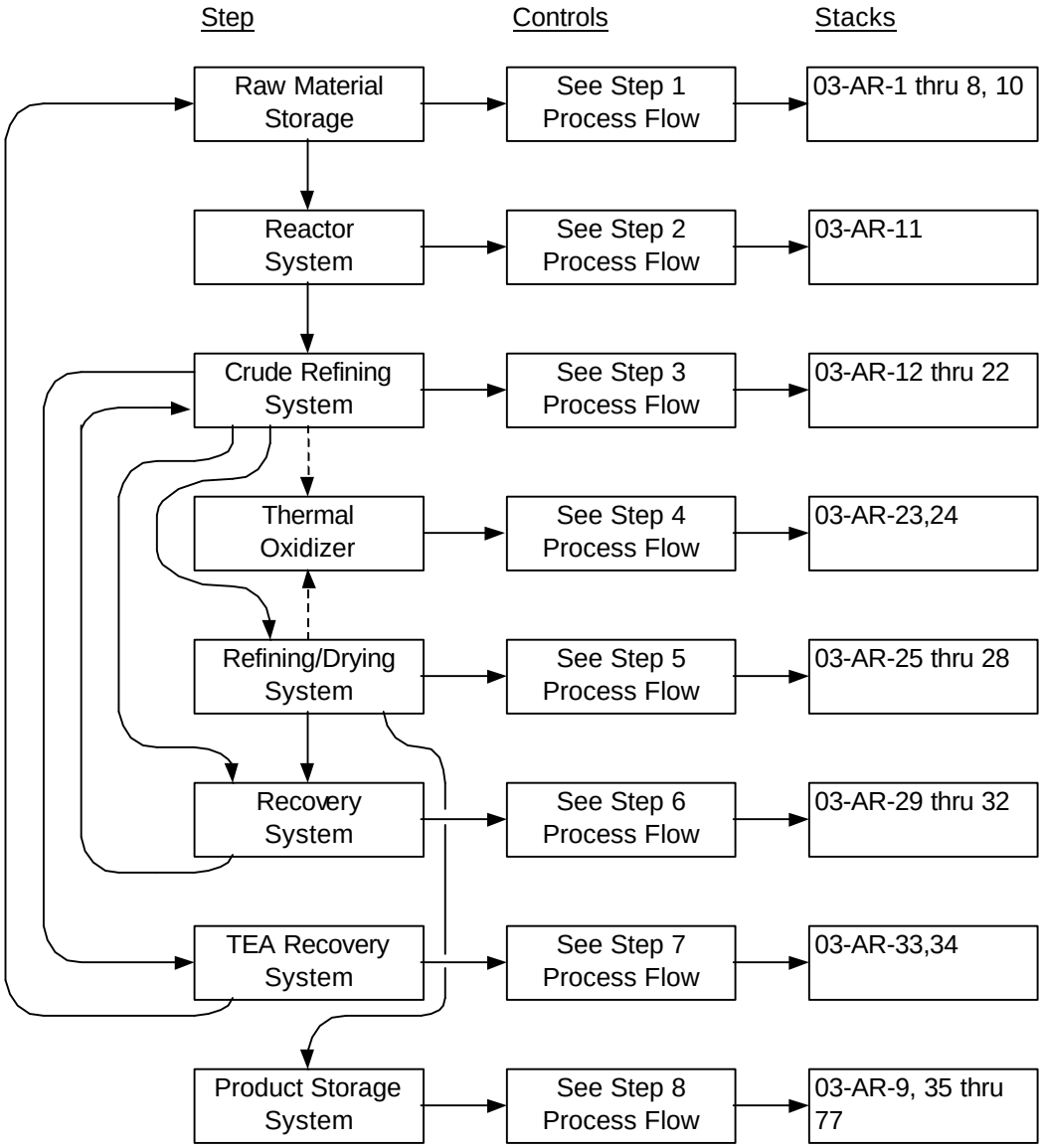
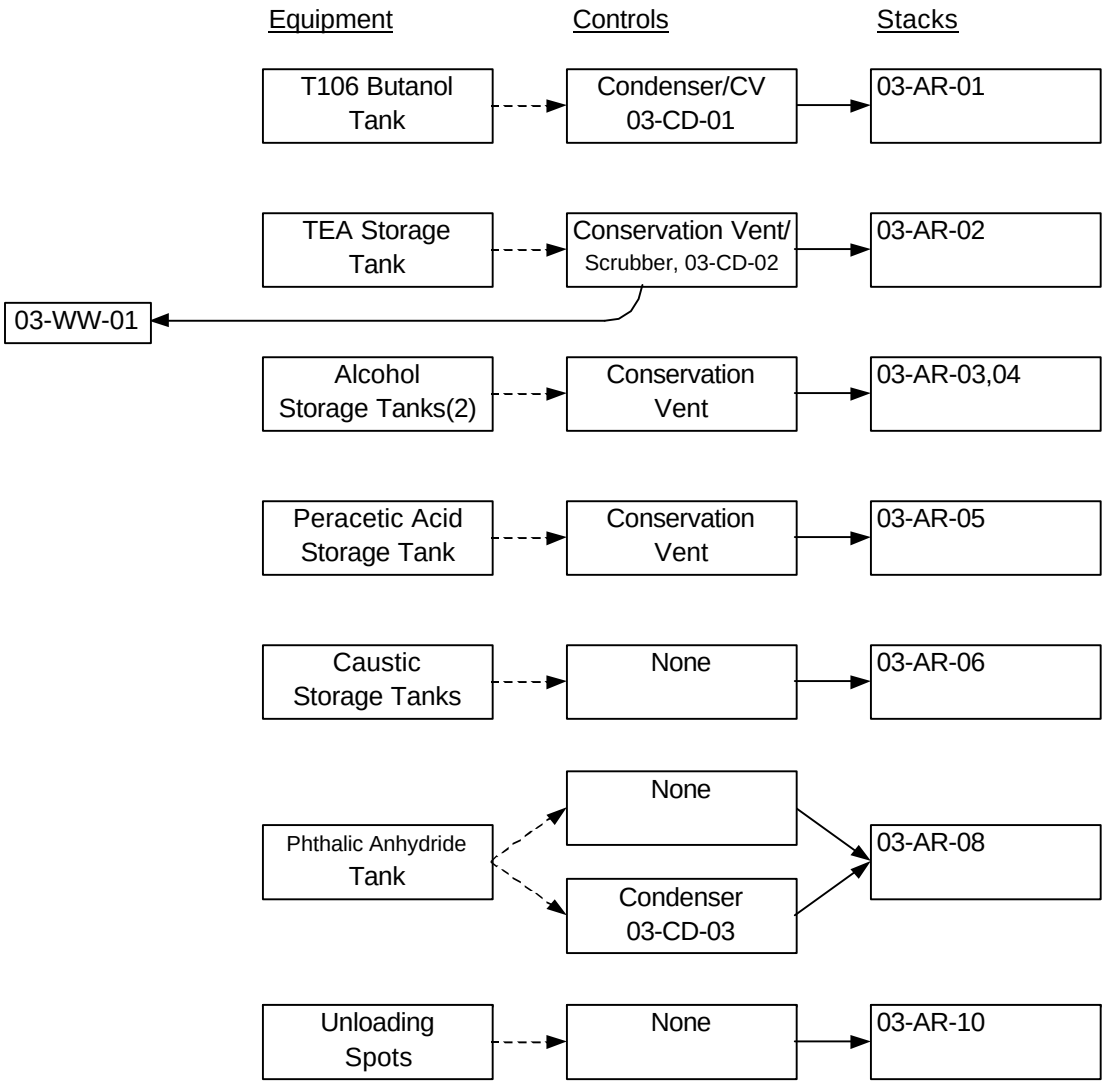
1.B. Process Flow Diagrams

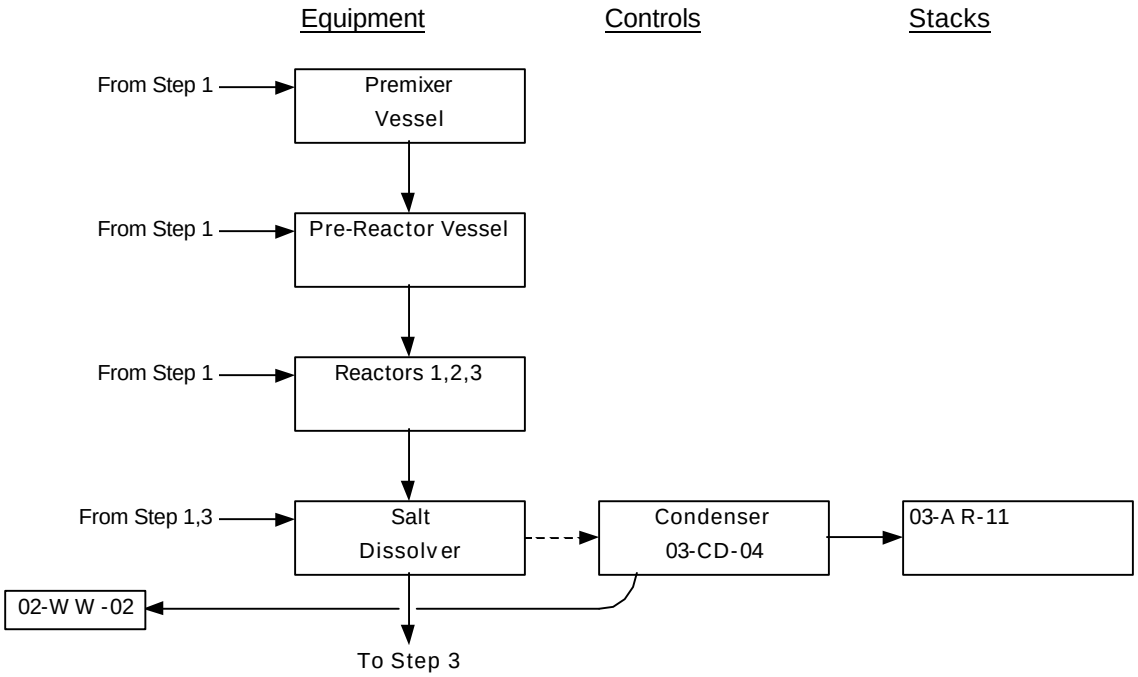
Benzyl Phthalates Process Flow Diagram



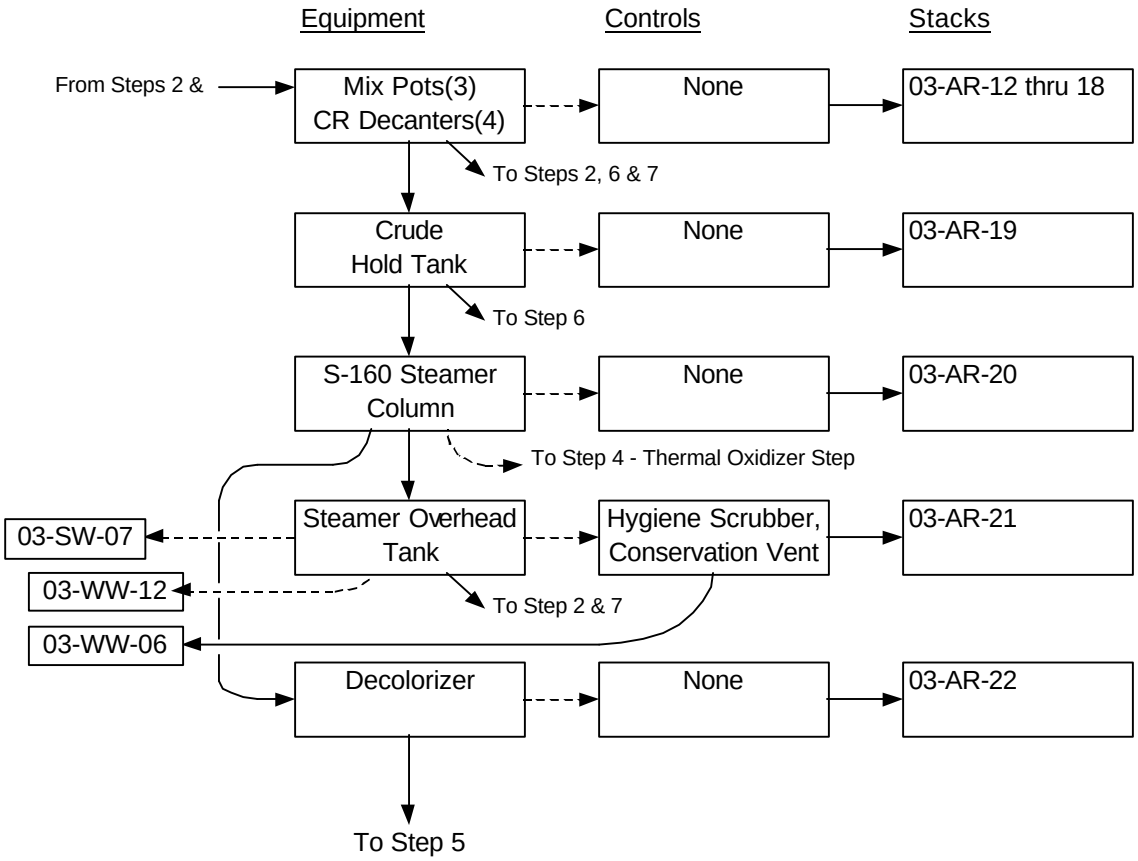
Benzyl Phthalate - Step 1
Raw Material Storage Step



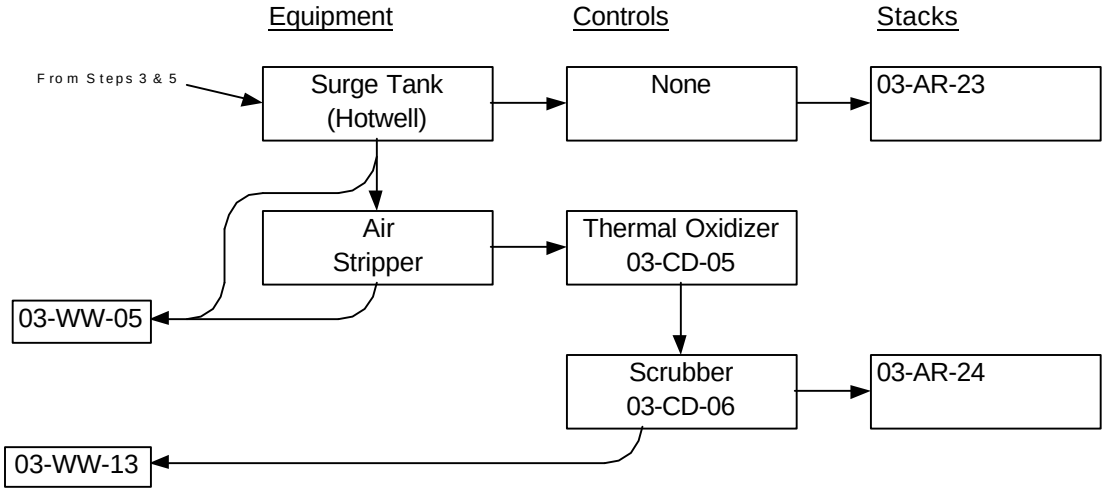
Benzyl Phthalate - Step 2
Reactor Step



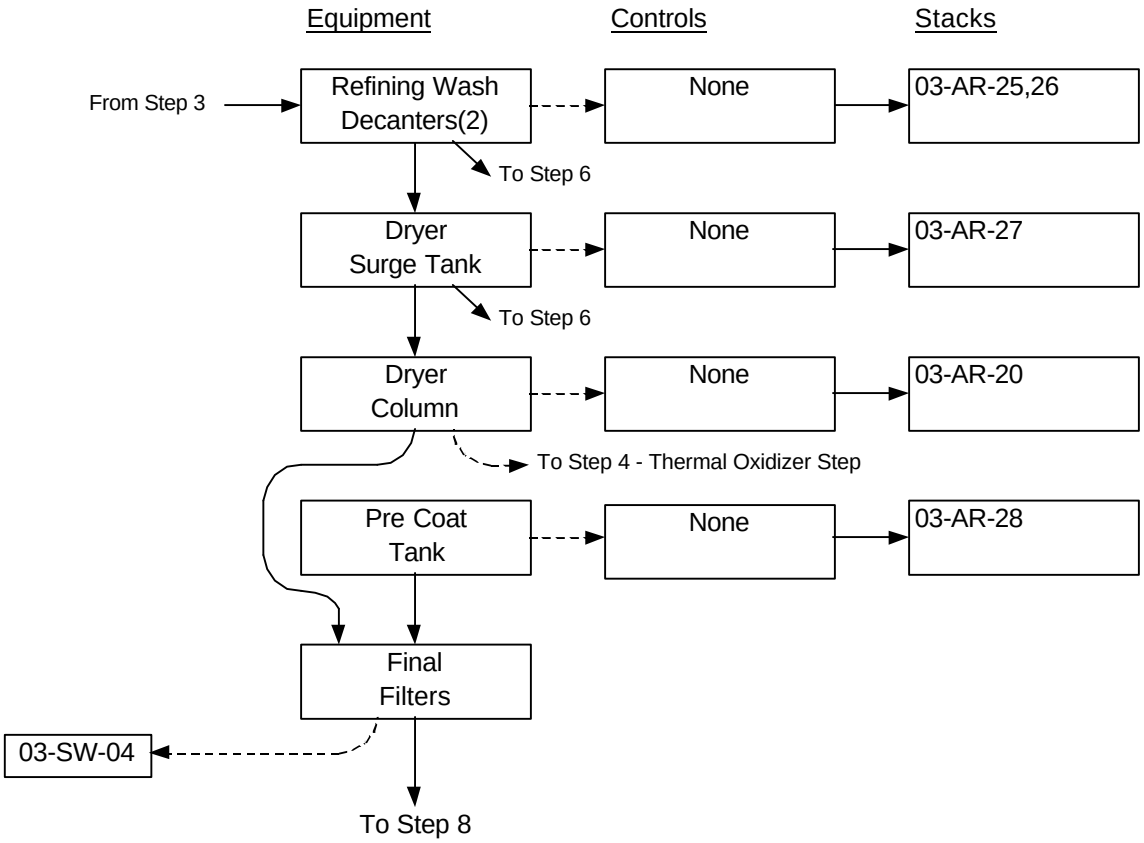
Benzyl Phthalate - Step 3
Crude Refining Step



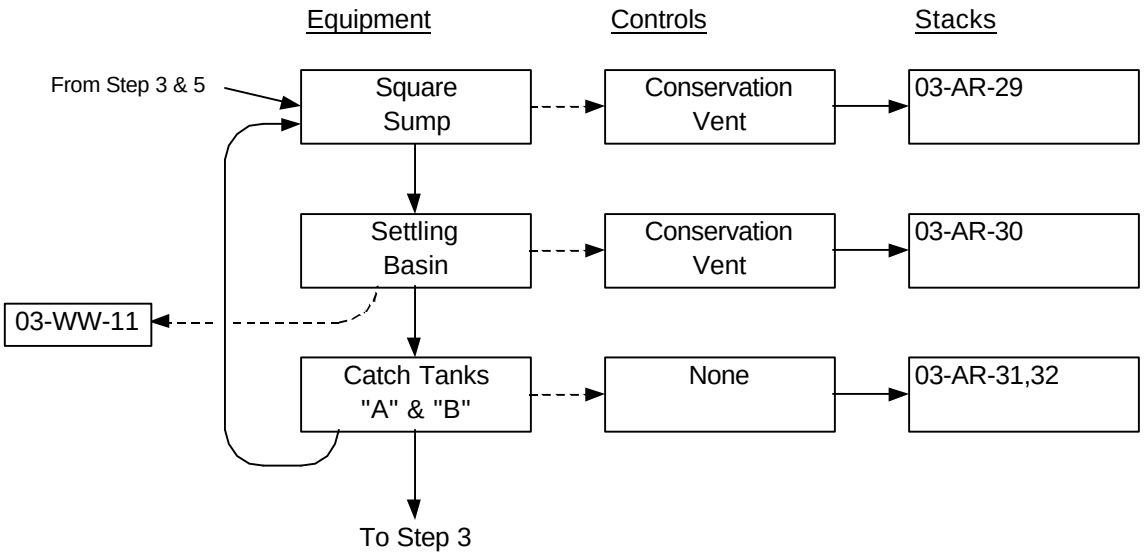
Benzyl Phthalate - Step 4
Thernal Oxidizer Step



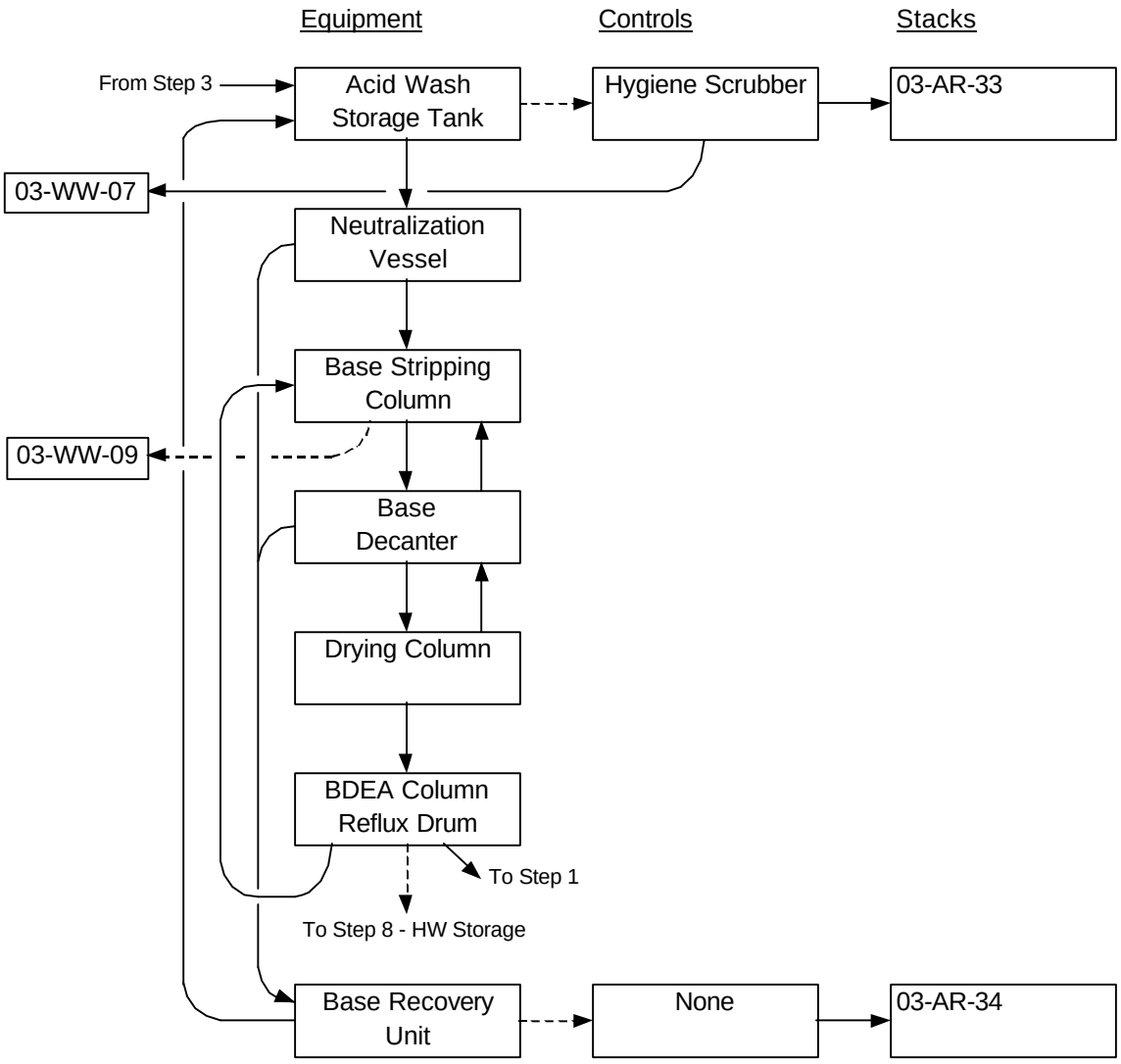
Benzyl Phthalate - Step 5
Refining/Drying Step



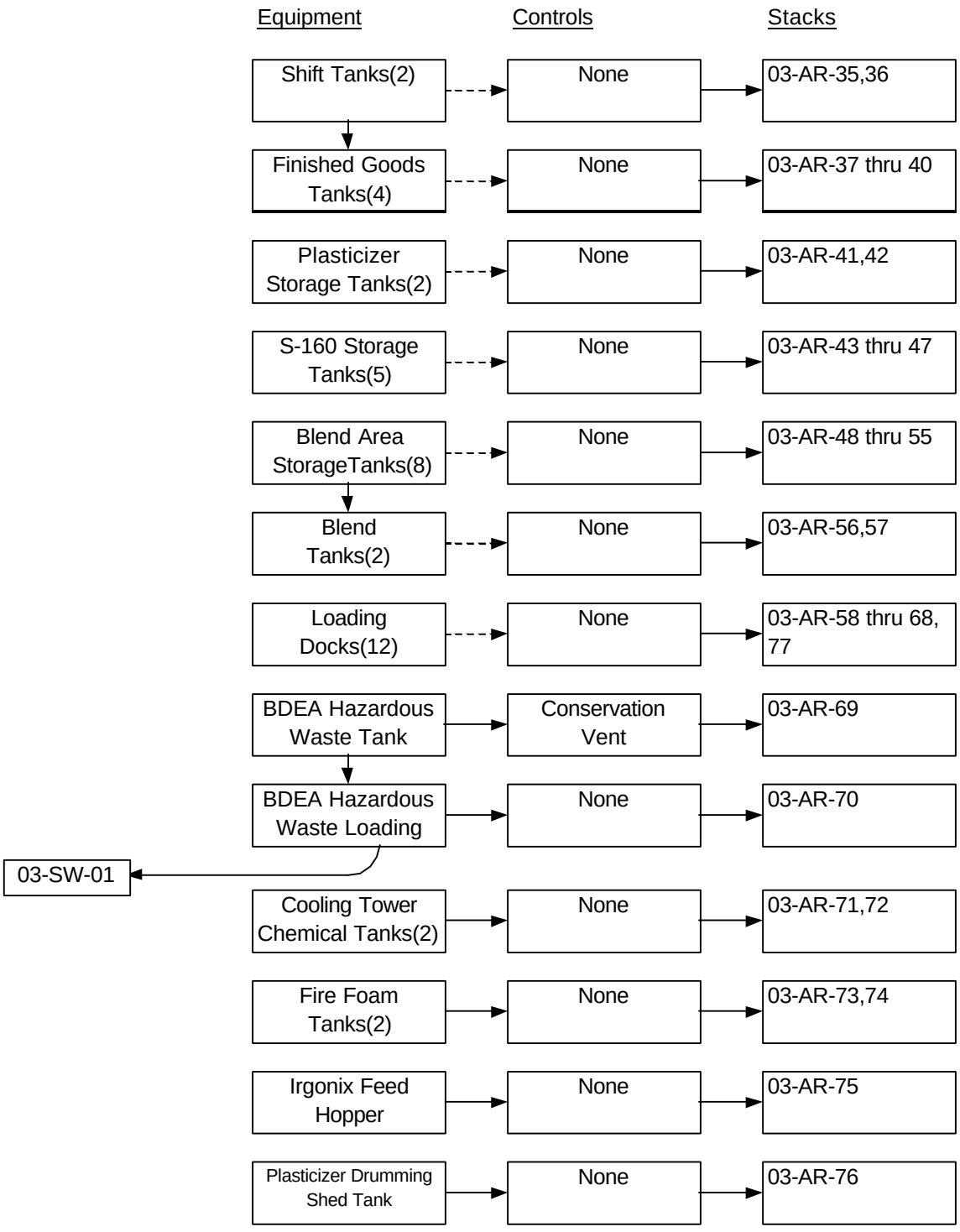
Benzyl Phthalate - Step 6
Recovery Step



Benzyl Phthalate - Step 7
TEA Recovery Step



Benzyl Phthalate - Step 8
Product Storage Step



1.C. Equipment, Control Device, and Source Sheet Information

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Benzyl Phthalate system consists of one T106 butanol Storage tank, one triethylamine storage tank, two alcohol storage tanks, one peracetic acid storage tank, one caustic sodium hydroxide storage tank, one phthalic anhydride tank and an unloading area. The butanol and phthalic anhydride are unloaded from tankers or railroad tank cars. The triethylamine, the alcohol, and the caustic sodium hydroxide are unloaded from trailers. The peracetic acid is supplied from drums.

Equipment	Capacity	Control
T106 Butanol Storage Tank (30-STV-06)	1,400,000 gallons	Condenser/Conservation Vent
TEA Storage Tank (03-STV-02)	20,000 gallons	Scrubber/Conservation Vent
Alcohol Storage Tanks (2) (03-STV-01, 03-STV-16)	25,000 gallons each	Conservation Vents
Caustic NaOH Storage Tank (03-STV-15)	27,330 gallons	None
Phthalic Anhydride Tank (01-STV-07)	88,000 gallons	Condenser/None

Insignificant Sources	Capacity	Control	Insignificance
Peracetic Acid Storage Tank (03-STV-12)	250 gallons	CV	<2K VOC Storage

Exempt Sources	Capacity	Exempt Status
Truck Unloading Spots (03-TTE-01)	N/A	Vented thru Storage
Hot Water Tank* (03-PTV-18)	2,100 gallons	Water Storage Only

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 2

Reactor Step

The Reactor step of the Benzyl Phthalate system consists of one premixer vessel, one pre-reactor vessel, three reactors, and one salt dissolver. Raw materials from Step 1 and Step 3 are introduced into the feed systems and reactors directly.

Equipment	Capacity	Control
Salt Dissolver (03-PRV-09e)	1,500 gallons	Condenser

Exempt Sources	Capacity	Exempt Status
Premixer Vessel (03-PRV-09)	250 gallons	Pressurized, No Direct Emissions
Pre-Reactor Vessel (03--PRV-09a)	300 gallons	Pressurized, No Direct Emissions
Reactors (3) (03-PRV-09b, 03-PRV-09c, 03-PRV-09d)	1,000 gallons each	Pressurized, No Direct Emissions

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 3

Crude Refining Step

The Crude Refining Step of the Benzyl Phthalate system consists of three mix pots, four decanters, one crude hold tank, one steamer column, one steamer overhead tank, and one decolorizer.

Equipment	Capacity	Control
Mix Pots (3) (03-PTV-13, 03-PTV-14, 03-PTV-15)	60 gallons each	None
CR Decanters (4) (03-PTV-01, 03-PTV-02, 03-PTV-03, 03-PTV-04)	800 gallons each	None
S-160 Steamer (03-PRV-08)	1,010 gallons	None
Steamer Overhead Tank (03-PTV-08)	15,000 gallons	Conservation Vent, Hygiene Scrubber
Decolorizer (03-PRV-04)	1,000 gallons	None
Crude Hold Tank (03-PTV-05)	1,075 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
Cooling Tower* (03-PCT-01)	30,000 gallons	None	< 50 lb/hr throughput

Exempt Sources	Capacity	Exempt Status
Hot Water Tank* (03-PTV-18)	2,100 gallons	Storage of Water

* - Not listed in process flow diagram

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 4

Thermal Oxidizer Step

The Thermal Oxidizer Step of the Benzyl Phthalate system consists of one surge tank and one air stripper. The thermal oxidizer step is fed by the steamer column in Step 3 and the dryer column in Step 5.

Equipment	Capacity	Control
Surge Tank & Seal Pots (Hotwell System) (03-PRV-07)	135 gallons	None
Air Stripper (03-PRV-15)	380 gallons	Thermal Oxidizer, Scrubber

Modified 02/18/00, 5/8/00

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 5

Refining/Drying Step

The Refining/Drying Step of the Benzyl Phthalate system consists two refining wash decanters, one dryer surge tank, one dryer column, one pre coat tank, and one set of final filters.

Equipment	Capacity	Control
Refining Wash Decanters (2) (03-PTV-20, 03-PTV-21)	1,000 gallons & 3,200 gallons	None
S-160 Dryer (03-PRV-08a)	1,065 gallons	None
Dryer Surge Tank (03-PTV-07)	500 gallons	None
Pre Coat Tank (03-STV-17)	70 gallons	None

Exempt Sources	Capacity	Exempt Status
Final Filters	N/A	Pressurized

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 6

Recovery Step

The Recovery Step of the Benzyl Phthalate system consists of one square sump, one settling basin, and two catch tanks.

Equipment	Capacity	Control
Settling Basin (03-PRV-06)	5,250 gallons	Conservation Vent
Catch Tanks (2) (03-PTV-09, 03-PTV-10)	13,000 gallons each	None
Square Sump (03-PRV-05)	1,500 gallons	Conservation Vent

Modified 02/18/00

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 7

TEA Recovery Step

The TEA Recovery Step of the Benzyl Phthalate system consists of an acid wash storage tank, one neutralization vessel, one base stripping column, one base decanter, one packed drying column, and a Benzyl Diehtylamine (BDEA) Column Reflux Drum.

Equipment	Capacity	Control
Acid Wash Storage Tank (03-PTV-22)	10,000 gallons	Hygiene Scrubber

Insignificant Sources	Capacity	Control	Insignificance
Base Recovery Unit (03-PRV-11e)	8 gallons	None	<50 lb/hr

Exempt Sources	Capacity	Exempt Status
Neutralization Vessel (03-PRV-11c)	2,400 gallons	No Direct Emissions
Base Stripping Column (03-PRV-11a)	3,000 gallons	No Direct Emissions
Base Decanter (03-PRV-11d)	1,500 gallons	No Direct Emissions
Base Drying Column (03-PRV-11b)	730 gallons	No Direct Emissions
BDEA Column & Reflux Drum (03-PRV-11)	1,520 gallons (Column) 500 gallons (Reflux Drum)	No Direct Emissions

Benzyl Phthalate Manufacturing Equipment and Control Device List - Step 8

Product Storage Step

The Product Storage Step of the Benzyl Phthalate system consists of two shift tanks, four finished goods tanks, two plasticizer storage tanks, five S-160 storage tanks, eight blend area storage tanks, two blend tanks, eleven loading docks, one hazardous waste tank and loading dock, two cooling tower chemical tanks and two fire foam tanks.

Equipment	Capacity	Control
Shift Tanks (2) (03-STV-06, 03-STV-07)	10,000 gallons each	None
Finished Goods Tanks (4) (03-STV-08, 03-STV-09, 03-STV-10, 03-STV-11)	50,000 gallons each	None
Plasticizers Storage Tanks (2) (30-STV-02, 30-STV-03)	690,000 gallons each	None
S-160 Storage Tanks (5)	20,000 gallons each (3)	None
	900,000 gallons	None
	488,000 gallons	None
(01-STV-04, 01-STV-05, 01-STV-06, 30-STV-05, 30-STV-04)		
Blend Area Storage Tanks (8) (27-STV-01, 27-STV-02, 27-STV-03, 27-STV-04, 27-STV-05, 27-STV-06, 27-STV-07, 27-STV-08)	25,500 gallons each	None
Blend Tanks (2) (27-PTV-01, 27-PTV-02)	5,500 gallons each	None
Loading Docks (12)	7,500 gallons for trucks 25,000 gallons for railcars	None
(03-TTE-04, 03-TTE-05, 03-TTE-06, 03-TTE-07, 27-TTE-01, 27-TTE-02, 27-TTE-03, 30-TTE-01, 30-TTE-02, 30-TTE-03, 30-TTE-04, 30-TTE-05)		
BDEA Haz Waste Loading (03-TTE-02)	7,500 gallons for trucks	None
Irgonix Feed Hopper (01-STV-01)	25 gallons	None
Plasticizer Drumming Shed Tank (03-STV-22)	6,000 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
BDEA Haz Waste Tank (03-STV-14)	6,900 gallons	None	<10K Storage
Cooling Tower Chem Tanks (03-STV-19, 03-STV-20)	550 gallons each	None	<10K Storage
Fire Foam Tanks (03-STV-18, 03-STV-21)	1,600 & 300 gallons	None	<10K Storage

Exempt Sources	Capacity	Exempt Status
Warehouse Pallet Loading Bay* (03-TTE-03)	n/a	No Emissions

* - Not listed in process flow diagram

1.D. Source Control Data Sheets
CONDENSER

Control Designation 03-CD-01

1. Type of Condenser Direct Contact
   A. Manufacturer: Liquid Carbonic Industrial Co. B. Model Number None
   C. Make: Storage Tank LN2 VRS D. Type of Cooling Medium Liquid N2

2. Composition of chemical substance(s) passing through condenser 4.23% Butanol, 95.77 Nitrogen

3. Vapor pressure of the substance or mixture 0.1 PSIA @ 70^{O} F

4. What are the minimum and maximum temperatures of inlet and exiting cooling liquid (^{o}F)?
   -300, -320 and –40, 55

5. What are the minimum and maximum flow rates of cooling medium (gal/min)? 0, 300 N2 Vapor

6. What are the minimum and maximum temperatures of inlet and outlet of condenser (^{o}C)?
   20, 120 and –70, -20

7. What is the maximum flow of gas mixture in condenser (CFM)? 326

8. Describe any monitoring devices and methods of recording data.

   Temperature of gas stream at condenser at outlet

   Stack Designation: 03-AR-01 Source Designation: 30-STV-06

SCRUBBER

Control Designation 03-CD-02

1. Type of Scrubber (venturi, packed tower, etc.): Packed Tower
   A. Make: NA B. Model No. NA
   B. Manufacturer: Manufactured on-site

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption, list all gases being absorbed by their chemical name. Triethylamine

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they Maintained? None

5. What are the minimum and maximum values for pH? NA, NA

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA, NA

7. Is the liquid once through or recirculated? Once-through

8. Is the scrubber equipped with a mist eliminator? Yes No XXX If yes what are the type and the dimensions?

9. What are the minimum and maximum flow rates of the liquid (gal/min)? 1, 10
   What type of monitor and recorder? Rotometer

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0 (min), 16 cfm (max)
    What type of monitor and recorder? None

11. What are the minimum and maximum pressure drops across the scrubber? 1 (min), 10 in. WC (max)
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Counter-current

13. Venturi Scrubber*
    A. Length and diameter of throat?
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Type of nozzle(s)?
    C. Inlet gas temperature (ºF)? Outlet (ºF)?
    D. Inlet and Outlet particle grain loading (grains/dscf)?

14. Packed Tower*

    A. Number of transfer units? 4
    B. Height of transfer units? 11 inches
    C. Type and size of packing material? 1" 304 S.S. Pail Rings
    D. Height of packed section (ft.)? 4
    E. Total height of tower (ft.)? 8 Diameter(ft)? 8 inches

15. Sketch of Scrubber. See attached

16. Does the scrubber have a fan? No

Stack Designation: 03-AR-02 Source Designation: 03-STV-02

Modified 11/28/00

CONDENSER

Control Designation 03-CD-03

1. Type of Condenser Shell & Tube
   A. Manufacturer: Veridyne B. Model Number 350L
   C. Make: Heat pipe Condensing System D. Type of Cooling Medium Air

2. Composition of chemical substance(s) passing through condenser Phthalic Anhydride

3. Vapor pressure of the substance or mixture 18 MM HG @ 150^{O} C

4. What are the minimum and maximum temperatures of inlet and exiting cooling liquid (^{o}C)?
   Ambient (min), Ambient (max) and N/A (min), 130 (max)

5. What are the minimum and maximum flow rates of cooling medium (gal/min)? 0, 1000 scfm

6. What are the minimum and maximum temperatures of inlet and outlet of condenser (^{o}F)?
   240 (min), 340 (max) and 0 (min), 340 (max)

7. What is the maximum flow of gas mixture in condenser (CFM)? 350 gpm or 0.8 cfm

8. Describe any monitoring devices and methods of recording data.

   Temperature gage in cooling medium (air) inlet

   Stack Designation: 03-AR-08 Source Designation: 01-STV-07

Modified 11/23/99

CONDENSER

Control Designation 03-CD-04

1. Type of Condenser Direct Contact
   A. Manufacturer: Schutte & Koerting Co. B. Model Number Type 597
   C. Make: Counter Current Barometric D. Type of Cooling Medium Water

2. Composition of chemical substance(s) passing through condenser Triethylamine & HCl

3. Vapor pressure of the substance or mixture 4 PSIA @ 150^{O} F

4. What are the minimum and maximum temperatures of inlet and exiting cooling liquid (^{o}F)?
   50 (min), 70 (max) and 50 (min), 90 (max)

5. What are the minimum and maximum flow rates of cooling medium (gal/min)? 1, 5

6. What are the minimum and maximum temperatures of inlet and outlet of condenser (^{o}F)?
   100 (min), 200 (max) and 0 (min), 120 (max)

7. What is the maximum flow of gas mixture in condenser (CFM)? 240

8. Describe any monitoring devices and methods of recording data.

   The contaminant side outlet temperature shall be monitored and recorded at least once per operating day.

Stack Designation: 03-AR-11 Source Designation: 03-PRV-09e

THERMAL OXIDIZER

Control Designation 03-CD-05

1. Type of Thermal Oxidizer
   A. Manufacturer Thermatrix Inc.
   B. Make Flameless Thermal Oxidizer
   C. Model Number FP-100

2. What is the minimum thermal oxidizer chamber temperature (^{o}F)? 1400

3. What is the minimum residence time of gases in the thermal oxidizer chamber (sec.)? 0.5

4. What is the air supply to the thermal oxidizer (ACFM)? 0 (sufficient air contained in fume), (75SCFM nominal)

5. What is the primary fuel? Waste Fume Maximum Gross Heat Input(BTU/hr) 229,100 (LHV)

6. What is the percent efficiency?
   A. Capture 100% B. Destruction 99.9% C. Overall 99.9%

7. Is the thermal oxidizer equipped with a continuous oxygen analyzer? No
   If "Yes", what is the model number and make? NA

8. Is the thermal oxidizer equipped with a continuous carbon monoxide analyzer? No
   If "Yes", what is the model number and make? NA

9. Is the thermal oxidizer equipped with a continuous temperature recorder? No
   If "Yes", what is the model number and make? NA

10. What is the oxygen content in the thermal oxidizer exhaust (%O_2)? 7% to 21%

11. What is the concentration of CO (ppm) corrected to 7% O_2? ≤100 ppmv

12. What is the concentration of Total Hydrocarbon (ppm) corrected to 7% O_2? ≤10 ppmv

13. Attach diagram of thermal oxidizer and stack. In file

Stack Designation: 03-AR-24 Source Designation: 03-PRV-15

SCRUBBER

Control Designation 03-CD-06

1. Type of Scrubber (venturi, packed tower, etc.): Packed Tower
   A. Make: NA B. Model No. Type Cap Size 12
   C. Manufacturer: The Ducon Company, Inc., Mineola, New York

2. Is the scrubber used for particulate control or gas absorption? Gas Absorption
   A. If used for particulate control attach a particle size distribution analysis.
   B. If used for gas absorption, list all gases being absorbed by their chemical name. Hydrogen Chloride

3. What is the liquid being used for absorption? Water

4. What are the chemical additives in the liquid? Give chemical names and their concentrations. How are they Maintained? None

5. What are the minimum and maximum values for pH? 1, 8

6. What are the minimum and maximum values for oxidation-reduction potential (mV)? NA

7. Is the liquid once through or recirculated? Recirculated

8. Is the scrubber equipped with a mist eliminator? Yes No If yes what are the type and the dimensions? 6" thick polypropylene wire mesh

9. What are the minimum and maximum flow rates of the liquid (gal/min)? Makeup 1.5(min), 4.5(max), 2.1(nominal)
   Scrubber Flow 20 (min), 75 (max)

   What type of monitor and recorder? Magmeter (Makeup), None (Tower)

10. What are the minimum and maximum flow rates of the gas (ft^3/sec)? 0.0,6.0
    What type of monitor and recorder? N/A

11. What are the minimum and maximum pressure drops across the scrubber? **0.005, 30** inches WC
    What type of monitor and recorder? None

12. Relative direction of gas and liquid flow (co-current or counter- current)? Counter-current

13. Venturi Scrubber* N/A
    A. Length and diameter of throat?
    B. Mechanism of introduction of the liquids (nozzles, pipes, etc.)? Type of nozzle(s)?
    C. Inlet gas temperature (ºF)? Outlet (ºF)?
    D. Inlet and Outlet particle grain loading (grains/dscf)?

14. Packer Tower*

    A. Number of transfer units? 6
    B. Height of transfer units? 11 inches
    C. Type and size of packing material? Kynar pall rings, 0.625"
    D. Height of packed section (ft.)? 6.5
    E. Total height of tower (ft.)? 26.25 Diameter (ft.)? 1' inside diameter

15. Sketch of Scrubber. See file

16. Does the scrubber have a fan? No

    Stack Designation: 03-AR-24 Source Designation: 03-PRV-15

Modification **03/19/01**

1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
03-AR-01	Butanol Storage Tank	1	13	30203	1300	2	30-40	< 55	< 326	Down
03-AR-02	T107 TEA Tank&Scrubber	1	14		1300	4	3	55	26	Horizontal
03-AR-03	T106 Storage Tank	1	15		1200	3	15	70	26	Down
03-AR-04	T101 Storage Tank	1	123	73724	1200	3	25	Ambient	20.05(max)	Horizontal
03-AR-06	Caustic Storage Tank	1	150	101459	1200	3	3	100	13	Down
03-AR-08	M 403 PA Storage Tank	1	148	GRAN	1400	4 (2 stacks)	30 & 35	300	26.7	Down
03-AR-11	Salt Dissolver V305	1	105	062044 (TEMP)	1150	2	46	70	0.8 - 4.0	Horizontal
03-AR-12	2nd Crude Decant Mixpot	1		GRAN	1200	lid 1/2 open	27	208	<10	Up
03-AR-13	3rd Crude Decant Mixpot	1		GRAN	1200	lid 1/2 open	26	208	<10	Up
03-AR-14	4th Crude Decant Mixpot	1		GRAN	1200	lid 1/2 open	25	208	<10	Up
03-AR-15	1st Crude Decanter	1		GRAN	1200	4	28	208	<10	Horizontal
03-AR-16	2nd Crude Decanter	1		GRAN	1200	4	27	208	<10	Horizontal
03-AR-17	3rd Crude Decanter	1		GRAN	1200	4	26	208	<10	Horizontal
03-AR-18	4th Crude Decanter	1		GRAN	1200	4	25	208	<10	Horizontal
03-AR-19	Crude Hold Tank	1			1200	2	56	<212	<14	Horizontal
03-AR-20	S-160 Steamer	2		GRAN	1200	2	55	208	<100	Up
03-AR-21	Steamer Overheads Tank	1	54		1300	3	18	100	0	Horizontal
03-AR-22	Decolorizer	1		GRAN	1200	6(8) 3(1) 4(1)	18	208	<10	Up
03-AR-23	Hot Well	1			1200	3	0.42	<212	<14	Down
03-AR-24	Chloroethane Wast Stripp	1	153		1200	8	26	< 130	< 300	Up
03-AR-25	New Refining Decanter	1			1200	lids open	40	180 - 212	0.01	Up
03-AR-26	New Refining Decanter	1			1200	lids open	23	180 - 212	0.01	Up
03-AR-27	Dryer Surge Tank	1			1200	3	10	<212	<14	Down
03-AR-28	Filters Precoat Tank	1			1200	3(equivalent)	5	<100	<7	Up
03-AR-29	Square Sump	1			1200	2	25	<212	<14	Horizontal
03-AR-30	Settling Basin	1		GRAN	1300	6	8	208	<10	Down
03-AR-31	"A" Catch Tank	1	107		1200	2	15	176	max fill rate	Down
03-AR-32	"B" Catch Tank	1		GRAN	1200	2	18	208	max fill rate	Down
03-AR-33	Acid W Tk & Vent Scrubb	1	111	070593	1200	2	50	86	0.38	Horizontal
03-AR-35	T111Shift Tank	1		GRAN	1300	4	19			Down
03-AR-36	T112 Shift Tank	1		GRAN	1300	4	19			Down
03-AR-37	T113 Finished Goods Tank	1		GRAN	1300	4	21	Ambient		Down
03-AR-38	T114 Finished Goods Tank	1		GRAN	1300	4	24	<100	<26	Down
03-AR-39	T115 Finished Goods Tank	1		GRAN	1300	4	24	<100	<26	Down
03-AR-40	T116 Finished Goods Tank	1		GRAN	1300	4	24	<100	<26	Down
03-AR-41	S-278 Plasticizer Stor Tank	1	84	69307	700	10	28		26.7	Horizontal
03-AR-42	S-261 Plasticizer Stor Tk	1	53	3133	400	10(4 stacks)	24	ambient	150	Down
03-AR-43	S-160 Storage Tank	1		GRAN	1200	4		<100	<30	Down
03-AR-44	M 108A S-160 Storage Tank	1	138	GRAN	1400	4		160(max)	max fill rate	Down
03-AR-45	M 108B S-160 Storage Tank	1	137	GRAN	1400	4		160(max)	max fill rate	Down
03-AR-46	M 108C S-160 Storage Tank	1	135	GRAN	1400	4		160(max)	max fill rate	Down
03-AR-47	S-160 Stor Tank(Prev Vacant)	1	52	3134	400	10(4 stacks)	24	105	150	Down
03-AR-48	Storage Tank 101	1		GRAN	1300	3	25	<122	<30	Down
03-AR-49	Storage Tank 104	1		GRAN	1300	3	25	<122	<30	Down
03-AR-50	Storage Tank 107	1		GRAN	1300	3	25	<122	<30	Down
03-AR-51	Storage Tank 110	1		GRAN	1300	3	25	<122	<30	Down
03-AR-52	Storage Tank 113	1		GRAN	1300	3	25	<122	<30	Down
03-AR-53	Storage Tank 116	1		GRAN	1300	3	25	<122	<30	Down
03-AR-54	T-200 Storage Tank	1	57	CT-8374	1300	3	25	70	14.4	Down
03-AR-55	T-201 Storage Tank	1	58	CT-8375	1300	3	25	75	14.4	Down
03-AR-56	Blend Tank 131	1		GRAN	1300	3	46	<122	<30	Down
03-AR-57	Blend Tank 132	1		GRAN	1300	3	46	<122	<30	Down
03-AR-58	Truck Load W. Side Drum Shed	1		GRAN	1300	18	13	<100	26	Up
03-AR-59	Track3 Spot4 Plasticizers	1		GRAN	1300	18	13	<100	26	Up
03-AR-60	Track3 Spot3 Plasticizers	1		GRAN	1300	18	13	<100	26	Up
03-AR-61	Track3 Spot2 Plasticizers	1		GRAN	1300	18	13	<100	26	Up
03-AR-62	Blend Area E. Side Loading	1		GRAN	1300	18	13	<200	<30	Up
03-AR-63	Blend Area N. Side Loading	1		GRAN	1300	18	13	<200	<30	Up
03-AR-64	TF Truck West 160	1		GRAN	900	18	13	<100	<30	Up
03-AR-65	TF Truck Midwest 278	1		GRAN	900	18	13	<200	<30	Up
03-AR-66	TF Truck Mideast 711/160	1		GRAN	900	18	13	<100	<30	Up
03-AR-67	TF Truck East 261	1		GRAN	900	18	13	<200	<30	Up
03-AR-68	TF S-160 Car Loading	1		GRAN	900	18	13	<100	<30	Up
03-AR-70	BDEA Loading Dock	1		GRAN	1300	18	13	<100	26	Up
03-AR-75	Irgonix Feed Hopper	1			1300	14	7	<100	2	Up
03-AR-76	Plasticizer Drumming Shed Tank	1			1300	4	30	<100	<35	Down
03-AR-77	FarEasr Loading Spot	1			1300	18	13	<100	26	Up

Modified 02/18/00

1.F. Raw Material/Contaminant List

VOCs
Particulate
CO
NOx
HAPs

Phthalic Anhydride	85-44-9
Benzyl Chloride	100-44-7
Ethyl Chloride	75-00-3
Methylene Chloride	75-09-2
Toluene	108-88-3
Triethylamine	121-44-8
Benzene	71-43-2
Chlorine	7782-50-5
Hydrochloric Acid	7647-01-0

Other

Chlorodifluoromethane	75-46-6
Methane	74-82-8

2.A., B., and C. Technical Information - Release and Alteration/Amendment Limits

Source Designation	Particulate		VOCs							OTHER		CO	NOx
Category	Particulate		VOCs							OTHER		CO	NOx
Sub-Category	HAPS		HAPS							HAPS			
Constiuent	PA	Other	EtCl	PA	BzCl	TEA	Toluene	Methylene Chloride	Others	HCl	Chlorine		
	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr	Lb/hr
01-STV-01		0.5											
01-STV-04	No pound/hour, Storage Only												
01-STV-05	No pound/hour, Storage Only												
01-STV-06	No pound/hour, Storage Only												
01-STV-07	No pound/hour, Storage Only												
03-PRV-04													
03-PRV-05			0.006		0.006	0.006	0.006		Below Threshold				
03-PRV-06			0.01		0.01	0.01	0.01	0.01	0.03				
03-PRV-07			0.03		0.006		0.01	0.006	0.03				
03-PRV-08			1.20		0.1	0.05	0.1		0.50				
03-PRV-08a			0.12		0.01	0.005	0.01		0.05				
03-PRV-09e			0.05		0.05	0.05			0.10				
03-PRV-15			0.05						0.19	0.1	0.1	0.06	0.05
03-PTV-01			0.03		0.01		0.01	0.01	0.04				
03-PTV-02			0.03		0.01		0.01	0.01	0.04				
03-PTV-03			0.04		0.01		0.01	0.01	0.04				
03-PTV-04			0.04		0.01		0.01	0.01	0.05				
03-PTV-05			0.04		0.01		0.01	0.01	0.05				
03-PTV-07									Below Threshold				
03-PTV-08			0.03		0.01	0.01	0.01	0.01	0.03				
03-PTV-09			0.06		0.01		0.01	0.01	0.04				
03-PTV-10			0.06		0.01		0.01	0.01	0.03				
03-PTV-13			0.04		0.01		0.01	0.01	0.04				
03-PTV-14			0.04		0.01		0.01	0.01	0.04				
03-PTV-15			0.04		0.01		0.01	0.01	0.04				
03-PTV-20									Below Threshold				
03-PTV-21									Below Threshold				
03-PTV-22			0.07		0.01		0.01	0.01	0.09	0.003			
03-STV-01	No pound/hour, Storage Only												
03-STV-02	No pound/hour, Storage Only												
03-STV-06									Below Threshold				
03-STV-07									Below Threshold				
03-STV-08	No pound/hour, Storage Only												
03-STV-09	No pound/hour, Storage Only												
03-STV-10	No pound/hour, Storage Only												
03-STV-11	No pound/hour, Storage Only												
03-STV-15	No pound/hour, Storage Only												
03-STV-16	No pound/hour, Storage Only												
03-STV-17									Below Threshold				
03-STV-22									Below Threshold				
03-TTE-02					0.356	0.219	0.97		1.882				
03-TTE-04									Below Threshold				
03-TTE-05									Below Threshold				
03-TTE-06									Below Threshold				
03-TTE-07									Below Threshold				
27-PTV-01									Below Threshold				
27-PTV-02									Below Threshold				
27-STV-01	No pound/hour, Storage Only												
27-STV-02	No pound/hour, Storage Only												
27-STV-03	No pound/hour, Storage Only												
27-STV-04	No pound/hour, Storage Only												
27-STV-05	No pound/hour, Storage Only												
27-STV-06	No pound/hour, Storage Only												
27-STV-07	No pound/hour, Storage Only												
27-STV-08	No pound/hour, Storage Only												
27-TTE-01									Below Threshold				
27-TTE-02									Below Threshold				
27-TTE-03									Below Threshold				
30-STV-02	No pound/hour, Storage Only												
30-STV-03	No pound/hour, Storage Only												
30-STV-04	No pound/hour, Storage Only												
30-STV-05	No pound/hour, Storage Only												
30-STV-06	No pound/hour, Storage Only												
30-TTE-01									Below Threshold				
30-TTE-02									Below Threshold				
30-TTE-03									Below Threshold				
30-TTE-04									Below Threshold				
30-TTE-05									Below Threshold				

	Particulate		VOCs							OTHER		CO	NOx
Category	Particulate		VOCs							OTHER		CO	NOx
Sub-Category	HAPS		HAPS							HAPS			
Constiuent	PA	Other	EtCl	PA	BzCl	TEA	Toluene	Methylene Chloride	Others	HCl	Chlorine		
Ton/Year Significant	3.00	0.03	5.49	3.00	1.00	0.37	0.96	0.63	5.53	0.46	0.44	0.26	0.22
Ton/Year Insignificant	0.00	0.00	0.58	0.00	0.30	0.25	0.33	0.10	0.61	0.00	0.00	0.00	0.00
Ton/Year Fugitive	1	0	0.05	1	0.05	20	0.25	0	2.75	0.05	0	0	0
Lb/Product	4.70E-05	N/A	2.10E-05	4.70E-05	3.80E-07	1.30E-04	1.30E-05	6.90E-06	8.50E-05	7.60E-06	7.60E-06	N/A	N/A

3. Compliance Plan

3.A. Applicable Requirements

The following storage and transfer VOC emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.2, 16.4

Significant Sources		Insignificant Sources	
30-STV-06	Butanol Storage Tank	03-STV-12	Peracetic Acid Storage Tank
03-STV-02	Triethylamine Storage Tank		

The following process VOC emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.16[b, c, d, g(1,4)], 16.22

Significant Sources		Insignificant Sources	
03-PRV-09e	Salt Dissolver	03-PRV-11e	Base recovery Unit
03-PTV-13	Mix Pot		
03-PTV-14	Mix Pot		
03-PTV-15	Mix Pot		
03-PTV-01	Decanter		
03-PTV-02	Decanter		
03-PTV-03	Decanter		
03-PTV-04	Decanter		
03-PRV-08	S-160 Steamer		
03-PTV-08	Steamer Overhead Tank		
03-PRV-04	Decolorizer		
03-PTV-05	Crude Hold Tank		
03-PRV-07	Hotwell System		
03-PTV-20	Refining Wash Decanter		
03-PTV-21	Refining Wash Decanter		
03-PRV-08a	S-160 Dryer		
03-PTV-07	Dryer Surge Tank		
03-STV-17	Pre Coat Tank		
03-PRV-06	Settling Basin		
03-PTV-09	Catch Tank		
03-PTV-10	Catch Tank		
03-PRV-05	Square Sump		
03-PTV-22	Acid Wash Storage Tank		
03-PRV-15	Air Stripper		
27-PTV-01	Blend Tank		
27-PTV-02	Blend Tank		

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-6.2(a, d), 8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources

01-STV-01	Additive Feed Hopper

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources

03-STV-01	Alcohol Storage Tank
03-STV-16	Alcohol Storage Tank

03-STV-22	Plasticizer Drumming Shed Tank
03-STV-06	Shift Tank
03-STV-07	Shift Tank
03-STV-08	Finished Goods Tanks
03-STV-09	Finished Goods Tanks
03-STV-10	Finished Goods Tanks
03-STV-11	Finished Goods Tanks
30-STV-02	Plasticizer Storage Tank
30-STV-03	Plasticizer Storage Tank
01-STV-04	S-160 Storage Tank
01-STV-05	S-160 Storage Tank
01-STV-06	S-160 Storage Tank
30-STV-04	S-160 Storage Tank
30-STV-05	S-160 Storage Tank
27-STV-01	Blend Area Storage Tank
27-STV-02	Blend Area Storage Tank
27-STV-03	Blend Area Storage Tank
27-STV-04	Blend Area Storage Tank
27-STV-05	Blend Area Storage Tank
27-STV-06	Blend Area Storage Tank
27-STV-07	Blend Area Storage Tank
27-STV-08	Blend Area Storage Tank
01-STV-07	Phthalic Anhydride Storage Tank
03-STV-15	Caustics NaOH Storage Tank
03-TTE-02	BDEA Hazardous Waste Loading Area
03-TTE-04	Loading Dock
03-TTE-05	Loading Dock
03-TTE-06	Loading Dock
03-TTE-07	Loading Dock
27-TTE-01	Loading Dock
27-TTE-02	Loading Dock
27-TTE-03	Loading Dock
30-TTE-01	Loading Dock
30-TTE-02	Loading Dock
30-TTE-03	Loading Dock
30-TTE-04	Loading Dock
30-TTE-05	Loading Dock

Loading dock 03-TTE-02 is also regulated under and subject to the terms and conditions of 40 CFR 63.130(f) since the dock is also used to load benzal chloride residue from the benzal chloride residue tank (02-PTV-05).

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources

03-PCT-01	Cooling Tower
03-STV-19	Cooling Tower Chemical Tank
03-STV-20	Cooling Tower Chemical Tank
03-STV-14	BDEA Hazardous Waste Tank
03-STV-18	Fire Foam Tank
03-STV-21	Fire Foam Tank

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following for emissions:

a. The date of operation

b. Amount of phthalic anhydride fed to the reactor system per day

The permittee shall record pressure drops and flow rates as per 2.a. below. The permittee shall also record calibration dates as per 2.b. below.

The permittee shall record the hours of operation of Benzyl Phthalate production by recording when phthalic anhydride is being fed to the process. The on stream time of the thermal oxidizer shall also be recorded when phthalic anhydride is being fed.

The permittee shall record on a monthly basis and running yearly total the throughput of each tank and transfer operation to comply with the limits with 3.C.1. below.

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound logbook or readily accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

a. The following control devices shall be maintained and operated in accordance with the specifications defined in Section 1D of this process package. A double asterisk in the following text denotes that the monitoring equipment is not yet in place. Monitoring and recordkeeping requirements shall not be required for those parameters until a monitoring device is in place. Upon completion of installation of the monitoring device, monitoring and recordkeeping shall be required.

03-CD-01 Condenser for T106 Butanol Storage Tank (30-STV-06)

The air contaminant outlet temperature shall be monitored and recorded at least once per operating day. The temperature at the outlet shall be maintained below –20 degrees Centigrade.

03-CD-02 Scrubber for Triethylamine Storage Tank (03-STV-02)

The flow rate of the water at the inlet and the pressure drop across the scrubber shall be monitored and recorded at least once per day. The flow rate shall be maintained between 1 and 10 gallons per minute. The pressure drop across the packed tower shall be maintained between 0.005 and 10 inches of water column when filling the tank. In the event that the flow meter cannot be read, a back-up reading for the inlet water pressure shall be monitored and recorded at least once per day.

The pressure shall be maintained between 0.5 and 45 psig.

** A pressure meter across the scrubber shall be installed and operational within 180 days of the effective date of this permit.

03-CD-03 Condenser for Phthalic Anhydride Storage Tank (01-STV-07)

The cooling outlet temperature shall be monitored and recorded at least once per operating day. The temperature of the cooling media at the inlet shall be that of the ambient air. The temperature of the cooling media at the outlet shall be maintained below 130 degree Centigrade when the conservation vent is open.

** The temperature indicators shall be installed and operational within 180 days of the effective date of this permit.

03-CD-04 Condenser for Salt Dissolver (03-PRV-09e)

Modified 06/01/99, 11/23/99, 11/28/00

The air contaminant outlet temperature shall be monitored and recorded at least once per operating day. The temperature at the outlet shall be maintained below 50 degrees Celsius.

** A temperature indicator shall be installed and operational within 180 days of the effective date of this permit.

03-CD-05 Thermal Oxidizer for Air Stripper (03-PRV-15)

Temperature at exit of combustion chamber shall be monitored on a continuous basis. The temperature at the outlet shall be maintained above 766 degrees Celsius (1400 degrees Fahrenheit). No monitoring is required for CO and O2 concentrations since a stack test performed and passed on October 21, 1994 confirmed that the unit is meeting the required permit limitations.

03-CD-06 Scrubber following Thermal Oxidizer (03-PRV-15)

The pressure of the supply pump to the inlet of the scrubber, the pressure drop across the scrubber, and the flow of the makeup water shall be monitored and recorded at least once per day. The pressure of the supply pump to the inlet of the scrubber shall be maintained between 20 and 70 psi. The pressure drop across the scrubber shall be maintained between **0.005** and **30** inches of water column. The flow of the makeup water shall be maintained between 1.5 and 4.5 gallons per minute. In the event that the flow meter cannot be read, a back-up reading for the make-up water pressure shall be monitored and recorded at least once per day. The pressure shall be maintained between 10 and 100 psig.

** A pressure meter across the scrubber shall be installed and operational within 180 days of the effective date of this permit.

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound logbook or readily accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

b. The permittee shall maintain and calibrate all monitors consistent with the manufacturers specifications or other written procedures. All specifications must be made available to a representative of the Department upon request.

c. A maximum of 300,000 pounds of phthalic anhydride shall be fed to the reactor system in any one day.

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

3.C. Special Conditions

1. Storage tank 01-STV-04, M108A storage tank (S-160), shall be limited to a maximum throughput of 20,000,000 pounds per calendar year of sanitizer 160 and Santofoam.
   Storage tank 01-STV-05, M108B storage tank, shall be limited to a maximum throughput of 8,500,000 gallons per calendar year of sanitizer di (C7-9 Alkyl) adipate.
   Storage tank 01-STV-06, M108C storage tank, shall be limited to a maximum throughput of 8,500,000 gallons per calendar year of sanitizer di octyl adipate.
   Modified 06/01/99, 02/18/00, **03/19/01**

Storage tank 01-STV-07, phthalic anhydride storage tank, shall be limited to a maximum throughput of 89,500,000 pounds per calendar year of phthalic anhydride.
Storage tank 03-STV-01, texanol storage tank, shall be limited to a maximum throughput of 52,400,400 pounds per calendar year of texanol.
Storage tank 03-STV-02, triethylamine storage tank, shall be limited to a maximum throughput of 1,200,000 pounds per calendar year of triethylamine.
Storage tanks 03-STV-06 and 03-STV-07, T111 & T112 shift tanks, shall be limited to a total maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.
Storage tanks 03-STV-08, 03-STV-09, 03-STV-10, and 03-STV-11, T113, T114, T115, & T116 finished goods tanks, shall be limited to a total maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.
Storage tank 03-STV-10, T115, shall also be limited to a throughput of 120,500,000 pounds per calendar year of Santicizer 261, and 100,500,000 pounds per calendar year of Santicizer 278.
Storage tank 03-STV-15, caustic storage tank, shall be limited to a maximum throughput of 32,900,000 pounds per calendar year of caustic.
Storage tank 03-STV-16, C7-9 alcohol storage tank (T101) shall be limited to a maximum throughput of 45,000,000 pounds per calendar year of C7-9 Alcohol.
Storage tank 27-STV-01, storage tank 101, shall be limited to a **combined** maximum throughput of 21,000,000 pounds per calendar year of DINP **and other VOC blend materials with a vapor pressure less than E^{-2}.**
Storage tank 27-STV-02, storage tank 104, shall be limited to a maximum throughput of 21,000,000 pounds per calendar year of Hatcol or other VOC blend materials with a vapor pressure less than E^{-2}.
Storage tank 27-STV-03, storage tank 107, shall be limited to a **combined** maximum throughput of 21,000,000 pounds per calendar year of S-154 **and other VOC blend materials with a vapor pressure less than E^{-2}.**
Storage tanks 27-STV-04, 05 blend tanks 110, 113, shall be limited to a maximum total throughput of 14,000,000 pounds per calendar year of alkylate 215, platinol 711, and other VOC blend materials.
Storage tank 27-STV-06, storage tank 116, shall be limited to a **combined** maximum throughput of 120,500,000 pounds per calendar year of Santicizer 261 **and other VOC blend materials with a vapor pressure less than E^{-2}.**
Storage tank 27-STV-07, T-200 storage tank, shall be limited to a **combined** maximum throughput of 100,500,000 pounds per calendar year of Santicizer 278 **and other VOC blend materials with a vapor pressure less than E^{-2}.**
Storage tank 27-STV-08, T-201 storage tank, shall be limited to a **combined** maximum throughput of 7,000,000 pounds per calendar year of **Norpar 13 and other VOC blend materials with a vapor pressure less than E^{-2}.**
Storage tank 30-STV-02, S-278 plasticizer storage tank, shall be limited to a maximum throughput of 100,500,000 pounds per calendar year of Santicizer 278.
Storage tank 30-STV-03, S-261 plasticizer storage tank, shall be limited to a maximum throughput of 120,500,000 pounds per calendar year of Santicizer 261.
Storage tank 30-STV-04, vacant storage tank (S-160) shall be limited to a maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.
Storage tank 30-STV-05, S-160 storage tank, shall be limited to a maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.
Storage tank 30-STV-06, butanol storage tank, shall be limited to a maximum throughput of 33,300,000 pounds per calendar year of butanol.

Loading area 03-TTE-02, BDEA loading dock, shall be limited to a maximum throughput of 20,000,000 pounds per calendar year of product, waste, and hazardous waste.
Loading area 03-TTE-04, 03-TTE-05, 03-TTE-06, and 03-TTE-07, S-160, 261, 278 loading spots, shall be limited to a total maximum throughput of 190,000,000 pounds per calendar year of santicizer 160, 261, 278, 7,000,000 pounds per calendar year of S-97, 7,000,000 pounds per calendar year of DOA, and 20,000,000 pounds per calendar year of santofoam.

Modified 02/18/00, 5/8/00, **3/19/01**

Loading areas 27-TTE-01, 02, 03 blend area east, north, and far east side loading, shall be limited to a maximum throughput of 35,000,000 pounds per calendar year of VOC blend materials with a vapor pressure less than E^{-2}.
Loading area 30-TTE-01, tank farm truck west (S-160), shall be limited to a maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.
Loading area 30-TTE-02, tank farm truck mid-west (S-278), shall be limited to a maximum throughput of 100,500,000 pounds per calendar year of Santicizer 278.
Loading area 30-TTE-03, tank farm truck mid-east (711/160), shall be limited to a maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160 and Platinol 711.
Loading area 30-TTE-04, tank farm truck east (S-261), shall be limited to a maximum throughput of 120,500,000 pounds per calendar year of Santicizer 261.
Loading area 30-TTE-05, tank farm S-160 car loading, shall be limited to a maximum throughput of 182,500,000 pounds per calendar year of Santicizer 160.

2. a) When air stripper (03-PRV-15) is in operation, thermal oxidizer (03-CD-05) and scrubber (03-CD-06) must also be in operation.

   b) Wastewater stream 03-WW-05 shall be further reviewed and analyzed for VOC/RACT options pursuant to N.J.A.C. 7:27-16.17. Alternative control or pollution prevention options for this wastewater stream shall be submitted within one year of the effective date of this permit.

   c) This process package does not include the provisions of N.J.A.C. 7:27-16.17. Upon the Department's final determination of the alternate VOC control plan, this permit shall be re-opened by the Department within 180 days of such determination.

3. The phthalic storage tank (01-STV-07) in Step 1 of this process is equipped with a condenser. The permittee may operate the equipment with or without the condenser, but a good faith effort shall be made to attempt to use the condenser whenever feasible. Additionally, the permittee shall pursue other pollution prevention and/or control technologies to control or eliminate emissions from this source if the existing condenser proves to be unreliable.

4. Hazardous Waste Requirements for the Horizontal BDEA Hazardous Waste Tank Storage Area – (03-STV-14)

a) The permittee is authorized to store on-site generated hazardous wastes in the following tank as per the design drawings dated May 28, 1993 signed and sealed by Thomas Hernon, New Jersey Professional Engineer license No. 33964, and as follows:

Tank I.D.	Design Capacity (gallons)	Material of Construction
Horizontal BDEA Bottoms Tank	6,900	Carbon Steel with Insulating Jacket

b) The secondary containment constructed of reinforced concrete shall be maintained free of cracks or gaps and shall have adequate capacity and impermeability to contain leaks, spills and precipitation from a 25-year, 24-hour rainfall event until the collected material is detected and removed. The secondary containment system shall be maintained and operated to efficiently drain and remove liquids resulting from leak, spills and precipitation.

c) Spilled or leaked waste and accumulated precipitation shall be removed from the secondary containment system within twenty four (24) hours, or in as timely a manner as is possible to prevent harm to human health and the environment.

d) The permittee shall operate the tank(s) in accordance with 40 CFR 264.194.

e) The permittee shall comply with the requirements of 40 CFR 264.198 for the management of ignitable or reactive wastes in the tank authorized by Condition 4.a) above.

f) The permittee shall comply with the requirements of 40 CFR 264.199 for the management of incompatible wastes in the tank authorized by Condition 4.a) above. The permittee shall not place a waste that is incompatible with the material of construction of a tank, in that tank, prior to compliance with 40 CFR 264.17(b). The permittee shall not place a hazardous waste in a tank system that has not been decontaminated and that previously held an incompatible waste or material prior to compliance with 40 CFR 264.17(b).

g) In response to leaks or spills and disposition of leaking or unfit for use tank systems, the permittee shall comply with the requirements cited at 40 CFR 264.196 as follows:

1) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

2) Removal of waste from tank system or secondary containment system.

i). If the release was from the tank system, the permittee must, within 24 hours after detection of the leak or, if the permittee demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

ii) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

3) Containment of visible releases to the environment. The permittee must immediately conduct a visual inspection of the release and, based upon that inspection:

i) Prevent further migration of the leak or spill to soils or surface water; and

ii) Remove, and properly dispose of, any visible contamination of the soil or surface water.

4) Notifications, reports.

i) Any release to the environment, except as provided in the following paragraph 4)ii), must be reported to the Department within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement.

ii) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is:

a) Less than or equal to a quantity of one (1) pound, and

b) Immediately contained and cleaned up.

iii) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Department:

a) Likely route of migration of the release;

b) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

c) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available

within 30 days, these data must be submitted to the Department as soon as they become available.

d) Proximity to downgradient drinking water, surface water, and populated areas; and

e) Description of response actions taken or planned.

5) Provision of secondary containment, repair, or closure.

i) Unless the permittee satisfies the requirements of the following paragraphs, 5.ii. through 5.iv. of this section, the tank system must be closed in accordance with 40 CFR 264.197 and the closure plan referenced in the permit application prepared by IT Corporation dated June 2, 1993.and the following.

ii) If the cause of the release was a spill that has not damaged the integrity of the system, the permittee may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

iii) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

iv) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the permittee must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of 40 CFR 264.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph 6) below of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in 40 CFR 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an in-ground or on-ground tank), the entire component must be provided with secondary containment in accordance with 40 CFR 264.193 prior to being returned to use.

6) Certification of major repairs. If the permittee has repaired a tank system in accordance with paragraph 5) above, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the permittee has obtained a certification by an independent, qualified, registered, professional engineer in accordance with 40 CFR 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Department within seven days after returning the tank system to use.

h) The permittee is authorized to store the following on-site generated hazardous wastes types in the aboveground storage tank, prior to transfer to an authorized off-site treatment, storage or disposal facility:

Hazardous Waste Codes	Description
D001	Benzyl Diethylamine Bottoms

i) Inspection Requirements for the BDEA Bottoms Storage Tank

1) The permittee shall comply with the inspection requirements of 40 CFR 264.195 and the plan in the permit application prepared by IT Corporation dated June 2, 1993 and any subsequent revisions approved by the Department. The inspection shall be made at least once on each operating day, for equipment malfunction, structural deterioration, operator error, spills and leakages or discharges. The results of the inspections shall be documented in the operation record and shall be maintained for three (3) years from the date of inspection. The permittee shall conduct inspections as outlined below:

Activity/Equipment	Inspected for
Tank Shell	Damage, deterioration, bulges
Overfill Prevention	Leaks, damage, Controls deterioration, function
Spill Prevention	Leaks, damage, Controls deterioration
Tank Ancillary	Leaks, damage, Equipment deterioration
Containment System	Erosion, wet spots, cracks, gaps, uneven settlement, spills, precipitation
Tank Labels, Warning Signs	Visibility
Emergency Equipment	Unobstructed

2) Initial Tank System Assessment (40 CFR 264.191)

The permittee shall obtain and keep on file at the facility a written initial tank system assessment, reviewed and certified by an independent, qualified registered professional engineer, in accordance with 40 CFR 270.11(d), that attests to the tank system's integrity.

(i) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

A. Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

B. Hazardous characteristics of the waste(s) that have been and will be handled;

C. Existing corrosion protection measures;

D. Documented age of the tank system, if available (otherwise, an estimate of the age); and

E. Results of a leak test, internal inspection, or other tank integrity examination for the tank, and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination, that is certified by an independent, qualified, registered professional engineer in accordance with 40 CFR 270.11(d), that addresses cracks, leaks, corrosion, and erosion.

(ii) If, as a result of the assessment, a tank system is found to be leaking or unfit for use, the permittee must comply with the requirements of Condition 4.g) above.

3. Periodic Tank System Assessment

The permittee shall conduct periodic assessments of the storage tank and ancillary equipment in accordance with 40 CFR 264.193(i) and as follows until the tank system's secondary containment meets the requirements of 40 CFR 264.193.

(i) For the tank, the permittee shall either conduct an annual leak test in compliance with 40 CFR 264.191(b)5 or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

(ii) For ancillary equipment, a leak test or other integrity assessment approved by the Department, shall be conducted at least annually.

j) Closure of Hazardous Waste Storage Tank

At the time of final closure, the permittee shall close the BDEA Bottoms Tank in the manner that is stated in 40 CFR 264.110, and the closure plan referenced in the permit application prepared by IT Corporation dated June 2, 1993 and the following.

1) All hazardous waste and hazardous waste residue shall be removed from the tanks and containment area.

2) Decontamination of the tank and containment system shall take place as follows:

i) The entire length of the piping from the point of generation of the waste shall be flushed with rinsewaters. The rinsewaters shall be in the tank. Final rinse water analytical results shall be submitted to the Department within sixty (60) days from the date of sampling for review and approval of the decontamination process.

ii) After the removal of the rinsewaters from the tank, all residual solids and sludges shall be removed via shovel or scraper. The interior of the tank shall be rinsed with hot water. The tank shall then be hydro-blasted with high-pressure rinsate. The final procedure shall be repeated until all visible waste is removed from the tank. Final tank decontamination shall be verified by analyzing for those parameters specified in the waste analysis plan. The hydroblasting and analysis shall be repeated until the concentrations of test parameters in the rinsate are no higher than the concentration in the wash water blank.

iii) All waste generated as a result of decontamination or cleaning of the tank and associated structure shall be sent to an authorized facility.

Within two hundred forty (240) days from the date of implementation of the closure plan, when closure is completed, the owner or operator shall submit to the Department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan and the conditions of this permit. The certification must be signed by the owner or operator and signed and sealed be an independent professional engineer registered in the State of New Jersey.

The Department will review the submitted certification and rinse water analysis results and will conduct a closure certification inspection. If the rinse water analysis results are determined to be satisfactory and there is a satisfactory closure certification inspection, the closure certification will be accepted by the Department and the closure will be deemed complete.

k) Construction/Installation Requirements

1) The permittee will be authorized to upgrade the secondary containment of the BDEA Bottoms Tank and all ancillary equipment associated with this tank system. The permittee shall submit, at least sixty (60) days prior to initiation of the upgrade construction, final engineering drawings and specifications to the Department for review and approval. The permittee shall also apply for and obtain all applicable local authority approvals and building permits prior to initiation of construction.

2) The permittee shall complete the upgrades to the secondary containment in conformance with 40 CFR 264.193(a)3.

3) The permittee shall submit to the Department reports of progress toward completion of work at three (3) months intervals, until construction is completed. The first report shall be due thirty (30) days prior to commencement of construction.

4) The Department will inspect the completed secondary containment system for substantial conformance with the approved final engineering designs and specifications. If the facility is not found in substantial conformance with the approved design, a schedule shall be submitted within thirty (30) days of the date of the Department's inspection outlining how the facility will be brought into conformance. The schedule shall be submitted to the Department for approval.

l) Additional Part B Permit Application Requirements

The permittee shall submit the following additional Part B permit application information within 180 days of the effective date of this permit in order to update the application to conform to 40 CFR 260 through 270.

1) A detailed description of any ancillary equipment which meets the exemption from secondary containment requirements of 40 CFR 253.193(f).

2) A revised Inspection Plan that includes a schedule and procedures for conducting leak tests or other integrity assessments of the tank system. Daily visual inspections of any ancillary equipment which meets the exemption outlined in Condition j)1) above shall be incorporated into the plan.

3) A detailed description of procedures to be carried out in response to leaks and spills and when shutting down or repairing a leaking tank as required in 4.g) above.

4) A revised Closure Plan that includes a contingent closure and post-closure care plan, revised closure cost estimates, and a demonstration of financial assurance to meet the contingent post-closure care provisions of 40 CFR 264.197(c).

5. The permittee is authorized to deviate from operating parameters cited in 3.B.2. above for the control device listed below for a period of up to ten minutes during routine process maintenance. This maintenance shall include such activities as pump changes, checking safety interlocks and alarms, and back flushes.

03-CD-06 Thermal Oxidizer Scrubber

Modified 06/01/99

6. The permittee is authorized to operate the following storage tanks without the associated control device for up to a seven-day period if the control device is non-operational. However, no material may be transferred into the tanks during the seven-day period. The control device/s must be operational within seven days or the tank/s taken out of use.

30-STV-06	Butanol Storage Tank
03-STV-02	TEA Storage tank
01-STV-07	Phthalic Anhydride Storage tank

Added 06/01/99

1.A. General Process Description

Utilities - Water Supply Plant & Backup Electrical Generation

Water Treatment Plant

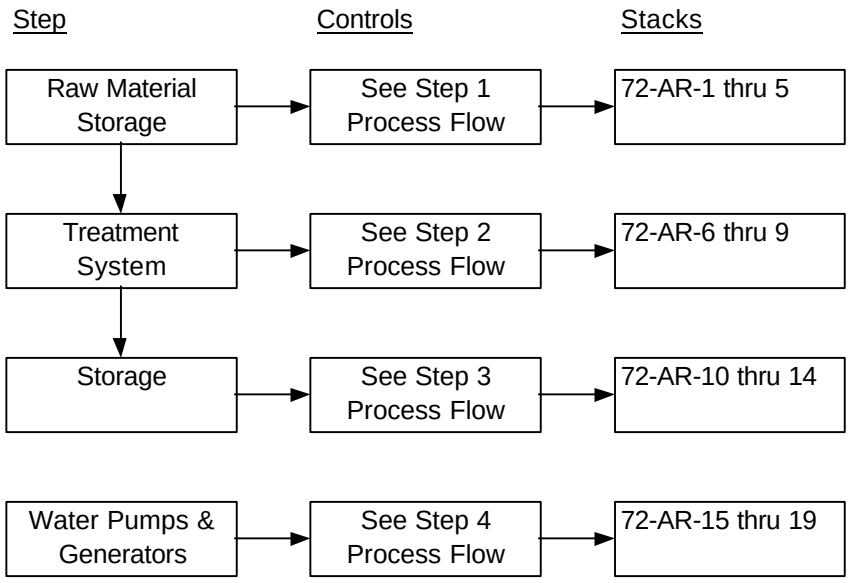
The water treatment plant is used to pull water from well water and treat to usable levels. Iron must be removed from the water prior to use in the facility equipment. The facility is authorized to withdraw water from the three wells at locations (39°47'33", 75°23'43"; 39°47'30", 75°23'52"; 39°47'28", 75°23'19") from the Potomac-Raritan-Magothy aquifer at the maximum rate of 1800 gallons per minute and a maximum quantity of 47 million gallons per month and 494 million gallons per year.

Emergency Electrical Generation

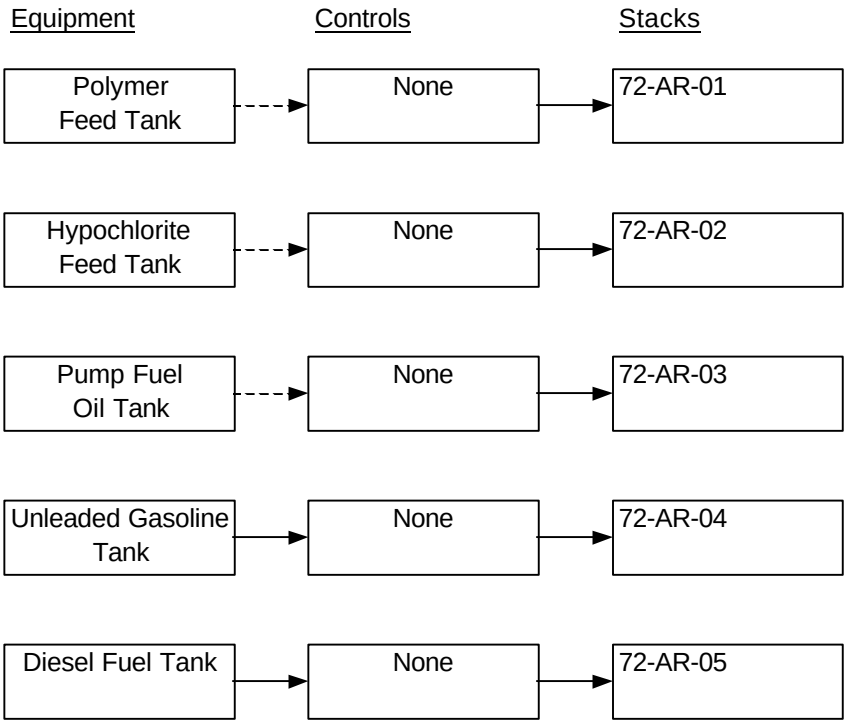
Additionally, several fuel storage tanks are included in this process. The unleaded gas tanks are used for plant vehicles and the diesel tanks are used for vehicles, firewater pumps and backup generators. The other storage tanks are used for water treatment chemicals.

1.B. Process Flow Diagrams

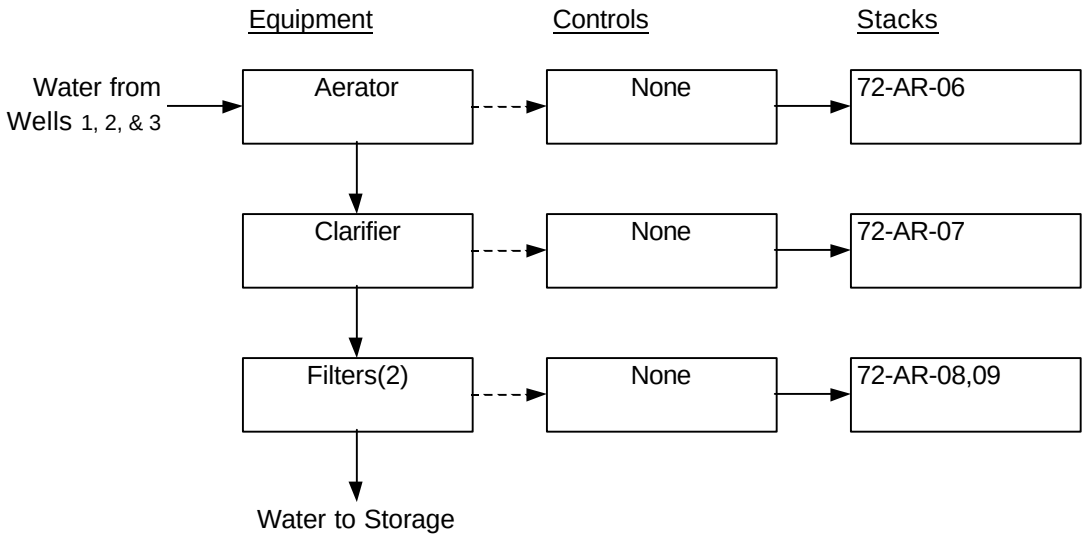
Water Supply Plant & Backup Electrical Generation



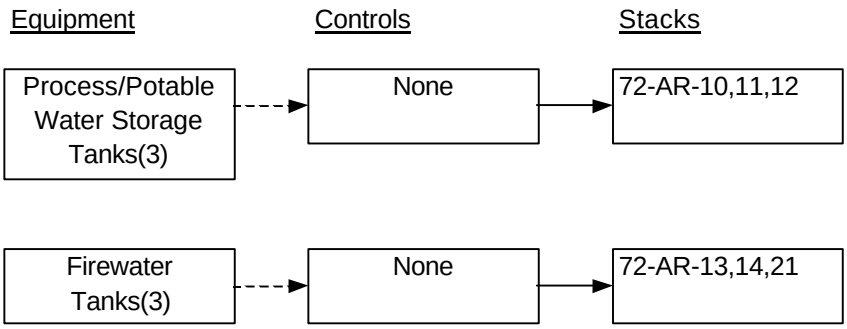
Water Supply Plant & Backup Electrical Generation - Step 1
Raw Material Storage Step



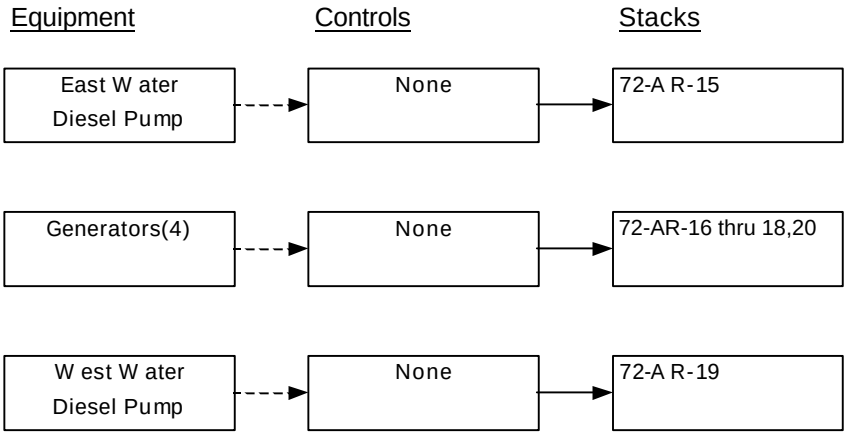
Water Supply Plant & Backup Electrical Generation - Step 2
Water Treatment Step



Water Supply Plant & Backup Electrical Generation - Step 3
Water Storage Step



W ater Supply Plant & Backup Electrical Generation - Step 4
Pumps & Generators



1.C. Equipment, Control Device, and Source Sheet Information

Water Treatment Equipment and Control Device List - Step 1

Raw Material Storage Step

The Raw Material Storage step of the Water Treatment Plant consists of one polymer feed tank, one sodium hypochlorite storage tank, one pump fuel oil tank, one unleaded gasoline tank, and one diesel fuel tank.

Insignificant Sources	Capacity	Control	Insignificance
Polymer Feed Tank (72-STV-01)	1,000 gallons	None	<10K Storage
Sodium Hypochlorite Stor tank (72-STV-02)	3,000 gallons	None	<10K Storage
Pump Fuel Oil tank (72-STV-03)	600 gallons	None	<2K VOC Storage
Unleaded Gasoline Tank (72-STV-04)	520 gallons	None	<2K VOC Storage
Diesel Fuel Tank (72-STV-05)	520 gallons	None	<2K VOC Storage
Diesel Tank(PE1)* (72-STV-11)	300 gallons	None	<10K Storage
Diesel Tank(PE2)* (72-STV-12)	300 gallons	None	<10K Storage
Diesel Tank(Comp Shed)* (72-STV-13)	300 gallons	None	<10K Storage
Diesel Tank(Fire Water Pump)* (72-STV-14)	500 gallons	None	<10K Storage
WWTP Diesel Generator Tank* (72-STV-15)	100 gallons	None	<2K VOC Storage

* - Not listed in process flow diagram

Water Treatment Equipment and Control Device List - Step 2

Water Treatment Step

The Water Treatment step of the Water Treatment Plant consists of one aerator, one clarifier, and two filters.

Insignificant Sources	Capacity	Control	Insignificance
Aerator (72-PRV-01)	7,500 gallons	None	<3500 ppb VOCs
Clarifier (72-OTT-01)	188,000 gallons	None	<3500 ppb VOCs
Filters(2) (72-PTV-01,72-PTV-02)	10,000 gallons each	None	<3500 ppb VOCs

Water Treatment Equipment and Control Device List - Step 3

Water Storage Step

The Water Storage step of the Water Treatment system consists of three process/potable water storage tanks and three firewater tank.

Exempt Equipment	Capacity	Exempt Status
Proc/Pot Water Storage Tank (72-STV-06)	50,000 gallons	Storage of Water
Proc/Pot Water Storage Tank (72-STV-07)	100,000 gallons	Storage of Water
Proc/Pot Water Storage Tank (72-STV-08)	300,000 gallons	Storage of Water
Firewater Tank (72-STV-09)	100,000 gallons	Storage of Water
Firewater Tank (72-STV-10)	500,000 gallons	Storage of Water
Firewater Tank (72-STV-16)	500,000 gallons	Storage of Water

Water Treatment Equipment and Control Device List - Step 4

Pumps & Generators Step

The Pumps & Generators step of the Water Treatment system consists of two diesel pumps and four generators.

Significant Equipment	Capacity	Control
East Water Diesel Pump (72-STA-01)	250 Hp	None
Generators(3) (72-STA-02,72-STA-03,72-STA-04)	540 Hp each	None
West Water Diesel Pump (72-STA-05)	<540 Hp	None
WWTP Diesel Generator (72-STA-06)	100 KW	None

Modified 02/18/00

1.D. Source Control Data Sheets

Equipment Supplemental Form

9. Facility Description of Boiler: East Water Diesel Pump (72-STA-01)

10. Manufacturer: Cummings Diesel Engine, Inc. Co. Make: Fire Pump Engine
    Model: NT-855-F1

11. Anticipated Date of Installation or Alteration: N/A

12. Boiler Type (Underline all that apply)

Utility Boiler	Non-utility Boiler	Fire Tube	
Water Tube	Package	Field Erected	

13. Maximum Gross Heat Input (MMBtu/hr): 4

14. Type Stream Output(lb/hr): N/A

15. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):	
Maximum Annual Fuel Use:	13,865 gallons/year	Maximum Annual Fuel Use:	
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):	
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:	

16. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration	
Staged Air Combustion	Electrostatic Precipitator	
Scrubber	Catalytic Oxidizer	
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):	
Selective Catalytic Reduction (SCR)		
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft	Forced Draft

Equipment Supplemental Form

1. Facility Description of Boiler: Emergency Generator (72-STA-02)

2. Manufacturer: Detroit Diesel Make: D Series Generator
   Model: 350D

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
   Water Tube Package Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 3.3

6. Type Stream Output(lb/hr): N/A

7. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):
Maximum Annual Fuel Use:	11,350 gallons/year	Maximum Annual Fuel Use:
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration
Staged Air Combustion	Electrostatic Precipitator
Scrubber	Catalytic Oxidizer
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):
Selective Catalytic Reduction (SCR)	
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft Forced Draft

Equipment Supplemental Form

1. Facility Description of Boiler: Emergency Generator 2 (72-STA-03)

2. Manufacturer: Detroit Diesel Make: D Series Generator
   Model: 350D

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
   Water Tube Package Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 3.3

6. Type Stream Output(lb/hr): N/A

7. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):
Maximum Annual Fuel Use:	11,350 gallons/year	Maximum Annual Fuel Use:
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration	
Staged Air Combustion	Electrostatic Precipitator	
Scrubber	Catalytic Oxidizer	
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):	
Selective Catalytic Reduction (SCR)		
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft	Forced Draft

Equipment Supplemental Form

1. Facility Description of Boiler: Emergency Generator 3 (72-STA-04)

2. Manufacturer: Detroit Diesel Make: D Series Generator
   Model: 350D

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
   Water Tube Package Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 3.3

6. Type Stream Output(lb/hr): N/A

7. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):
Maximum Annual Fuel Use:	11,350 gallons/year	Maximum Annual Fuel Use:
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration	
Staged Air Combustion	Electrostatic Precipitator	
Scrubber	Catalytic Oxidizer	
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):	
Selective Catalytic Reduction (SCR)		
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft	Forced Draft

Equipment Supplemental Form

1. Facility Description of Boiler: West Water Diesel Pump (72-STA-05)

2. Manufacturer: Clarke Make: Detroit Diesel
   Model: DDFP – 06FA

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
   Water Tube Package Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 2.837

6. Type Stream Output(lb/hr): N/A

7. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):
Maximum Annual Fuel Use:	10,000 gallons/year	Maximum Annual Fuel Use:
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration
Staged Air Combustion	Electrostatic Precipitator
Scrubber	Catalytic Oxidizer
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):
Selective Catalytic Reduction (SCR)	
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft Forced Draft

Equipment Supplemental Form

9. Facility Description of Boiler: WWTP Diesel Generator (72-STA-06)

10. Manufacturer: Hercules Engine, Inc. Make:
    Model: DA 8008T

11. Anticipated Date of Installation or Alteration: N/A

12. Boiler Type (Underline all that apply) Utility Boiler Non-utility Boiler Fire Tube
    Water Tube Package Field Erected

13. Maximum Gross Heat Input (MMBtu/hr): 1.1

14. Type Stream Output(lb/hr): N/A

15. Fuel to be Fired

Primary Fuel (Specify):	#2 Fuel Oil	Secondary Fuel (Specify):	
Maximum Annual Fuel Use:	4,015 gallons/year	Maximum Annual Fuel Use:	
Heating Value (Btu/lb Fuel):	19,410 Btu/lb	Heating Value (Btu/lb Fuel):	
% Sulfur in Fuel:	0.2%	% Sulfur in Fuel:	

16. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration	
Staged Air Combustion	Electrostatic Precipitator	
Scrubber	Catalytic Oxidizer	
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):	
Selective Catalytic Reduction (SCR)		
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft	Forced Draft

1.E. Process Stack Sheet Information

Stack Designation	Description	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
72-AR-15	East Water Diesel Pump		Grand	1,500	6	9	625	2,000	Horizontal
72-AR-16	Generator PE 1	165	New	1,000	6	9	625	2,000	Horizontal
72-AR-17	Generator PE 2	167	New	1,000	6	9	625	2,000	Horizontal
72-AR-18	Generator Compes Shed	166	New	1,000	6	9	625	2,000	Horizontal
72-AR-19	West Water Diesel Pump		New	500	6	9	625	2,000	Horizontal
72-AR-20	WWTP Diesel Generator		Grand	300	3	10	625	2,000	Horizontal

1.F. Raw Material/Contaminant List

VOCs
Particulate
CO
NOx
HAPs

Lead Compounds	
Ethylbenzene	100-41-4
Benzyl Chloride	100-44-7
Toluene	108-88-3
Xylene	1330-20-7
POM	
Benzene	71-43-3
Chlorine	7782-50-5
Hydrochloric Acid	7647-01-0

Other

Chlorodifluoromethane	75-46-6
Methane	74-82-8
Sodium Hypochlorite	7681-52-9

2.A., B., and C. Technical Information - Release and Alteration/Amendment Limits

		Category:	Particulates	Volatile Organic Compounds					OTHER		CO	NOx	SO2
		Sub-Category:	PM10	Toxic	HAPs			OTHERS	HCl	Chlorine			
Source		Constiuent:		Benzene	Xylene	Ethylbenzene	Toluene						
Designation	Max Hours		Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr
72-STA-01	500		1.829					2.478			5.61	26.02	1.711
72-STA-02	500		1.497					2.029			4.588	21.3	1.401
72-STA-03	500		1.497					2.029			4.588	21.3	1.401
72-STA-04	500		1.497					2.029			4.588	21.3	1.401
72-STA-05	500		1.319					1.787			4.043	18.767	1.234
72-STA-06	500		0.53					0.718			1.623	7.535	0.495

	Category:	Particulates	Volatile Organic Compounds					OTHER		CO	NOx	SO2
	Sub-Category:	PM10	HAPs				OTHERS	HCl	Chlorine			
	Constiuent:		Benzene	Xylene	Ethylbenzene	Toluene						
Ton/Year Significant		1.363	0	0	0	0	1.845	0	0	4.174	19.371	1.19
Ton/Year Insignificant		0.22	0.003	0.00093	0.0003	0.003	0.0018	0.01	0.01	0	0	0
Ton/Year Fugitive		0	0	0	0	0	0	0	0	0	0	0

3. Compliance Plan

3.A. Applicable Requirements

The following **combustion** sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-3.5, 4.2(a), 8.2(a), 8.3(a through e, h, i, and j), 8.4, 8.9, 9.2(a, b, and c), 9.3(b):

Significant Sources

72-STA-01	East Water Diesel Pump
72-STA-02	Generator
72-STA-03	Generator
72-STA-04	Generator
72-STA-05	West Water Diesel Pump
72-STA-06	WWTP Diesel Generator

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources

72-PRV-01	Aerator
72-OTT-01	Clarifier
72-PTV-01	Filters
72-PTV-02	Filters
72-STV-01	Polymer Feed Tank
72-STV-02	Sodium Hypochlorite Storage Tank
72-STV-04	Unleaded Gasoline Tank
72-STV-03	Pump Fuel Oil Tank
72-STV-05	Diesel Fuel Tank
72-STV-11	Diesel Tank (PE1)
72-STV-12	Diesel Tank (PE2)
72-STV-13	Diesel Tank (Comp Shed)
72-STV-14	Diesel Tank (Fire Water Pump)

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following for the **fuel combustion** emissions on a yearly basis:

a. The total time in hours of operation for that quarter per source

The permittee shall keep records demonstrating that all shipments of fuel oil received is less than 0.2%. The documentation showing that the sulfur content is less than 0.2% shall be at least annually certified by the oil provider.

2. Monitoring

The permittee shall continuously monitor the hours of operation of the following sources:

72-STA-01	East Water Diesel Pump
72-STA-02	Generator
72-STA-03	Generator
72-STA-04	Generator
72-STA-05	West Water Diesel Pump
72-STA-06	WWTP Diesel Generator

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

3.C. Special Conditions

1. The permittee shall install a timing meter within 180 days of the effective date of this permit to record the time that the following equipment is in use:

72-STA-01	East Water Diesel Pump
72-STA-02	Generator
72-STA-03	Generator
72-STA-04	Generator
72-STA-05	West Water Diesel Pump
72-STA-06	WWTP Diesel Generator

2. The pumps and generators listed in 1. above are limited for a maximum of 500 hours each per calendar year.

3. In accordance with N.J.A.C. 7:27-9.2(b), the permittee shall not accept, store, sell or burn diesel fuel with a sulfur content greater than 0.2% by weight.

3.D. Operating Conditions

GENERAL FACILITY CONDITIONS FOR WATER ALLOCATION

This section applies only to those statutes, regulations and permit conditions associated with compliance with water allocation of the FWP.

1. This permit is revocable, or subject to modification or change at any time, pursuant to the applicable regulations, when in the judgement of the Department such revocation, modification or change shall be necessary.

2. The issuance of this permit shall not be deemed to affect in any way action by the Department on any future application.

3. The works, facilities, and/or activities shown by plans and/or other engineering data, which are this day approved, subject to the conditions herewith established, shall be construed and/or executed in conformity with such plans and/or engineering data and the said conditions.

4. No change in plans or specifications shall be made except with the prior written permission of the Department.

5. The granting of this permit shall not be construed to in any way affect the title or ownership of property, and shall not make the Department or State a party in any suit or question of ownership of property.

6. This permit does not waive the obtaining of Federal or other State or local government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained.

7. A copy of this permit shall be kept at the work site, and shall be exhibited upon request of any person.

8. The Department has the rights to enter and inspect any site, building or equipment, or any portion thereof, owned or operated by the permittee, at any time, in order to ascertain compliance or noncompliance with N.J.A.C. 58:1 et. seq., 58:4A-4.1 et. seq., 58:12A-1 et. seq., these rules, or any other agreement or order issued or entered into pursuant thereto. Such right shall include, but not be limited to, the right to require testing of any equipment at the facility, to sketch or photograph any document or records necessary to determine such compliance or noncompliance, and to interview any employees or representative of the owner, operator, or applicant. Such right shall be absolute and shall not be continued upon any action by the Department, except the presentation of appropriate credentials as requested and compliance with appropriate standard safety procedures.

9. The permit may be transferred, with the consent of the Department, but only for the identical use of the waters.

10. If the authorized diversion privileges are not currently diverted, subject to contract, or reasonably required for a demonstrated future need, they shall revert back to the State upon renewal or modification of the permit.

11. The permittee shall protect each diversion source from vandalism, tampering, and contamination at all times.

Water Diversion Sources

1. Water for industrial supply and groundwater remediation may be diverted under this permit from the following sources at the maximum rates specified below:

Groundwater

Well Permit No.	Well Name or Designation	Pump Capacity (gpm)	Aquifer
Production Wells			
3000872	1	700	Middle PRM
3000873	2	700	Middle PRM
3001170	3	400	Middle PRM
PRM: Potomac-Raritan-Magothy Aquifer			

Allocation

2. The total diversion from the production wells identified above shall not exceed 47 million gallons per month at a maximum rate of 1800 gallons per minute.

3. The total diversion from all sources shall not exceed 494 million gallons per year.

Initial Permit Requirements

4. Proof of meter calibration for wells 1, 2, and 3 shall be submitted to the Bureau of Water Allocation within 90 days of the effective date of this permit. At a minimum, each meter shall be calibrated every five years.

5. The permittee shall submit to the Bureau of Water Allocation a status report of all wells on site within six months of the effective date of this permit. The report shall identify the name, well drilling permit

number, depth, location and status of each well. Wells that are no longer being used must be sealed in accordance with N.J.A.C. 7:9-9.1 et seq.

6. The permittee shall implement to the satisfaction of the Department, a water conservation and drought management plan. The conservation program shall encourage water conservation in all types of use within

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the area served by the permittee. The plan shall be submitted to the Bureau of Water Allocation within ninety (90) days of the effective date of the permit and an update every other year thereafter, on the actions taken pursuant to this program and the impact thereof. The permittee may choose to incorporate the water conservation plan into the existing pollution prevention plan.

Monthly Permit Requirements

7. **The monthly diversion from each production well shall be recorded and reported quarterly on form DWR-017A under permit number 2099P.**

8. Wells shall be constructed so that the static water level (depth to water) can be determined at any time. Static water level and total head measurements for production well nos. 1, 2, and 3 shall be recorded monthly and reported quarterly on form DWR-017A under permit number 2099P. Total head shall be calculated by subtracting the static water level from the land surface elevation above sea level. Measurements shall be made when the well pump has been shut down for a recovery period of at least twelve hours. If the well cannot be shut down for the required period, it must be noted on the form that either the number of hours that the well was shut down or that the reading is a pumping level.

Quarterly/Annual Requirements

9. The permittee shall have a raw water sample from well numbers 1, 2, and 3 analyzed by a New Jersey certified laboratory to obtain its chloride concentration. The analysis shall be performed during each quarter. The permittee shall submit the results of the analysis, the well permit numbers, and the date the samples were taken on each quarterly report form, DWR-017A.

10. The permittee shall submit a water conservation and drought management plan update as outlined in Item 6. above.

General Requirements

11. Wells 1, 2, and 3 shall be metered with a totalizing flow meter.

12. All wells listed in Item 1. above shall be equipped with a metal tag showing the well permit numbers or have the well permit numbers painted on the casings.

13. The pumping equipment capacity shall not be increased without prior approval from the Bureau of Water Allocation.

14. The permittee shall investigate valid complaints by users of wells or surface water supplies within the zone of influence of its diversion to determine what impact the diversion has had on such wells or surface water supplies. A report on these investigations shall be forwarded to the Bureau of Water Allocation. Any well or surface water supply which becomes damaged, dry, has reduced capacity, reduced water quality or is otherwise rendered unusable as a water well or surface water supply system as a result of the permittee's diversions shall be repaired or replaced at the expense of the permittee. Work shall be in accordance with all State, County, and Municipal construction standards for potable water. The Department of Environmental Protection will make the final determination regarding the validity of such

complaints, the scope or sufficiency of such investigations, and will determine how to resolve any problems resulting from the diversion.

15. The Department may modify, suspend or terminate this permit, after due process, for violations of permit conditions pursuant to N.J.S.A. 58:1A-1, N.J.A.C. 7:19-1 *et seq.*, any orders issued by the Department, or when in the public interest.
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16. The permittee is subject to such initial, modification and annual fees as may be prescribed by the regulations.

17. The permittee shall have the right to apply at any time for modification of water allocation portion of the permit by submission of the appropriate application forms.

1.A. General Process Description

Wastewater Treatment Plant Process

The wastewater treatment plant is used to treat wastewater from the other production processes. This is the only non-standard production process at the facility. It treats wastewater from the Benzyl Chloride area, the Tetrathal area, the Benzyl Phthalate area, the Phosphate Ester area, and the boiler and water treatment facility and sanitary wastewater from on-site operations. Various raw material storage tanks hold virgin and recycled acids and bases used for neutralization. Various treatment methods (clarification, equalization and aeration) are then used to remove or destroy the contaminants in the wastewater. Sludge is further reduced and shipped off-site in a separate area of the wastewater treatment plant.

Also included in this process are the Stormwater requirements and Hazardous Waste Container Storage area requirements. Groundwater is not covered in this permit as discussed below.

Wastewater Treatment Plant

The on-site wastewater treatment plant is permitted to discharge a maximum flow of 2.0 million gallons per day (MGD) of treated process wastewater, sanitary wastewater, non-contact cooling water, and storm water through one outfall designated Discharge Serial Number (DSN) 001 (latitude 39° 48' 22" and longitude 75° 24' 24"). This outfall discharges to the Delaware River. The surface waters in question in the vicinity of Solutia, Inc. are classified as Zone 4 waters in accordance with Delaware River Basin Commission regulation.

Surface water effluent limitations, monitoring requirements, and other conditions are authorized by the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., also known as the Clean Water Act, and the State Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. These statutes are implemented by the National Pollutant Discharge Elimination System (NPDES), 40 CFR Part 122, and the New Jersey Pollutant Discharge Elimination System (NJPDES), N.J.A.C. 7:14A-1 et seq., permit programs.

Effluent limitations are developed by the following three methods:

1. Technology Based Limitations**:**

Technology based limitations are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2(a)1.ii., 13.3(b), and 13.4. In general, effluent limitations are based on Effluent Limitation Guidelines (ELGs), developed by the United States Environmental Protection Agency (USEPA), or on case-by-case limitations developed through a Best Professional Judgment (BPJ) analysis in cases where ELGs are not available or appropriate. ELGs are minimum technology based requirements applicable on a nation-wide basis. ELGs consider the category of industry that produce common pollutants taking into account the specific factors unique to a particular type of industry (manufacturing process, type and quantity of pollutants generated, types of treatment facilities available to treat the pollutants, etc.). ELGs are published in 40 CFR Subchapter N. BPJ determinations are authorized by Section 402 (a)(1) of the Clean Water Act.

2. Water Quality Based Effluent Limitations**:**

Water Quality Based Effluent Limitations (WQBELs) are imposed when it has been determined that limitations more stringent than technology based effluent limitations are required to meet water quality standards. WQBELs are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2 and 13.3, and are developed to assure compliance with the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.1 et seq., and the Federal Water Quality Standards, 40 CFR Part 131. The policies used to develop WQBELs are contained in the State and Federal Standards. Specific procedures, methodologies, and equations are contained in the current USEPA "Technical Support Document for Water Quality-

based Toxics Control" (TSD) (EPA- 505/2-90-001) and are referenced in N.J.A.C. 7:14A-13.5 and 13.6.

The Department is currently developing a watershed-based approach to WQBELs for pollutants, including toxic pollutants. Until those limitations are developed, toxic pollutant limitations for most dischargers are determined using technology based limitations and miscellaneous effluent requirements along with a whole effluent toxicity limitation, when necessary. WQBELs for toxic pollutants from most dischargers will be imposed and/or revised as necessary when Total Maximum Daily Loads (TMDLs) are developed on a watershed specific basis.

3. Miscellaneous Effluent Limitations and Conditions**:**

Miscellaneous effluent limitations and conditions are authorized by Section 301 of the Clean Water Act, 40 CFR 122, N.J.S.A. 58:10A-4, and N.J.A.C. 7:14A-13.2(a). Miscellaneous effluent limitations and conditions are applied from other federal, state, or regional statutes and regulations, when applicable. Some of these are:

1. State Effluent Standards at N.J.A.C. 7:14A-12 and N.J.A.C. 7:9-5.7 and 5.8.;
2. Regional Water Quality Management Plans adopted in accordance with N.J.A.C. 7:15.
3. Requirements of the following (where applicable):

a. Delaware River Basin Commission (N.J.A.C. 7:9B-1.5(b)1);
b. Interstate Sanitation Commission (N.J.A.C. 7:9B-1.5(b)2);
c. Hackensack Meadowlands Development Commission (N.J.A.C. 19:4 - 6.14 to 6.15);
d. Pinelands Commission (N.J.A.C. 7:50-6.81 to 6.87).

4. Existing effluent quality for the facility in question, in accordance with N.J.A.C. 7:14A-13.8.

When an effluent limitation is appropriate for a parameter, such as based on sampling results, but has not been established in accordance with the other types of effluent limitations discussed above, a DSW permit for an existing discharger shall include effluent limitations based on existing effluent quality. The maximum daily limit shall be set equal to the maximum projected effluent concentration, which shall be calculated using an approved statistical method, a 95% confidence interval and a 95% probability basis, and with at least 10 representative data points. The average monthly limitation shall be calculated from the maximum daily limitation if deemed necessary. Specific procedures concerning the calculation of existing effluent quality limitations are contained in the USEPA's Technical Support Document.

Stormwater

The stormwater in the operating portion of the facility is diverted, collected, and processed in the facility's wastewater treatment plant. During heavy rainfall, it may not be possible to treat all collected stormwater. Therefore, the permittee is authorized to discharge directly to the Delaware River through outfall designated Discharge Serial Number (DSN) 002 (latitude 39^{o} 47' 45" and longitude 75^{o} 24' 15").

Ground Water

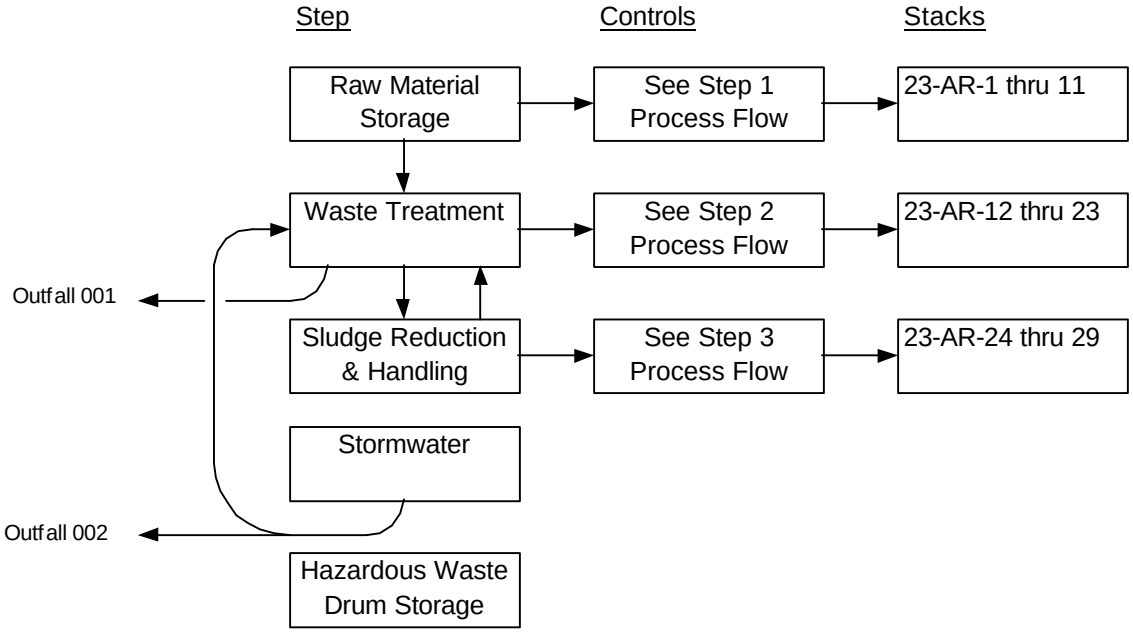
The ground water monitoring and remedial investigations are not covered in this permit. They will be covered in a comprehensive site wide sampling and clean up plan though the Bureau of Federal Case Management. The existing groundwater NJPDES permit is deleted upon issuance of this permit.

Hazardous Waste Container Storage Area

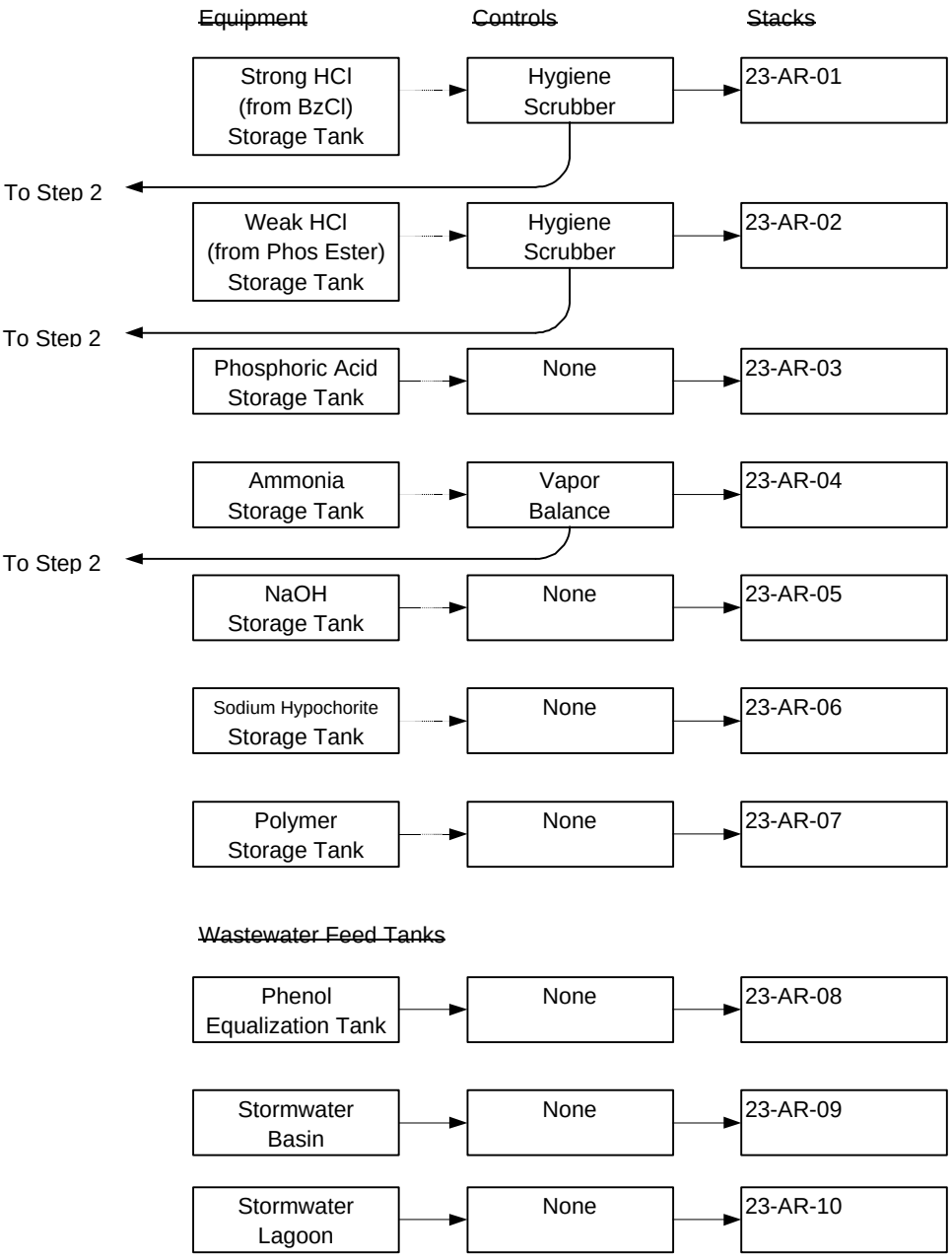
The permittee is authorized to store hazardous waste generated in the production processes in containers in the Hazardous Waste Container Storage Area described in Section 3.C.1. below.

1.B. Process Flow Diagrams

Waste Water Treatment Plant, Hazardous Waste Container Storage, Stormwater



Waste Water Treatment Plant - Step 1
Raw Material Storage Step



Wastewater Sources:
Main Plant Sewers from All Processes
Solutia's PDA #2 and #3 and
Leachate from **Solutia's East Landfill**

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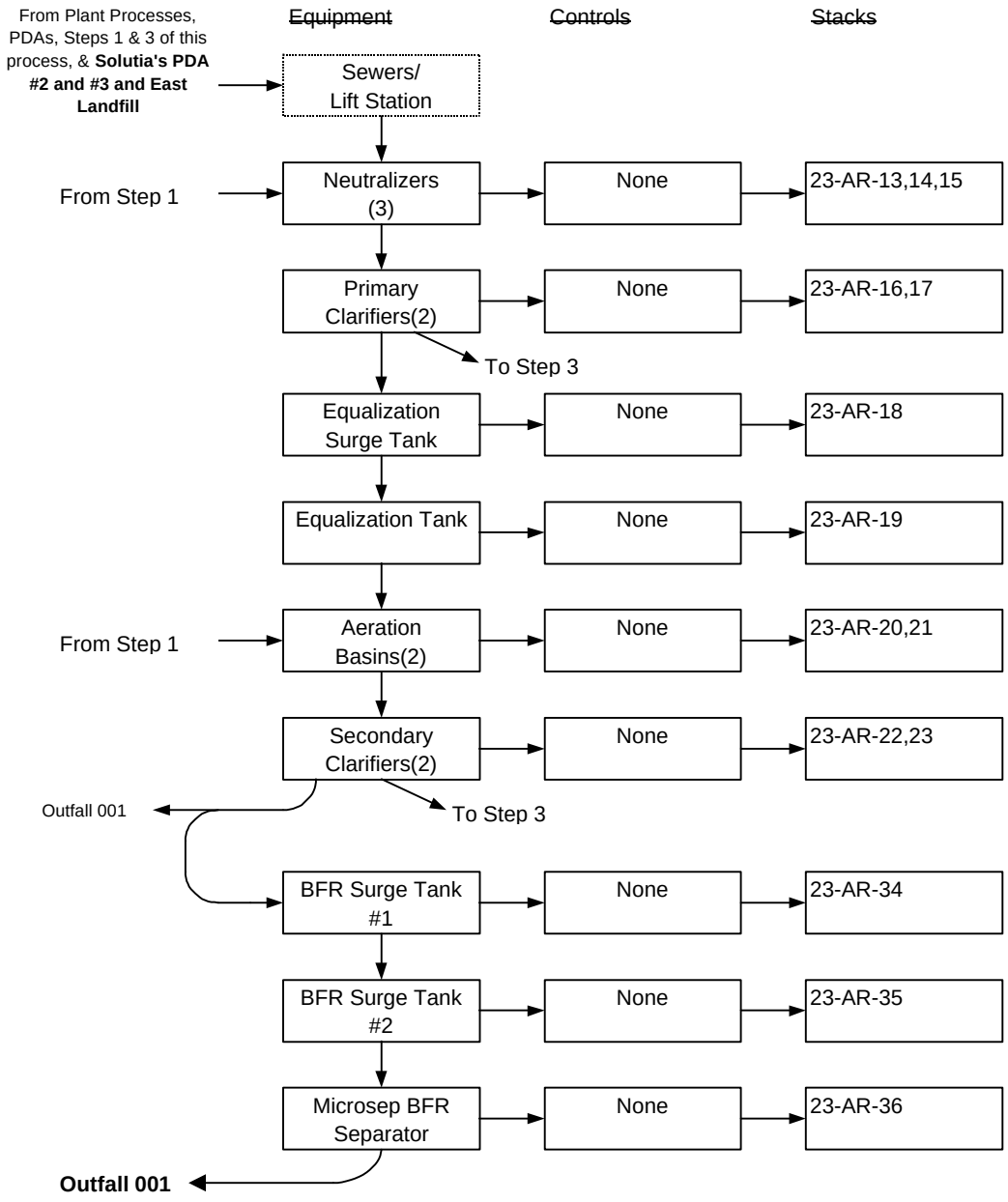
Waste Water Treatment Plant - Step 2
Waste Treatment Step



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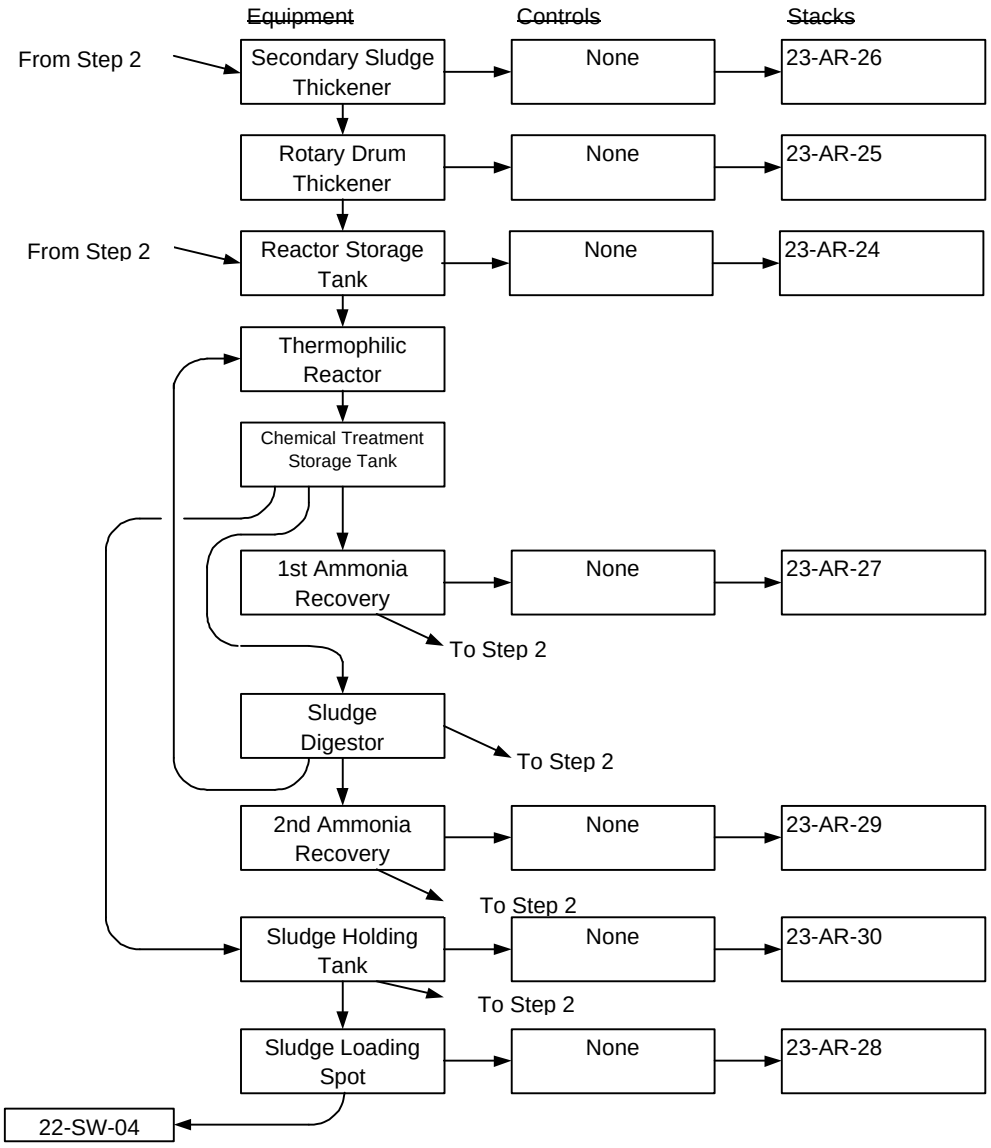
Waste Water Treatment Plant - Step 3
Sludge Handling Step



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1.C. Equipment, Control Device, and Source Sheet Information

Wastewater Treatment Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Wastewater Treatment system consists of one strong HCl storage tank, one weak HCl storage tank, phosphoric acid storage tank, one ammonia storage tank, one sodium hydroxide storage tank, one sodium hypochlorite storage tank, one polymer storage tank, one phenol equalization tank, one stormwater basin, and two stormwater lagoons. The strong HCl is transferred over from the BzCl process and the weak HCl is transferred over from the Phosphate Esters process. Phosphoric acid, ammonia, NaOH, sodium hypochlorite, and the polymers are delivered to the facility by truck. The phenol equalization tank and the stormwater basin are collecting areas for the Phosphate Ester Process and stormwater respectively.

Significant Sources	Capacity	Control	
Phenol Equalization Tank (23-STV-15)	88,000 gallons	None	
Stormwater Basin (23-OTT-13)	240,000 gallons	None	
Stormwater Lagoon (23-OTT-12)	**3,600,000** gallons		None

Insignificant Sources	Capacity	Control	Insignificance
Strong HCl Storage Tank (23-STV-03)	9,000 gallons	Scrubber	<10K Storage
Weak HCl Storage Tank (23-STV-16)	9,800 gallons	Scrubber	<10K Storage
Phosphoric Acid Storage Tank (23-STV-04)	4,400 gallons	None	<10K Storage
Aqua Ammonia Storage Tank (23-STV-17)	7,200 gallons	Vapor Balance	<10K Storage
NaOH Storage tank (23-STV-12)	9,500 gallons	None	<10K Storage
Sodium Hypochlorite Storage Tank (23-STV-09)	3,000 gallons	None	<10K Storage
Polymer Storage Tank (23-STV-13)	1,500 gallons	None	<10K Storage
Antifoam Storage Tank* (23-STV-18)	1,000 gallons	None	<10K Storage

*- Not listed in process flow diagram

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Wastewater Treatment Equipment and Control Device List - Step 2

Waste Treatment Step

The Waste Treatment step of the Wastewater Treatment system consists of a series of sewers and lift station, three neutralizer tanks, two primary clarifiers, one equalization surge tank, one equalization tank, two aeration basins, two secondary clarifiers, one Microsep BFR Separator, and two BFR surge tanks. The wastewater is treated on a continual basis in a flow through system. The secondary clarifiers have a direct discharge to the Delaware River.

Significant Sources	Capacity	Control
Neutralizing Tanks (3) (23-PRV-01, 23-PRV-02, 23-PRV-03)	15,000 gallons each	None
Primary Clarifiers (2) (23-OTT-01, 23-OTT-02)	94,000 gallons each	None
Equalization Tank (23-OTT-10)	1,000,000 gallons	None
Aeration Basins (2) (23-OTT-03, 23-OTT-04)	1,000,000 gallons each	None
Secondary Clarifiers (2) (23-OTT-05, 23-OTT-06)	113,000 gallons each	None
Equalization Surge Tank (23-STV-14)	2,000 gallons	None
Microsep BFR Separator (23-OTT-18)	3,100 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
BFR Surge Tank #1 (23-STV-19)	2,900 gallons	None	<10K Storage
BFR Surge Tank #2 (23-OTT-17)	600 gallons	None	<10K Storage

* - Not listed in process flow diagram

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Wastewater Treatment Equipment and Control Device List - Step 3

Sludge Handling Step

The Sludge Handling step stores, biotreats, thickens, recovers ammonia, and loads wastewater treatment plant sludge.

Significant Sources	Capacity	Control
Secondary Sludge Thickener (23-OTT-11)	100,000 gallons	None
Rotary Drum Thickener (23-OTT-15)	50 GPM	None
Reactor Storage Tank (23-OTT-14)	69,000 gallons	None
Thermophilic Reactor (23-OTT-16)	300,000 gallons	N/A
Chemical Treatment Storage Tank (23-STV-11)	43,000 gallons	None
Sludge Digester (23-PRV-04)	3,100 gallons	Scrubber
Sludge Loading Spot (23-TTE-01)	250 gallons per minute	None

Insignificant Sources	Capacity	Control	Insignificance
Ammonia Recovery Unit (23-PRV-05)	14 gallons	None	<50 lbs/hr Throughput
Ammonia Recovery Unit (23-PRV-06)	1,216 gallons	None	<50 lbs/hr Throughput
Sludge Storage Tank (23-STV-02)	9,800 gallons	None	<10K Storage

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1.E. Source Control Data Sheets - None

1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
23-AR-08	Phenol Equalization Tank	1	144	CT-084805	1200	4	2.5	Ambient	3.3, 16.7(max)	Down
23-AR-09	Stormwater Basin	1		Gran	400	12,000 ft2	0	Ambient	200	Up
23-AR-10	Stormwater Lagoon	1		Gran	540	78,912 ft2	5	Ambient	34	Up
23-AR-13	Neutralizer Tank #1	1	69	CT-019171	235	4	15	Ambient	0, 13.5, 196	Up
23-AR-14	Neutralizer Tank #2	1	70	CT-019172	260	4	15	Ambient	194	Up
23-AR-15	Neutralizer Tank #3	1	71	CT-019173	250	4	15	Ambient	194	Up
23-AR-16	Primary Clarifier #117	1	72	CT-019174	216	OTT-40'D	10	Ambient	94	Up
23-AR-17	Primary Clarifier #118	1	73	CT-019175	275	OTT-40'D	10	Ambient	94	Up
23-AR-18	ET Surge Tank				265	10	12	Ambient	<13	Horizontal
23-AR-19	Raw Waste Equaliza Tank	1	76	CT-019178	50	OTT-90'D	25	Ambient	187(max)	Up
23-AR-20	Aeration Basin #122	1	82	CT-019467	210	190' x 60'	12	Ambient	150	Up
23-AR-21	Aeration Basin #123	1	83	CT-019468	265	190' x 60'	12	Ambient	150	Up
23-AR-22	Secondary Clarifier #124	1	74	CT-019176	275	OTT-40'D	12	Ambient	150	Up
23-AR-23	Secondary Clarifier #125	1	75	CT-019177	330	OTT-40'D	12	Ambient	150	Up
23-AR-24	Reactor Storage Tank	1		Gran	200	OTT-28'D	16	Ambient	26	Up
23-AR-25	Rotary Drum Thickener	1		New	100	28.5	20	<80	<3640	Horizontal
23-AR-26	Secondary Sludge Thick	1		Gran	200	OTT-32'D	17	Ambient	10	Up
23-AR-27	1st Ammonia Recovery	2		Gran	100	12	0	<65°C	6500	Horizontal
23-AR-28	Sludge Loading Spot	1			250	18	13	<200	<30	Up
23-AR-29	2nd Amminia Recovery	1	151	Gran	210	3	16	200	0.0001025	Down
23*AR-36	Microsep BFR Separator	1			275	OTT-8'2"	11	Ambient	<26	Up
23-AR-01	HCl Storage Tank				700	3	14	60	20	Down
23-AR-02	Weak HCl Stor Tk Scrubb		91		200	1	16(), 13(f)	60	3.34, 6.68(x)	Down
23-AR-03	Phosphoric Acid Stor Tk									
23-AR-04	Aqua Ammon St Tk Scrub		126		200	2	25	Ambient	0.01	Up
23-AR-05	Caustic Storage Tank									
23-AR-06	Sodium Hypochlorde St Tk									
23-AR-07	Polymer Storage Tank									
23-AR-12	Plantwide Sewers & Lift									
	Lime Slurry Tank		68	CT-019170	210	3	16	100	13	Up
	Antifoam									

1.F. Raw Material/Contaminant List

Any raw materials used in processes A though E and G
Others

- Phosphoric Acid
- Aqua Ammonia
- Nitrogen
- Sodium Hydroxide
- Sodium Hypochlorite

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2.A. and B. Technical Information – Air Release Limits

Wastewater Treatment Plant

Source Designation	Volatile Organic Compounds									OTHERS			Particulates				Volatile Organic Compounds		OTHERS	
Category:													Others		HAPS		Misc			
Sub-Category:	HAPS								OTHERS	HAPS	Other									
Constiuent:	Toluene	PA	Benzene	Ethyl Chloride	Benzyl Chloride	Hexachlorobenzene	Phenol	Triethylamine		HCl	NH3				Phenol				Ammonia	
	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr		Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr	Lb/Hr	Ton/Yr
23-OTT-01	0.0275	0.0004	0.0002		0.0046	0.0036	0.0038	0.0021	2.46			72					0.00037	0.00162		
23-OTT-02	0.0275	0.0004	0.0002		0.0046	0.0036	0.0038	0.0021	2.46			73					0.00036	0.00162		
23-OTT-03	0.288	0.0004	0.0010		0.0870	0.0151	0.0012	0.0072	2.48	0.0003	0.50	82					0.00275	0.012		
23-OTT-04	0.288	0.0004	0.0010		0.0870	0.0151	0.0012	0.0072	2.48	0.0003	0.50	83					0.00275	0.012		
23-OTT-05											0.0003	74					0.0000002	0.00000088		
23-OTT-06											0.0003	75					0.0000002	0.00000088		
23-OTT-09	0.0007	0.0002			0.0001	0.0010	0.0010	0.0006	0.10			77					0.00001	0.00002		
23-OTT-10	0.0659	0.0017	0.0004		0.0100	0.0114	0.0181	0.0102	2.68	0.0001		76	0.01	0.01			0.01	0.04		
23-OTT-11																				
23-OTT-12	0.0016	0.0004			0.0003	0.0002	0.0022	0.0013	0.09											
23-OTT-13	0.0001						0.0001	0.0001												
23-OTT-14	0.003	0.0002			0.0006	0.0003	0.0090	0.0008	0.09											
23-OTT-15																				
23-OTT-16	0.07		0.0001		0.0040				0.24		1.0000									
23-OTT-18											Below Threshold									
23-PRV-01	0.0396	0.0001	0.0002		0.0038	0.0048	0.0007	0.0004	2.80			69					0.00050	0.0022		
23-PRV-02	0.0378	0.0001	0.0002		0.0037	0.0046	0.0006	0.0004	2.80			70					0.0013	0.0057		
23-PRV-03	0.0356	0.0001	0.0002		0.0035	0.0043	0.0006	0.0003	2.81			71					0.0013	0.0057		
23-PRV-04											0.0050	151					0.01	0.01	0.005	0.022
23-STV-11	No pound/hour, Storage Only																			
23-STV-14	0.0242		0.0001		0.0007	0.0024			1.97			144			0.105	0.46				
23-STV-15							0.0467		0.05											
23-TTE-01									Below Threshold											

	Volatile Organic Compounds									OTHERS		Particulates				Volatile Organic Compounds		OTHERS	
Category:												Others		HAPS		Misc			
Sub-Category:	HAPS								OTHERS	HAPS	Other								
Constiuent:	Toluene	PA	Benzene	Ethyl Chloride	Benzyl Chloride	Hexachlorobenzene	Phenol	Triethylamine		HCl	NH3				Phenol			Ammonia	
Ton/Year Significant	3.98	0.02	0.01	0.00	0.94	0.29	0.39	0.14	41.71	0.00	8.44	0.01	0.01	0.105	0.46	0.0293404	0.09086176	0.005	0.022
Ton/Year Insignificant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
Ton/Year Fugitive	1.6021	0.0001	0	10	0.0773	0.0298	0.0012	0.1396	11.86	0.0002	0.0001								

Modified 02/18/00**, 11/28/00**

2.C.1. Technical Information – Surface Water Discharge Limitations

Sampling and analysis for the following parameters shall be performed in accordance with the methodologies referenced in 40 CFR 136. The sample

Parameter	Units	Sampling Location	Instantaneous Limitation	Max Average Monthly Limitation	Maximum Daily Limitation	Sampling Frequency	Sample Type
1,2-Dichloropropane	lb/day	001	N/A	1.621	2.436	Yearly	Grab
1,2-dichlorobenzene	lb/day	001	N/A	0.816	1.726	Yearly	Grab
1,3-dichlorobenzene	lb/day	001	N/A	0.328	0.466	Yearly	Grab
1,4-dichlorobenzene	lb/day	001	N/A	0.159	0.297	Yearly	Grab
2,4-dichlorophenol	lb/day	001	N/A	0.413	1.186	Yearly	Grab
2-chlorophenol	lb/day	001	N/A	0.328	1.038	Yearly	Grab
Arsenic, Total Recoverable	DELETED						
Barium, Total Recoverable	DELETED						
Bis(2-ethylhexyl) Phthalate	lb/day	001	N/A	1.091	2.955	Monthly	Grab
BOD5	lb/day	001	N/A	477	1271	Twice/Week	24 hour composite
BOD5 (percent removal)	% Removal	001	N/A	89.25	N/A	Twice/Week	24 hour composite
CBOD20	lb/day	001	N/A	NL	N/A	See Footnote 2	
Cadmium, Total Recoverable	DELETED						
Chloroethane	lb/day	001	N/A	1.102	2.839	Monthly	Grab
Chloroform	lb/day	001	N/A	0.222	0.487	Monthly	Grab
Chromium, Total Recoverable	DELETED						
Chromium, Hexavalent	DELETED						
Color	Pt-Co	001	N/A	100	600	Monthly	Grab
Copper, Total Recoverable	DELETED						
Di-n-butyl phthalate	lb/day	001	N/A	0.286	0.604	Monthly	Grab
Fecal Coliform[3] (geometric mean)	# per 100 ml	001	N/A	200	400	Monthly	Grab
Flow	MGD	001	2	2	2	Continuous	N/A
Hexachlorobenzene	lb/day	001	N/A	0.159	0.297	Monthly	Grab
Lead, Total Recoverable	mg/l	001	N/A	0.10	0.10	Quarterly	24 hour composite
Mercury, Total Recoverable	DELETED						
Methylene Chloride	lb/day	001	N/A	0.424	0.943	Monthly	Grab
NH3(as N)	mg/l	001	N/A	35	NL	Weekly	24 hour composite
Nickel, Total Recoverable	DELETED						
Nitrogen (as N)	lb/day	001	N/A	377	1000	Weekly	24 hour composite
Oil & Grease	REPLACED BY PHCs						
PCBs[1]	µg/l	001	N/A	NL	NL	See 3.C.3.[1]	Grab
pH	SU	001	6.0/9.0 (min/max)	N/A	N/A	Continuous	Grab
PHCs	lb/day	001	N/A	NL	194	Weekly	Grab
PHCs	mg/l	001	N/A	10	15	Weekly	Grab
Phenol	lb/day	001	N/A	0.159	0.275	Monthly	Grab
Phenols, Total	lb/day	001	N/A	110	220	Monthly	Grab
Selenium, Total Recoverable	mg/l	001	N/A	NL	0.02	Quarterly	24 hour composite
Silver, Total Recoverable	DELETED						
TDS	lb/day	001	N/A	NL	213,500	Monthly	24 hour composite
Temperature	^{o}C	001	N/A	NL	40	Continuous	N/A
TOC	DELETED						
Toluene	lb/day	001	N/A	0.275	0.847	Monthly	Grab
TOPs	lb/day	001	N/A	2640	3170	Yearly	Grab
Trichloroethylene	lb/day	001	N/A	0.222	0.572	Quarterly	Grab
TSS	lb/day	001	N/A	604	1938	Weekly	24 hour composite
TSS	mg/l	001	N/A	100	N/A	Weekly	24 hour composite
TSS	% Removal	001	N/A	85	N/A	Weekly	24 hour composite
Zinc, Total Recoverable	mg/l	001	N/A	0.60	0.60	Quarterly	24 hour composite

N/A denotes "Not Applicable"
NL denotes "Not Limited" with both monitoring and reporting required.

1 - PCBs will only required to be sampled 1) pursuant to 3.C.3 ***or*** 2) if wastewater collected from a past disposal area is sent to the wastewater treatment for discharge. No other PCB sampling will be required.

2 - No CBOD20 sampling required, May use multiplier factor of 1.34 of BOD5 in lieu of sampling as per DRBC approval.

3 - The Department will not apply any dilution factor to limitations related to bacterial indicator organisms. This is due to the potential public health effects of failure to disinfect properly and the fact that bacteria may multiply in a receiving water body. This policy is consistent with N.J.A.C. 7:9B-1.5 that was amended on 12/6/93.

4 - The Delaware River Basin Commission is currently developing waste load allocations for trichlorethene, 1,2 dichloroethane and tetrachlorethene. Therefore, a 12-month study is being required to determine if these parameters are present.

Whole Effluent Toxicity Testing Requirements

Parameter	Sampling Location	Units	Duration	Effluent Limitations	Monitoring Requirements
Acute Toxicity, LC50 [Acute Toxic Units] (Fathead Minnow)	001	%	Minimum [Maximum]	50 [2.0 TUc]	1/Quarter
Acute Toxicity, LC50 [Acute Toxic Units] (Ceriodaphnia dubia)	001	%	Minimum [Maximum]	NL	1/Quarter
Chronic Toxicity IC25 (Fathead Minnow)	001	% effluent	Minimum	NL	1/Quarter
Chronic Toxicity NOEL (Fathead Minnow)	001	% effluent	Minimum	NL	1/Quarter
Chronic Toxicity IC25 (Ceriodaphnia dubia)	001	% effluent	Minimum	NL	1/Quarter
Chronic Toxicity NOEL (Ceriodaphnia dubia)	001	% effluent	Minimum	NL	1/Quarter

2.C.2. Technical Information – Stormwater Limits

The permittee is required to sample the first stormwater event in any one-month. If a second event were to occur in that month, sampling of that event is not required.

Parameter	Units	Sampling Location	Instantaneous Limitation	Max Average Monthly Limitation	Maximum Daily Limitation	Sampling Frequency	Sample Type
Arsenic, Total Recoverable	DELETED						
Barium, Total Recoverable	DELETED						
BOD5	mg/l	002	N/A	N/A	NL	Monthly	Grab
Cadmium, Total Recoverable	DELETED						
Chromium, Total Recoverable	DELETED						
Copper, Total Recoverable	DELETED						
Flow	MGD	002	N/A	**NL**	**NL**	Calculated	N/A
Lead, Total Recoverable	DELETED						
Mercury, Total Recoverable	DELETED						
Nickel, Total Recoverable	DELETED						
Oil & Grease	REPLACED BY PHCs						
PCBs	µg/l	002	N/A	NL	NL	See 3.C.3.	Grab
pH	SU	002	6.0/9.0 (min/max)	N/A	N/A	Monthly	Grab
PHCs	mg/l	002	N/A	10	15	Monthly	Grab
Phenols, Total	lb/day	002	N/A	110	220	Monthly	Grab
Silver, Total Recoverable	DELETED						
TOC	DELETED						
TOPs	mg/l	002	N/A	NL	NL	Yearly	Grab
TSS	mg/l	002	N/A	N/A	50	Monthly	Grab
Zinc, Total Recoverable	mg/l	002	N/A	N/A	0.60	Monthly	Composite[1]

N/A denotes "Not Applicable"
NL denotes "Not Limited" with both monitoring and reporting required.
1 - Composite sample is required over the duration of the discharge from Outfall 2

Modified 6/9/00

3. Compliance Plan

3.A. Applicable Requirements

3.A.1. Air Requirements

The following **VOC** emission source types are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.17(b)2ii,(j):

Significant Sources		Insignificant Sources
23-STV-15	Phenol Equalization Tank	
23-PRV-01	Neutralizing Tank	
23-PRV-02	Neutralizing Tank	
23-PRV-03	Neutralizing Tank	
23-OTT-01	Primary Clarifier	
23-OTT-02	Primary Clarifier	
23-OTT-10	Equalization Tank	
23-OTT-03	Aeration Basin	
23-OTT-04	Aeration Basin	
23-OTT-05	Secondary Clarifier	
23-OTT-06	Secondary Clarifier	
23-STV-14	Equalization Surge Tank	

The following **VOC** emission source types are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9, 16.16[b, c, d, g(1,4)]:

Significant Sources		Insignificant Sources	
23-OTT-13	Stormwater Basin	23-PRV-05	Ammonia Recovery Unit
23-OTT-09	Stormwater Lagoon	23-PRV-06	Ammonia Recovery Unit
23-OTT-12	Stormwater Lagoon Landfill	23-STV-19	BFR Surge Tank #1
23-OTT-11	Secondary Sludge Thickener	23-OTT-17	BFR Surge Tank #2
23-OTT-15	Rotary Drum Thickener		
23-OTT-14	Reactor Storage Tank		
23-OTT-16	Thermophilic Reactor		
23-PRV-04	Sludge Digester		
23-OTT-18	Microsep BFR Separator		

The following emission sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 8.3(a through e, h, i and j), 8.4, 8.9

Significant Sources	
23-STV-11	Chemical Treatment Storage Tank
23-TTE-01	Sludge Loading Spot

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources	
23-STV-03	Strong HCl Storage Tank
23-STV-16	Weak HCl Storage Tank
23-STV-04	Phosphoric Acid Storage Tank
23-STV-17	Aqua Ammonia Storage Tank

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23-STV-12	NaOH Storage Tank
23-STV-09	Sodium Hypochlorite Storage Tank
23-STV-13	Polymer Storage Tank
23-STV-18	Antifoam Storage Tank
23-STV-02	Sludge Storage Tank

3.A.2. Surface Water Requirements

The surface water discharge portion of this permit is regulated by N.J.A.C. 7:14A-1 *et seq*., N.J.S.A. 58:10A-1 *et seq*., 33 U.S.C. 1251 *et seq.*, 40 CFR Parts 122, 131, and 410, N.J.A.C. 7:9B-1 *et seq.*, Delaware River Basin Commission Water Quality Regulations (December 9, 1992)

1,2-dichloroprapane	Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) Effluent Limitations Guidelines (ELG), 40CFR Part 414 Subpart H, I, using a maximum average monthly flow of 1.27 MGD
1,2-dichlorobenzene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
1,3-dichlorobenzene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
1,4-dichlorobenzene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
2,4-dichlorophenol	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
2-chlorophenol	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
Arsenic, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels, letter dated 4/29/87 from Division of Water Resources also came to same conclusion
Barium, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels, letter dated 4/29/87 from Division of Water Resources also came to same conclusion
Bis (2-ethylhexyl) Phthalate	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
BOD5 (loading)	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD, this basis is more stringent than the allowable BOD5 previously permitted pursuant to DRBC regulation
BOD5 (% Removal)	Delaware River Basin Commission (DRBC) Regulation, 1996, Zone 4 Rules
CBOD20	No Sampling required, DRBC approved multiplier factor from BOD5
Cadmium, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels, letter dated 4/29/87 from Division of Water Resources also came to same conclusion
Chloroethane	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
Chloroform	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
Chromium, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels
Chromium, Hexavalent	Same as Total Recoverable Chromium
Color	DRBC Regulation, 1996, Zone 4 Rules
Copper, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels
Di-n-butyl phthalate	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD

Fecal Coliform	N.J.A.C. 7:14A-12 and DRBC Regulation, 1996, Zone 4 Rules
Flow	Imposed to determine pollutant loadings in accordance with N.J.A.C. 7:14A-13.14
Hexachlorobenzene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
Lead, Total Recoverable	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4 Rules, Max average monthly imposed pursuant to OCPSF ELG, 40CFR Part 414 Subpart H, I, Parameter deleted from monitoring and reporting for stormwater since DMR data indicates levels substantially below permitted levels
Mercury, Total Recoverable	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels, letter dated 4/29/87 from Division of Water Resources also came to same conclusion
Methylene Chloride	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
NH3 (as N)	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4 Rules
Nickel, Total	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels
Nitrogen (as N)	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19)
PCBs	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) and DRBC Regulation, 1996, Zone 4 Rules and 3/16/98 Letter from DRBC, PCB Loading to Delaware is trying to be determined, DRBC will include this analysis in all municipal and industrial permits
pH	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4
PHCs	Replaced Oil & Grease, N.J.A.C. 7:14A-12
Phenol	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
Phenols, Total	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19)
Selenium, Total Recoverable	DRBC Regulation, 1996, Zone 4
Silver, Total	Parameter deleted from monitoring and reporting, No clear basis for limit in existing permit and DMR data showed “No Detect” or very low detection
TDS	DRBC Regulation, 1996, Zone 4 Rules & 12/18/86 DRBC Letter allowing mass limitation instead of concentration, Mass limitation was based on 1.6 MGD flow
Temperature	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4 Rules
TOC	Parameter deleted from monitoring and reporting, DMR data indicates levels substantially below permitted levels, facility is not in waters determined to be saline
Toluene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
TOPs	DRBC Regulation, 1996, Zone 4 Rules
Trichloroethylene	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
TSS (Loading)	OCPSF ELG, 40CFR Part 414 Subpart H, I, calculated based on 1.27 MGD
TSS (% Removal & Concentration)	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4 Rules
Zinc, Total Recoverable	Existing Permit (Anitbacksliding N.J.A.C. 7:14A-13.19) which is consistent with DRBC Regulation, 1996, Zone 4 Rules
Acute & Chronic Toxicity	Section 101(a) of the Clean Water Act (CWA) establishes a national policy of restoring and maintaining the chemical, physical and

biological integrity of the Nation's waters. In addition, section 101(a)(3) of the CWA and the State's Surface Water Quality Standards (SWQS) at N.J.A.C. 7:9B-1.5(a)3 state that the discharge of toxic pollutants in toxic amounts is prohibited. Further, 40 CFR 122.44(d) and N.J.A.C. 7:14A-13.6(a) require that where the Department determines that a discharge causes, shows a reasonable potential to cause, or contributes to an excursion above the SWQS, the permitting authority must establish effluent limits for WET. In order to satisfy the requirements of the CWA, the State's SWQS and the NJPDES Regulations, the need for a water quality based effluent limitation (WQBEL) for WET was evaluated for this discharge. However, insufficient information is available for this discharge at this time to complete such evaluation. Therefore, the Department has included new monitoring requirements in this permit so that the information necessary to complete this analysis can be obtained. These monitoring requirements consist of a dilution evaluation and additional WET testing. The new WET testing requirements consist of acute and chronic testing using *Ceriodaphnia dubia*. Use of this test species is based on the freshwater characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5, the Regulations Governing the Certification of Laboratories and Environmental Measurements (N.J.A.C. 7:18) and the Departments "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program" document. This document is included as part of this permit, in accordance with N.J.A.C. 7:14A-6.8, 11.2(a)2.iv. and 40 CFR 136. These data collection requirements are also consistent with the requirements of the Delaware River Basin Commission (DRBC). The dilution evaluation is to consist of a computer model only, using Tidal CORMIX, which is also consistent with the requirements of the DRBC. This information is required to be submitted pursuant to N.J.A.C. 7:14A-2.12, 6.2(a)14 and 13.5(l). Once the information is submitted, the Department will determine whether a WQBEL for WET is necessary for the protection of water quality. If a WET limitation is deemed necessary, that limitation will be incorporated into the permit through modification of the final permit, including public notice and comment procedures, pursuant to N.J.A.C. 7:14A-16.3 and 16.4(b)7.iii.

Until such time as the Department completes the analysis as to the need for a WQBEL WET limit, the minimum state standard of an LC50$\geq$50% effluent is retained in the permit and will remain in place unless a more stringent limit is imposed in this permit at a later date in accordance with N.J.A.C. 7:9-5.7(a) and N.J.A.C. 7:14A-13.19. The test species to be used for determining permit compliance with the acute WET limit of an LC50$\geq$50% effluent will remain the Fathead minnow (*Pimephales promelas*) 96-hour definitive test. Such selection is based on the freshwater characteristics of the receiving stream, the existing permit, N.J.A.C. 7:9B-1.5 and N.J.A.C. 7:18.

The Toxicity Reduction Implementation Requirements (TRIR) are included in accordance with N.J.A.C. 7:14A-13.17(a), 6.2(a)5 and recommendations in Section 5.8 of the TSD. The requirements are necessary to expedite compliance with the acute toxicity limit should exceedances of the limit occur in the future. The quarterly monitoring frequency for acute and chronic toxicity is consistent with N.J.A.C. 7:14A-14.2(a).

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

a. The permittee shall record the following for **VOC and Other** emissions:
   i. The date of operation
   ii. Amount of wastewater discharged per day from Outfall 001
   iii. Amount of raw material feed to each production process, as required by Process Packages A through D, Section 3.B.1.

b. These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound logbook or readily accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

a. The permittee shall continuously monitor the water flow at outfall 001.

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

3.C. Special Conditions

3.C.1. Hazardous Waste Container Storage Area

a) The permittee is authorized to store on-site generated hazardous waste in drums/containers from a facility maximum of 15,400 gallons in accordance with the designs dated May 28, 1993 signed and sealed by Thomas Hernon, New Jersey Professional Engineer license No. 33964. All containers shall be stored on pallets. A minimum of thirty-six inches of aisle space shall be maintained between rows of pallets. The maximum stacking height for pallets is two high.

b) Each container storage area must have a secondary containment system that complies with the requirements of 40 CFR 264.175. The secondary containment systems shall be maintained free of cracks and gaps and shall be impervious to contain leaks, spills and accumulated rainfall until the collected material is detected and removed. The secondary containment systems shall be designed, operated and maintained to drain and remove liquids resulting from leaks, spills and precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids. The secondary containment systems must be designed, operated and maintained to have sufficient capacity as required by 40 CFR 264.175(b)(3) and to prevent run-on into the secondary containment systems. The secondary containment systems shall have adequate structural integrity to withstand the maximum stress applied due to activities or structures placed in the containment area.

c) Spilled or leaked waste shall be removed from the secondary containment system daily. Accumulated precipitation shall be removed from the secondary containment system within 24 hours of the precipitation event to prevent blockage or overflow of the collection system.

d) If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the permittee must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of 40 CFR 264.171.

e) The containers shall be managed in compliance with all provisions of 40 CFR 264.173.

f) The permittee must not place incompatible wastes, or incompatible wastes and materials, in the same container, unless compliance with 40 CFR 264.17(b) is maintained. The permittee shall not place a hazardous waste in an unwashed container that previously held an incompatible waste or material.

g) The permittee is authorized to store the following on-site generated hazardous wastes types in containers, prior to transfer to an authorized off-site treatment, storage or disposal facility:

Hazardous Waste Codes	Description
U190	Phthalic Anhydride Residues
K015	Benzyl Chloride Residues
P028	Benzyl Chloride Filters
Any Applicable Code	Spill Cleanup Material
Any Applicable Code	Equipment Maintenance Debris

h) Waste Analysis and Quality Assurance Requirements for wastes generated in tanks and containers

1) The permittee shall adhere to the provisions of the waste analysis plan in the permit application prepared by IT Corporation dated June 2, 1993 and any subsequent revisions approved by the Department.

2) Each hazardous waste generated at this location shall be fully identified and classified in accordance with 40 CFR 261.3. At a minimum, the permittee shall develop all of the information which must be known to store the waste in accordance with the provisions of this permit, as well as to treat or dispose of the waste at an authorized facility. If any hazardous waste cannot be fully identified and classified from the company knowledge of the process through which the waste was generated, then the permittee shall have proper samples of the waste analyzed in accordance with the test parameters and methods listed below, utilizing the Quality Assurance/Quality Control methodology established by the Department.

Test Parameters	Reference	Method Number
Antimony	SW-846	7041
Arsenic	SW-846	7060
Beryllium	SW-846	7091
Cadmium	SW-846	7131
Chromium	SW-846	7191
Copper	SW-846	7210
Lead	SW-846	7421
Mercury	SW-846	7471
Nickel	SW-846	7520
Selenium	SW-846	7740
Thallium	SW-846	7841
Zinc	SW-846	7950

Cyanide	SW-846	9012
Total Phenols	SW-846	9067
Volatiles + 15	SW-846	8240
Semi Volatiles + 15	SW-846	8250, 8270
Pesticides/PCBs	SW-846	8080

3) Sampling methods shall be in accordance with the procedures as outlined in the waste analysis plan in the permit application prepared by IT Corporation dated June 2, 1993, and shall employ equipment as prescribed in the latest edition of EPA Manual SW 846.

4) The permittee shall maintain in the written Operating Record required by Condition R. of Section V of this permit, as per 40 CFR 264.73(b)(3), records and results of all waste analyses performed. Such records and results shall be entered into the written Operating Record as they become available and shall be maintained until closure of the facility.

5) The permittee shall maintain the following information as per 40 CFR 270.30(j)(3)in the written Operating Record:
   i. The date, exact place, and time of sampling or measurements;
   ii. The individual(s) who performed the sampling or measurements;
   iii. The date(s) the analyses were performed;
   iv. The individual(s) who performed the analysis;
   v. The analytical techniques or methods used; and
   vi. The results of the analysis.

i) Inspection Requirements for Container Storage Area

1. The permittee shall comply with the inspection requirements of 40 CFR 264.174 and the plan referenced in the permit application prepared by IT Corporation dated June 2, 1993. The permittee shall inspect the areas and items listed in items (a) through (j) below at least weekly for deterioration or malfunction which may cause discharge of hazardous waste or a threat to human health or the environment. The results of the inspection shall be maintained for at least three (3) years from the date of inspection at the facility. The permittee shall conduct inspections as outlined below:

   (a) All containers sealed
   (b) Any leaking containers or spills
   (c) Any deteriorating containers
   (d) Any containers swollen or bulged
   (e) Any containers concaved due to internal vacuum building up
   (f) Any containers with corrosion
   (g) All containers properly labeled, identified and stacked
   (h) All containers compatible with waste stored in them
      (i) Indications of cracks or leaks in asphalt floor, asphalt sump, asphalt curbs, or asphalt vehicle ramps
   (j) Container aisle space access - minimum 36"

2. The permittee shall remedy any deterioration or malfunction of equipment or structures that the inspection reveals, on a schedule that ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

3. A log shall be kept of the inspections and any remediation actions described under paragraphs (1) and (2) above to confirm adequate maintenance of the hazardous waste storage area and all appurtenances.

j) Closure of Hazardous of Container Storage Area

At the time of final closure, the permittee shall close the Hazardous Waste Container Area in the manner that is stated in 40 CFR 264.110, and the closure plan referenced in the permit application prepared by IT Corporation dated June 2, 1993 and the following.

Decontamination of the structure utilized for the hazardous waste shall take place as follows:

1. The pad shall first be swept clear of all dirt and debris. All solid material shall be accumulated in drums.

2. The pad and containment shall then be hydro-blasted until all removable visible contamination is removed. The final rinsate shall be analyzed using the procedures outlined in Condition 3.C.1.h) above. The hydro blasting and analysis shall be repeated until the concentrations of test parameters in the rinsate are no higher than the concentration in a wash water blank. Final rinse water analytical results shall be submitted to the Department within sixty (60) days from the date of sampling for review and approval of the decontamination process.

3. All waste generated as a result of decontamination or cleaning of the tank and associated structure shall be sent to an authorized facility.

Within two hundred forty (240) days from the date of implementation of the closure plan, when closure is completed, the owner or operator shall submit to the Department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan and the conditions of this permit. The certification must be signed by the owner or operator and signed and sealed be an independent professional engineer registered in the State of New Jersey.

The Department will review the submitted certification and rinse water analysis results and will conduct a closure certification inspection. If the rinse water analysis results are determined to be satisfactory and there is a satisfactory closure certification inspection, the closure certification will be accepted by the Department and the closure will be deemed complete.

3.C.2. Stormwater Requirements

a) The Stormwater Pollution Prevention Plan (SPPP) shall be prepared and implemented in accordance with the deadlines shown in Table 1, paragraph f. below. The plan must address all areas where industrial activity takes place. The SPPP shall be prepared and implemented in accordance with good engineering practices, and shall include, at a minimum, all the items and information identified in Attachment ONE. The SPPP shall identify existing Best Management Practices (BMPs) and additional BMPs as necessary. Existing BMPs shall be continued or replaced with equally or more effective BMPs. The SPPP shall be signed by the permittee, an original retained at the facility for NJDEP inspection, and a copy submitted to the NJDEP, Southern Regional Water Compliance and Enforcement and the Office of Pollution Prevention and Permit Coordination by the compliance date shown in Table 1, paragraph f. below. In addition, the SPPP Preparation Certification (Attachment TWO) shall be submitted in compliance with the schedule found in Table 1, paragraph f below. The permittee may incorporate the SPPP into an existing DPCC Plan, in order to have a consolidated release prevention plan.

b) The permittee shall be responsible for supervising and managing the operation and maintenance of this facility and any BMPs which are installed and used by the permittee to achieve compliance with the conditions of this permit and with the requirements identified in the stormwater pollution prevention plan. Proper operation and maintenance also require the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit.

c) Once the SPPP has been implemented in accordance with this permit, the permittee shall conduct annual inspections of the facility to assess all areas contributing to the stormwater discharge authorized by this permit and to evaluate whether the SPPP complies with, and is implemented in accordance with, this permit, and whether additional measures are needed to meet the conditions of this permit. A summary of each inspection shall be included in the SPPP as required pursuant to Attachment ONE.

d) The permittee shall prepare and submit an annual report summarizing the annual inspection performed pursuant to paragraph c. above. This annual report shall include the date of inspection and name(s) and title(s) of the inspectors and shall be accompanied by an annual certification that the facility is in compliance with its SPPP and this permit, except that if there are any incidents of non-compliance, those incidents shall be identified in the certification. If there are incidents of non-compliance, the report shall identify the steps being taken to remedy the non-compliance and to prevent such incidents from recurring. The report and certification shall be signed by the permittee in accordance with Attachment ONE, and a copy shall be maintained on-site for a period of five years. This period may be extended by written request by the Department at any time.

e) The following tables describe the effluent limitation and monitoring requirements for the SPPP and the implementation schedule for the SPPP:

TABLE 1

ACTIVITY REQUIRED(1)	**DEADLINE**	**CERTIFICATION**
Develop SPPP (see Attachment TWO)	EDP + 6 months(1)	SPPP Preparation Certification. (Attachment TWO)
Implement SPPP (Attachment THREE)	EDP + 18 months(2)	SPPP Implementation and Inspection Certification. (Attachment THREE)
Inspection	Annual after EDP + 18 months	SPPP Implementation and Inspection Certification, Recertification.

(1) EDP: Effective Date of Permit.
(2) Except for those BMPs (e.g. spill response, good housekeeping) that can be readily implemented in 30 days, in accordance with Attachment ONE.

3.C.3. Effluent Characterization Study

Based on all available information provided in the application and the application addendum, there is insufficient data for the Department to substantiate whether or not certain pollutants are present in the discharge and at what levels. The results of the Effluent Characterization Study will be used to make a determination on whether require sampling and limitation of these parameters. In the interim, the limitations cited in Section 2.C.1. above must be adhered to .

An Effluent Characterization Study is required for DSN 001. Monitoring for the outfall is required in accordance with N.J.A.C. 7:14A-13.16(a)1. The parameters identified for the effluent characterization have the potential to be present in the permittee's discharge due to the nature of the facility/materials used

and based on the facility's historical data. Specific parameters for the study and the method of analysis are specified below.

The Effluent Characterization Study shall be performed from EDP through EDP + 12 months in accordance with the monitoring schedule presented below. The permittee shall submit to the Department an Effluent Characterization Study Report summarizing the data collected by outfall/sampling point for each parameter detected. The permittee shall submit copies of all laboratory data sheets attached to the summary report. The final report shall be submitted to the Office of Pollution Prevention and Permit Coordination by EDP + 15 months.

The permittee shall obtain 1 samples per month of the parameters below for 1 year. The permittee shall sample as follows using the RQLs specified in Appendix I:

PARAMETER	FREQUENCY	SAMPLE TYPE	RQL(ug/l)	EPA TEST METHOD
PCBs	2 samples/quarter	24 hour composite	See footnote 1 below	

1 **– The Delaware River Basin Commission obtained a single sample of wastewater outfall on August 21, 1996 from the then owner/operator, Solutia, Inc.** The sample was analyzed using a High Resolution Gas Chromatography and High Resolution Mass Spectrometry. The use of the test allows analysis down to 0.5 nanograms per liter. PCBs were detected at a level of 10.3 nanograms per liter using this methodology on the August 21, 1996 sample. Based on this information, the wastewater sample shall be analyzed by Method 1668 - Toxic Polychlorinated Biphenyls by Isotope Dilution Method High Resolution Gas Chromatography and High Resolution/Mass Spectrometry, EPA-821-R-97-001, March 1997, Draft. This method is performance-based, requiring the permittee to demonstrate that the analytical laboratory can achieve the required detection limit with the specified degree of precision and accuracy contained in the method. The specific PCB conogers and detection limits are listed in Table 3 of the DRBC study titled "Study of the Loadings of Polychlorinated Biphenyls From Tributaries and Point Sources Discharging to the Delaware River" date June 1998. Sampling for Outfall 1 shall be performed on a twice per quarter basis as described in the above table. Sampling for Outfall 2 shall be performed only in those months when there is a direct stormwater discharge.

If a parameter specified above is shown to be consistently less than the recommended quantitation level (<RQL and/or not detectable) utilizing an approved methodology (in accordance with 40 CFR Part 136) and detection level, in a minimum of four consecutive analyses, the monitoring for that parameter may be discontinued from the study.

If a parameter specified above is detected in one out of the first five sets of samples in the same order of magnitude as the RQL, and the permittee has reason to believe that the detection is "unwarranted", the permittee may submit a request in writing to the Office of Pollution Prevention and Permit Coordination to request a reduction in monitoring or deletion of the parameter from the Study. However, this parameter should continue to be included in the study until a response is received from the Office of Pollution Prevention and Permit Coordination.

If the permittee or contract laboratory determines that the RQL cannot be achieved, justification for a less sensitive detection level must be submitted to the Office of Pollution Prevention and Permit Coordination and a copy should be submitted with the DMR. Pollutants that are detected but not quantified must be reported as such on the lab sheets and on the DMRs.

Modified 11/28/00

3.C.4. **Toxicity Testing Requirements**

The permittee shall conduct acute and chronic toxicity tests on its wastewater discharge DSN 001 in accordance with the provisions in section 2.C.1. of this process package. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.

A. Acute Toxicity Testing Requirements

1. Acute toxicity testing performed to determine compliance with the acute WET limit specified in accordance with the provisions in section 2.C.1. of this process package shall be conducted using the Fathead minnow (*Pimephales promelas*), 96 hour test. The permittee shall also conduct an acute toxicity characterization study using the *Ceriodaphnia dubia*, 48 hour test. Any test that does not meet the specifications of N.J.A.C. 7:18, the laboratory certification regulations, must be repeated within 30 days of the completion of the initial test.

B. Chronic Toxicity Testing Requirements

1. Chronic toxicity tests shall be conducted using the *Ceriodaphnia dubia*, 3 brood survival and reproduction test (Method 1002.0.) and the Fathead minnow (*Pimephales promelas*) 7 day larval survival and growth test (Method 1000.0.) This chronic characterization study will be considered complete when four sets of concurrent tests, using split samples on the two species, have been completed and that data has been deemed sufficient to designate a more sensitive species for the discharge. If that data is deemed insufficient, testing shall continue with two species until such designation is possible. If a test does not meet the specifications contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Permit Program," document, that test must be repeated within 30 days of the completion of the initial test.

   After the initial characterization period, testing shall be conducted using the test species, which has been identified by the Department, as being that which is more sensitive to the effluent discharge.

2. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing methodology yields IC25s from more than one test endpoint, the most sensitive endpoint shall be reported. When more than one test species is being used, the most sensitive test species for the given test date will be used to determine permit compliance.

C. Monitoring Requirements

1. The monitoring frequency for acute and chronic toxicity shall be quarterly.

2. Effluent samples for whole effluent toxicity shall be conducted after the last treatment step, consistent with the collection location for other parameters. The Department may designate an alternate sampling location where such a sampling location is deemed appropriate.

D. Reporting Requirements

1. A fully completed "Methodology Questionnaire for Acute Toxicity Tests," form and a completed "Methodology Questionnaire for Chronic Toxicity Tests," form which includes an identification of the toxicity testing laboratory responsible for the testing shall be submitted to the address below within EDP + 2 months. This information must also be resubmitted within two months of a change of contract laboratory. Copies of these forms are provided to certified laboratories and may be obtained by contacting the address in 2. below.

2. Acute and Chronic toxicity test results shall be reported on the "NJPDES Biomonitoring Report Form - Acute Bioassays," and the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests", respectively, copies of which are provided to certified laboratories. Copies of these report forms may also be obtained by contacting the address below. TWO COPIES of each completed report form shall be submitted within 60 days of test completion to:

New Jersey Department of Environmental Protection
Division of Water Quality, Bureau of Point Source Permitting Region 1
PO Box 029
Trenton, New Jersey 08625
Attention: Biomonitoring Program

4. One copy of each completed report form shall be submitted to the DRBC at the following address.

Delaware River Basin Commission
PO Box 7360
West Trenton, New Jersey 08628
ATTN: Executive Director

5. The test results shall be reported on the permittee's Discharge Monitoring Report (DMR) for the monitoring period during which the test was conducted.

3.C.5. **Toxicity Reduction Implementation Requirements (TRIR)**

A. The permittee shall initiate a tiered toxicity investigation as specified at N.J.A.C. 7:14A-13.17(a)4 if a minimum of two out of six consecutive WET tests for the Fathead Minnow demonstrate that the effluent does not comply with the acute toxicity limit Defined in Section 2.C.1. of this process package. Any test results excluded from these TRIRs as specified at N.J.A.C. 7:14A-13.17(a)2 must be approved in writing by the Department.

B. Tiered Investigation

1. Toxicity Characterization Phase (TCP)

(a) Within 30 days of the close of the monitoring period which contained the second exceedance referenced in A. above, the permittee shall initiate a TCP as specified at N.J.A.C. 7:14A-13.17(a)4. The data collected in the TCP will be used to characterize effluent variability and to identify the magnitude and frequency of toxicity.

(b) If the results of four consecutive tests conducted during the TCP do not exceed the acute toxicity limit in this permit, the permittee may return to the original monitoring frequency specified in 2.C.1. of this process package and the TRIRs of this permit are considered complete. If in the future, however, two of any six consecutive, acceptable tests conducted at the frequency specified in 2.C.1. of this process package again exceed the acute toxicity limit contained in this permit, the TCP shall again be initiated as specified in 1.(a) above.

2. Preliminary Toxicity Investigation (PTI)

(a) Upon the third exceedance of the acute toxicity limit conducted during the TCP, a PTI shall be initiated as specified at 13.17(a)4.ii.

3. Comprehensive Toxicity Investigation (CTI)

(a) Where at the completion of the PTI the effluent does not demonstrate consistent compliance with the acute toxicity limit, consistent with C. below, a CTI shall be initiated as specified at N.J.A.C. 7:14A-13.17(a)7.

(b) Within 90 days of the CTI completion, the permittee shall submit to the Department the final results. These results shall include the corrective actions identified as necessary to reduce the toxicity to permit limitation levels and a schedule for completion of the identified actions.

(c) Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule. Once corrective action(s) are implemented, the permittee shall conduct testing as specified in C. below to demonstrate consistent compliance. If, for any reason, the implemented measures do not result in consistent compliance with the toxicity limit as defined in C. below, the permittee shall submit to the Department a plan for resuming the CTI.

(d) The CTI shall not be complete until the permittee has demonstrated consistent compliance with the toxicity limitation in the permit as defined in C. below, using the more frequent period of monitoring specified therein. The Department may extend the time frame for completing the investigation where reasonable justification exists. A request for an extension must be made in writing and must include justification and supporting data for such a request.

C. Demonstration of Consistent Compliance

1. If at any time during or at the completion of the PTI or CTI, the cause of the toxicity is identified and necessary corrective actions are implemented by the facility, the permittee shall then initiate the monitoring referenced in item C.2. below to demonstrate consistent compliance. If toxicity test results indicate consistent compliance as defined therein, the permittee may return to the monitoring frequency specified in 2.C.1. of this process package.

2. A demonstration of consistent compliance shall consist of four consecutive acute toxicity tests conducted on a monthly basis which meet the acute toxicity limit contained 2.C.1. of this process package.

D. Extension of the Toxicity Reduction Implementation Requirements

1. The Department may modify established compliance schedules or any time frame established within these TRIRs where it determines that reasonable justification exists and where such justification is provided by the permittee in a timely manner.

E. Monitoring and Reporting Requirements

1. During the PTI or CTI, the permittee shall conduct acute testing at the monitoring frequency specified in 2.C.1. of this process package. A permittee may elect to conduct testing at a greater frequency to obtain additional data.

2. Progress reports shall be submitted during the conduct of these TRIRs as specified at N.J.A.C. 7:14A-13.17(a).

3.C.5. **Industrial Residuals Management**

a. The permittee shall give written notice to the Department of any planned physical alterations or additions to the permitted facility when the alteration or addition is expected to result in a significant change in the permittee's residual use or disposal practices. This includes,

but is not limited to, notification to the Department of additional or different residual use or disposal sites not reported during the permit application process [40 CFR 122.41(l)(1)(iii) and N.J.A.C. 7:14A-6.7].

b. Where applicable, the permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under [N.J.A.C. 7:14A-6.15(a)]:

i. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;

ii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 *et seq*., and the Solid Waste Management Rules, N.J.A.C. 7:26;

iii. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14-4;

iv. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 *et seq*., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 *et seq*.; and

v. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan. Any person who prepares residual that is disposed in a municipal solid waste landfill unit shall ensure that the residual meets the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.).

c. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal [40 CFR 122.44(b)(2) and N.J.A.C. 7:14A-6.3, 20.5 and 6.15(c)].

d. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six (6) months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six (6) months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six (6) months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six (6) months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.

e. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department. For domestic treatment works with a permitted flow equal to or greater than 1.0 MGD, pursuant to the Statewide Sludge Management Plan, should the permittee expand and/or upgrade wastewater treatment facilities, and in absence of a District Sludge Management Plan, the permittee shall

develop a plan for management of residuals projected to be produced by the upgraded and/or expanded facilities at design (maximum permitted) flow or projected flow in ten (10) years, whichever is greater. The plan for the upgraded and/or expanded treatment facilities shall be submitted in conformance with the requirements of N.J.S.A. 13:1E-45 to the Bureau of Pretreatment and Residuals at the address cited below prior to implementation of the expanded or upgraded facilities:

NJDEP
Division of Water Quality
Bureau of Pretreatment and Residuals
PO Box 029
Trenton, New Jersey 08625-0029

All plans approved by the Department are required to undergo a biennial review by the generator. If a modification is found to be necessary, an update must be submitted. Where it is determined during biennial review that no changes are necessary, the generator must submit a resolution stating that the plan has been reviewed and has been determined to require no amendments.

f. When a person who prepares bulk residual provides the bulk residual to a person who applies the bulk residual to the land, the person who prepares the bulk residual shall provide the Department and the person who applies the bulk residual notice and necessary information to comply with the requirements of N.J.A.C. 7:14A-20. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C 7:14A-20.7(j). [N.J.A.C. 7:14A-20.7(b)1vi.]

g. When a person who prepares residual provides residual to another person who prepares the residual, the person who provides the residual shall provide the Department and the person who receives the residual notice and necessary information to comply with N.J.A.C. 7:14A-20. [N.J.A.C. 7:14A-20.7(b)1vii.]

h. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)ix and/or 20.7(b)x, as applicable, to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

Attachment ONE

CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN

I. Stormwater Pollution Prevention Plan

The following outline provides the key elements of an acceptable Storm Water Pollution Prevention Plan (SPPP). The purpose of the SPPP is to meet the following objectives:

A. to identify potential sources of pollution and source materials on-site which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity;

B. to describe and ensure that practices are implemented to eliminate and/or reduce pollutants from source materials in stormwater discharges associated with industrial activity; and

C. to ensure compliance with the terms and conditions of this permit.

II. Stormwater Pollution Prevention Team

The permittee shall form and identify a Stormwater Pollution Prevention Team in the SPPP. 'Be SPPP shall name a specific individual or individuals within the facility organization who are members of the team. The team is responsible for developing the SPPP in accordance with good engineering practices, and in the plan's implementation, and maintenance. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's SPPP, which are provided below.

Ill. Description of Existin2 Environmental Management Plans & Pro2rams

The SPPP team shall evaluate the facility's existing environmental management plans and programs for consistency

with this permit and determine which provisions, if any, from these other plans can be incorporated by reference into the SPPP.

Examples of plans and requirements which may be referred to when applicable to the site include: Discharge

Prevention Containment and Counter-measure (DPCC), Discharge Cleanup and Removal (DCR), Preparedness Prevention Requirements and Contingency Plan (PPRCP, 40 CFR Parts 264 and 265), the Spill Prevention Control and Countermeasures (SPCC) requirements (40 CFR Pan 112), the National Pollutant Discharge Elimination System Toxic Organic Management Plan (NPDESTOMP, 40 CFR Parts 413, 433, and 469), and the Occupational Safety and Health Administration (OSHA) Emergency Action Plan (29 CFR Part 1910). A Copy of any plans referred to in the SPPP should be kept on-site with the SPPP.

IV. Site Assessment

The Site Assessment shall describe the physical facility and the potential pollutant sources (materials, activities and areas) which may be reasonably expected to affect the quality of stormwater discharges. 'Be key elements of the site assessment shall include, at a minimum, the following requirements:

A. Inventory Requirements

Each facility must develop and update annually, as appropriate, an inventory which includes, at a minimum, the following:

1. List of the general categories of source materials that have been used, loaded/unloaded, stored, treated, spilled, leaked and/or disposed on-site in a manner to allow exposure to stormwater; and

2. List of any domestic wastewater, non-contact cooling water, or process wastewater (as defmed in N.J.A.C. 7:14A), that is generated at the facility and discharged through separate storm sewers (as defmed in N.J.A.C. 7:14A) to surface waters. List any current NJPDES (New Jersey Pollutant Discharge Elimination System) permit or permit application that the facility may have for such discharges.

B. Mapping Requirements

A site map drawn to scale that clearly shows the following:

1. Buildings and other permanent structures;

2. Paved area and roadways;

3. Surface water bodies (e.g. rivers, lakes, streams, bays, and estuaries) that are located on or about the property, which receives or may receive stormwater from the site;

4. Location of all stormwater discharge points and outfalls;

5. Location of each point or sewer segment, where domestic wastewater, process wastewater, or non-contact cooling water generated by the facility enters storm sewers that discharge to surface waters;

6. Outline of the drainage area within the facility boundaries for each stormwater outfall and a depiction of flow direction (e.g. arrow head) of stormwater in each drainage area;

7. Locations where source materials are Rely to be exposed to stormwater, and the following activities and/or storage, at a minimum; storage areas, palleted materials, outdoor handling, treatment or disposal areas, loading and/or unloading areas, manufacturing and/or processing areas, waste storage areas, vehicle/equipment maintenance areas, vehicle/equipment fueling areas, hazardous waste storage or disposal areas, areas of spills and/or leaks of source materials, and access routes;

8. Location of existing stormwater structural control measures (e.g. containment, berms, detention/retention basins, grassed swales); and

9. Areas of existing and potential soil erosion.

10.Narrative Description of Existing Conditions

The SPPP shall include a narrative description concerning the existing management of all source materials at the facility which are handled, treated, stored, disposed, or which otherwise exist in a manner allowing contact with stormwater. The narrative description shall address the following where appropriate:

1. Any discharges of domestic wastewater, non-contact cooling water, or process water that are listed in accordance with A.2 above (unless such discharges have been authorized by other NJPDES permits or identified in applications or requests for authorization submitted for other NJPDES permits);

2. Description of type of industrial activities and/or areas (e.g. fueling, material handling, manufacturing or processing areas) at the site;

3. The actual or potential pollutant categories associated with each industrial area and/or activity where source materials are likely be exposed to stormwater including, but not limited to: fueling stations, loading/unloading -eas, maintenance shops, areas where spills and/or leaks of source materials frequently ocx r, equipment or vehicle cleaning areas, outdoor storage areas, outdoor manufacturing or processing areas, on-site waste disposal areas, above ground liquid storage tanks, outside storage of raw materials, by-products, or finished products, (e.g. fueling area - diesel fuels, gasoline, petroleum hydrocarbons); and

4. A description of existing management practices employed to:

a) eliminate contact of source materials with stormwater;

b) b) minimize or reduce pollutants from source materials through structural or non-structural measures;
c) divert stormwater to specific areas on or off-site, including diversion to containment areas, holding tanks, treatment facilities, or sanitary or combined sewers;

d) treat stormwater discharging from the site; and
e) prevent or permit any discharges of domestic wastewater, non-contact cooling water, or process wastewater to surface water.

V. Best Management Practices (BW) Selection and Plan Design

The permittee shall evaluate the information from the site assessment phase of this plan to identify potential and existing sources of stormwater contaminated by source material. All discharges of domestic wastewater, non- contact cooling water, and process wastewater must be eliminated or permitted. Based upon the site assessment performed, the permittee shall develop BMP's that will effectively eliminate or reduce pollutant loadings in stormwater discharges from the facility in accordance with the following sections. BMP's are measures used to prevent or mitigate pollution from any type of activity. 'Be evaluation and selection of the BMP's addressing each area, and/or activity where source materials are exposed to stormwater discharging to surface water, shall be documented in the SPPP and shall include at a minimum the following BMPS:

A. Non-Stormwater Discharges into Storm Sewers ne facility shall ensure that it does not generate and discharge, through storm sewers to surface waters, any domestic wastewater, non-contact cooling water, or process wastewaters, unless that discharge is authorized by another NJPDES permit or identified in an application or request for authorization submitted for another NJPDES permit.

B. Removal, Cover or Control of Industrial Activities Except as specified and required in Part I of the permit for certain, specific exposures of source materials, all other source materials shall be moved indoors, covered, used, handled, and/or stored in a manner so as to prevent contact with stormwater that is discharged to surface water. Each BMP that prevents such contact shall be identified and discussed in the SPPP.

C. Diverting Stormwater Approved diversion of contaminated stormwater to either a domestic or industrial wastewater treatment plant may also be considered when choosing an appropriate BNT where feasible. (Diversion to groundwater may require a separate NJPDES permit. Consult the Departments Bureau of Operational Groundwater Permits.)

D. Spill Prevention and Response Areas where actual or potential spills of source materials are exposed to stormwater discharges can occur, and their accompanying drainage points shall be identified clearly in the SPPP. Where appropriate, specific material handling procedures, storage requirements and use of equipment such as diversion valves shall be developed and practiced to prevent and/or eliminate spills and/or leaks of source materials from being exposed to stormwater. Procedures for cleaning up spills shall be specifically included in the plan and made available to the appropriate personnel through scheduled employee training. In addition, the facility shall provide or otherwise make available to its personnel the appropriate and necessary spill cleanup equipment to effect an immediate and thorough spill cleanup.

E. Good Housekeeping

The SPPP must include a good housekeeping program to help maintain a clean and orderly work place. For certain activities or areas, the discharge of stormwater exposed to source materials may be prevented merely by using good housekeeping methods. The following are some simple procedures that a facility can consider incorporating into an effective good housekeeping program:

1. Conduct cleanup immediately after discovery of leaks and spills;
2. Implement careful material storage practices;
3. Improve operation and maintenance of industrial machinery and processes;
4. Maintain up-to-date material inventory;
5. Maintain well-organized work areas;
6. Provide regular pickup and disposal of waste materials;
7. Maintain dry and clean floors and ground surfaces by using brooms, shovels, vacuum cleaners, or cleaning machines; and

8. Train employees about good housekeeping practices.

F. Preventative Maintenance

The SPPP shall include a Preventative Maintenance Program to include timely and regular inspections and maintenance of stormwater management devices (e.g. cleaning oil/water separators, catch basins, drip pans, catch

basins, detention basins, covers, treatment units) and routine inspections of facility equipment and operations to detect faulty equipment. Equipment (such as tanks, piping, containers, and drums) should be checked regularly for signs of deterioration.

G. Inspections and Regular Evaluation Process

1. Regular Inspections The SPPP shall require regular inspections of the facility's equipment, exposed source materials and industrial areas to provide that all elements of the SPPP are in place and working properly:

Inspections shall be conducted by qualified, trained plant personnel. Records of these inspections shall be kept on-site with the SPPP. These inspection records shall consist of the following, at a minimum: date of inspection; location of and problem(s) identified; steps taken to correct problem(s) and prevent reoccurrence; and, inspector's names and title. In addition, these inspection records shall record any incidents such as leaks or accidental discharges, and any failures or breakdowns of structural Bmps.

2. Annual Inspections

The SPPP shall also require an annual inspection and report of the entire facility in accordance with Section IV, paragraphs 14 and 15 of this permit.

3. Evaluation Process

The SPPP shall include a system to routinely and continually evaluate the SPPP for effectiveness, any flaws that may have developed, and maintenance that may be required. The routine evaluation must include, but not be limited to, regular and annual inspections, inspection logs and records, internal reporting, plan revisions to correct any flaws detected in the SPPP or to reflect changes/additions at the facility, and logs of preventative maintenance performed at the facility. In addition, the Annual Reports and Certifications required pursuant to Section IV, paragraphs 14, 15 and 18 of this permit are integral to the evaluation process.

VI. Implementation Schedule

The SPPP shall include an implementation schedule for all structural and non-structural BMP's including a schedule(s) for removal, coverage, and minimization of exposure of source material to stormwater, and/or stormwater diversion or treatment. The schedule shall meet the deadlines established pursuant to Section IV, paragraph 18 of this permit Upon completion of the initial SPPP, those BMP's (e.g. spill response, good housekeeping) that may readily be implemented shall be done so within 30 days, if not already practiced.

VII. General Plan Requirements

This section provides additional requirements on the administrative requirements related to finalizing your SPPP. It covers (1) required signatures, (2) requirements for plan location and access, and (3) required certifications.

A. Required Signatures for SPPP and Attachments TWO and THREE

The SPPP and Attachments TWO and THREE shall be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively;
3. For a municipality, State, Federal or other agency, by either a principal executive officer or a ranking official; or
4. For 1., 2., or 3. above, by a duly authorized representative, provided that:
    a) the representative is authorized by a person described in 1, 2, or 3 above;

b) this authorization specifies either an individual or a position responsible for the overall operation of the regulated facility or activity (e.g. plant manager, superintendent); and c) the written authorization is submitted to the Department.

Attachment ONE, 4

B. Plan location and Public Access
   1. The SPPP and inspection and preventative maintenance records or logs shall be maintained on site at all times. These documents must be made available, upon request, to a representative of the Department and to the owner and operator of any municipal separate storm sewer receiving the stormwater discharge.
   2. The SPPP shall be made available to the public upon request. The facility may claim any portion of the SPPP as confidential in accordance with the provisions set forth in N.J.A.C. 7:14A-11.

Attachment ONE, 5

New Jersey Department of Environmental Protection
Bureau of Nonpoint Pollution Control

ATTACHMENT TWO

Stormwater Pollution Prevention Plan (SPPP) Preparation Certification

NJPDES INDUSTRIAL INDIVIDUAL PERMIT

Submit a copy of the plan along with this certification to the Bureau of Nonpoint Pollution Control and the appropriate Regional Bureau of Water Compliance and Enforcement. The original plan and a copy of this Certification are to remain <u>on site</u> available for inspection. All revisions made to the plan also shall be submitted.

Facility Name: _____

NJPDES No. _____

"I certify under penalty of law that I have signed and personally examined and am familiar with the information in the Stormwater Pollution Prevention Plan (SPPP), this Preparation Certification, and all attached documents. I further certify that if any part of this stormwater pollution prevention plan requires the consent of the owner(s) of or another operating entity for the facility, that consent has been obtained.

"I further certify that the SPPP and all attached documents were prepared by qualified personnel under my direction or supervision in accordance with a system designed to assure that this information was properly gathered and evaluated. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe and certify that the information in the SPPP and all attached documents is true, accurate, and complete.

"I certify that the SPPP referred to in this SPPP Preparation Certification has been signed and the original is retained at the facility in accordance with the permit, and that it will be fully implemented at the facility in accordance with the terms and conditions or the permit...I further certify that a copy of the SPPP and

(OVER)

during the past year), I have attached a report identifying these incidents, and identifying steps taken or being taken to remedy the noncompliance and to prevent such incidents from recurring. If the attached report identifies any incidents of noncompliance, I certify that any remedial or preventative steps identified therein were or will be taken in compliance with the schedule set forth in the attachment to this certification. I am aware that pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., there are significant civil and criminal penalties for making a false statement, representation, or certification any application, record, or other document filed or required to be maintained under that Act, including fines and/or imprisonment."

WHO MUST SIGN?

FOR A CORPORATION: a "responsible corporate officer" or duly authorized representative. A "responsible corporate officer" is (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

FOR A PARTNERSHIP OR SOLE PROPRIETORSHIP: a general partner or the proprietor, respectively, or duly authorized representative.

FOR A MUNICIPALITY, STATE, FEDERAL OR OTHER PUBLIC AGENCY: either a principal executive officer or ranking elected official, or duly authorized representative.

A "responsible corporate officer", general partner, proprietor, principal executive officer of a public agency, or ranking elected official may assign his or her signatory authority

_____

(print, if applicable, name of corporation, partnership, or public agency submitting this Certification)

_____ ___/___/___ _____

(signature) (date) (print name)

Please attach all reports and plan revisions to this certification and submit it to the Bureau of Nonpoint Source Control and submit a copy to the appropriate Regional Bureau of Water Compliance and Enforcement. The original SPPP and a copy of this certification are to remain ON SITE available for inspection.

Att3-5/22/97

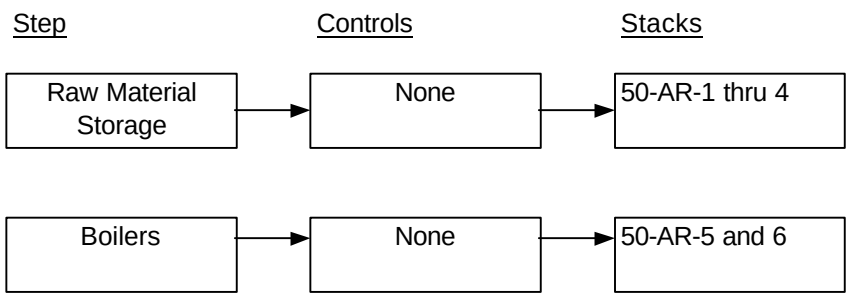
1. A. General Process Description

Boiler Process

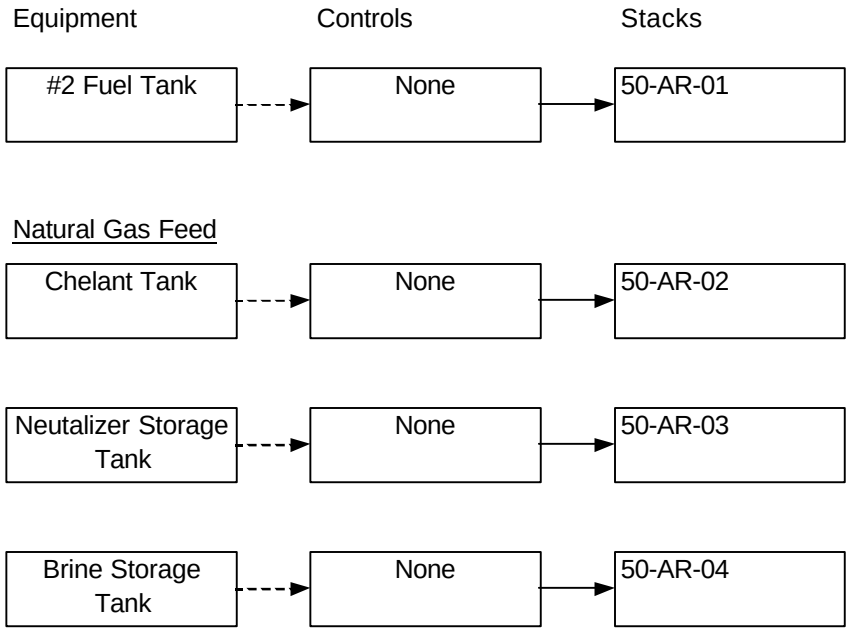
The boiler is used to generate steam for on-site uses at the facility. The steam is used in all plant process areas. Most of the time steam will be supplied from an off-site co-generation plant.

1.B. Process Flow Diagrams

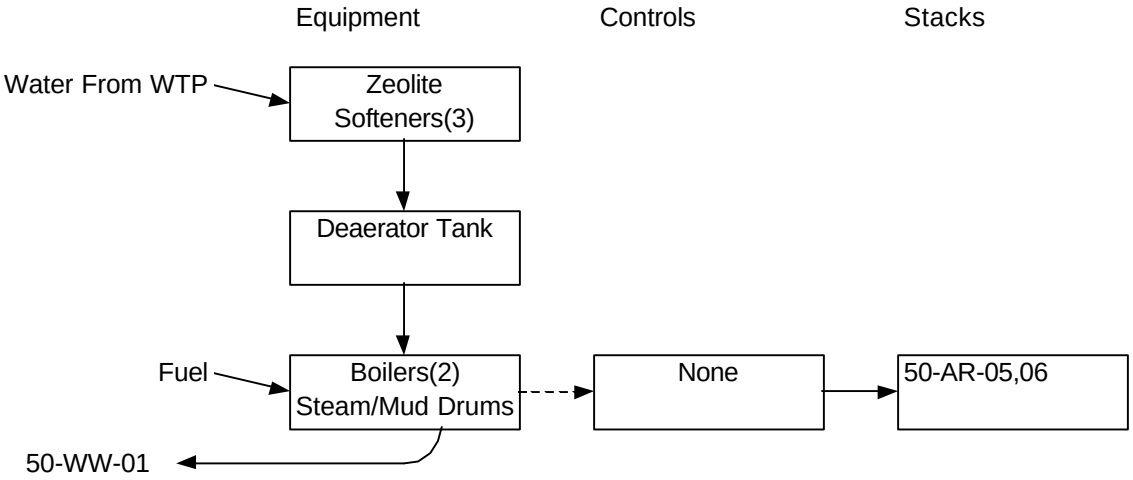
Boiler Process Flow Diagram



Boiler Process - Step 1
Raw Material Storage Step



Boiler Process - Step 2
Boiler Step



1.C. Equipment, Control Device, and Source Sheet Information

Boiler Process Equipment and Control Device List - Step 1

Raw Material Storage

The Raw Material Storage step of the Boiler Process includes one #2 fuel tank, one chelant tank, one neutralizer tank and one brine storage tank.

Significant Sources	Capacity	Control
#2 Fuel Tank (50-STV-01)	35,000 gallons	None

Insignificant Sources	Capacity	Control	Insignificance
Chelant Tank (50-STV-02)	2,000 gallons	None	<10K Storage
Neutralizer Storage Tank (50-STV-03)	1,500 gallons	None	<10K Storage
Brine Storage Tank (50-OTT-01)	1,000 gallons	None	<10K Storage

Boiler Process Equipment and Control Device List - Step 2

Boiler Step

The Boiler step of the Boiler Process includes two zeolite softeners, one deaerator tank and two boilers.

Significant Sources	Capacity	Control
Vogt Boiler (50-STA-01)	44 MMBTU/Hr	None
Murray Boiler (50-STA-02)	88 MMBTU/Hr	None

Exempt Sources	Capacity	Exempt Status
Zeolite Softeners (3) (50-PRV-01, 50-PRV-02, 50-PRV-04)	1,000 gallons each	Pressurized
Deaerator Tank (50-PRV-03)	2,000 gallons	Only Water Storage

1.D. Source Control Data Sheets

Equipment Supplemental Form - Boiler

1. Facility Description of Boiler: 50-STA-01

2. Manufacturer: Henry Vogt Machine Co. Make: Vogt Model: VV99-60

3. Anticipated Date of Installation or Alteration: N/A

4. Boiler Type (Underline all that apply) Utility Boiler / Non-utility Boiler / Fire Tube
   Water Tube / Package / Field Erected

5. Maximum Gross Heat Input (MMBtu/hr): 44

6. Type Stream Output (lb/hr) 33,000

7. Fuel to be Fired

Primary Fuel (Specify):	Natural Gas	Secondary Fuel (Specify):	#2 fuel oil
Maximum Annual Fuel Use:	377,285,714 CF	Maximum Annual Fuel Use:	2,715,600 gallons
Heating Value (Btu/lb Fuel):	1,020 Btu/CF	Heating Value (Btu/lb Fuel):	142,000 Btu/gal
% Sulfur in Fuel:	0	% Sulfur in Fuel:	<0.2

8. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration
Staged Air Combustion	Electrostatic Precipitator
Scrubber	Catalytic Oxidizer
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):
Selective Catalytic Reduction (SCR)	
Flue Gas Recircualtion (FGR), Specify % FGR	Induced Draft / Forced Draft

Questions 9 through 11 for boilers over 50 MMBtu/hr

9. Fuel Firing Method: Tangential / Cyclone / Face/Wall / Fluidized Bed

10. Draft Type: Induced / Forced / Balanced

11. Additional Information

    Expected % Moisture in Flue Gas:
    Expected % Oxygen in Flue Gas:
    Heat Release Rate (Btu/ft^3):

Equipment Supplemental Form - Boiler

17. Facility Description of Boiler: 50-STA-02

18. Manufacturer: Murray Iron Work Co. Make: Murray Model: MCF4-61

19. Anticipated Date of Installation or Alteration: N/A

20. Boiler Type (Underline all that apply)

Utility Boiler	Non-utility Boiler	Fire Tube
Water Tube	Package	Field Erected

21. Maximum Gross Heat Input (MMBtu/hr): 88

22. Type Stream Output(lb/hr): 66,000

23. Fuel to be Fired

Primary Fuel (Specify):	Natural Gas	Secondary Fuel (Specify):	#2 Fuel Oil
Maximum Annual Fuel Use:	755,764,714 CF	Maximum Annual Fuel Use:	310,000 gallons
Heating Value (Btu/lb Fuel):	1,020 Btu/CF	Heating Value (Btu/lb Fuel):	142,000 Btu/gal
% Sulfur in Fuel:	0	% Sulfur in Fuel:	<0.2

24. Air Pollution Control Technologies (Underline All That Apply)

Low NOx Burners (LNB)	Particulate Control – Filtration
Staged Air Combustion	Electrostatic Precipitator
Scrubber	Catalytic Oxidizer
Selective Non-Catalytic Reduction (SNCR)	Other (Specify):
Selective Catalytic Reduction (SCR)	
Flue Gas Recircualtion (FGR), Specify % FGR	

Induced Draft Forced Draft

Questions 9 through 11 for boilers over 50 MMBtu/hr

25. Fuel Firing Method: Tangential, Cyclone, Face/Wall, Fluidized Bed

26. Draft Type: Induced, Forced, Balanced

27. Additional Information

Expected % Moisture in Flue Gas:
Expected % Oxygen in Flue Gas: 7%
Heat Release Rate (Btu/ft^3): 6.34 Btu/ft^3

Additional Information is in file

1.E. Process Stack Sheet Information

Stack Designation	Description	# of Sig Sources	New Jersey Stack #	Previous Certificate Numbers	Distance to Nearest Property Line (ft)	Diameter Dimension (in)	Discharge Height (ft)	Exit Temp (F)	Gas Discharge Rate (acfm)	Discharge Direction (Up,Down, Horizontal)
50-AR-01	Fuel Oil Storage Tank	1		Gran	1000	3	22	<100	<30	Down
50-AR-05	Vogt Boiler	1	5	Gran	1200	36	40	350-625	<21,500	Up
50-AR-06	Murray Boiler	1	6	Gran	1200	36	40	350-625	<43,000	Up

1.F. Raw Material/Contaminant List

VOCs
Particulate
CO
NOx
SOx
HAPs
- Lead Compounds
- POM
- Formaldehyde

Other
- Methane 74-82-8
- Sodium Chloride

2.A. and B. Technical Information - Release and Alteration/Amendment Limits

Category:	Particulate		Volatile Organic Compounds			CO	NOx	SOx	Other
Sub-Category:	PM10	Other	HAPS		OTHERS				
Constiuent:			POM	Formaldehyde					Methane
Significant Sources	Max Hours	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr	Lb/Hr
50-STA-01(NG)	8760	0.886				0.180	2.265	9.059	0.039	0.195
50-STA-01(#2)	8760	0.465	0.465	0.002	0.028	0.093	2.324	9.296	13.386	0.024
50-STA-02(NG)	8760	1.773				0.360	4.529	8.800	0.078	0.390
50-STA-02(#2)	500	0.930	0.930	0.003	0.057	0.186	4.648	18.592	26.772	0.048
50-STV-01	n/a	No pound/hour, Storage Only								
Ton/Year Significant		7.77	1.51	0.00275	0.0508	1.58	19.86	79.43	24.22	1.71
Ton/Year Insignificant		0	0	0	0	0	0	0	0	0
Ton/Year Fugitive		0	0	0	0	0	0	0	0	0

3. Compliance Plan

3.A. Applicable Requirements

The following **fuel storage** emissions source types are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-8.2(a), 9.2(b):

Significant Sources
50-STV-01 Fuel Oil Storage Tank

The following **combustion** sources are regulated under and subject to the terms and conditions of N.J.A.C. 7:27-3.2(a & c), 4.2(a), 8.2(a), 8.3(a through e, h, i, and j), 8.4, 8.9, 9.2(a, b, and c), 9.3(b), 16.8(c), 16.22, 19.7(a, b), 19.16(a, b, c):

Significant Sources
50-STA-01 Vogt Boiler
50-STA-02 Murray Boiler

No additional requirements beyond those referenced in the general section of the permit apply to these sources:

Insignificant Sources
50-STV-02 Chelant Tank
50-STV-03 Neutralizer Storage
50-OTT-01 Brine Storage Tank

3.B. Recordkeeping, Monitoring, and Reporting

1. Recordkeeping

The permittee shall record the following for the **fuel combustion** emissions:

a. The quantity of natural gas and # 2 fuel oil burned per month
b. The quantity of natural gas and quantity of #2 fuel oil burned per boiler per year on a rolling monthly basis (The gallons of #2 fuel oil and cubic feet of natural gas per any consecutive 12-month period shall be calculated by the sum of the gallons or cubic feet burned during one month added to the sum of the previous 11 months.)

The permittee shall keep records of the yearly adjustment to the combustion process for both the Murray and Vogt Boiler in accordance with N.J.A.C. 7:27-19.16(c).

a. The date of the adjustment and the times at which it began and ended;
b. The name, title and affiliation of the person who made the adjustment;
c. The NOx concentration in the effluent stream, in either ppmv or ppmvd, after each adjustment was made;
d. The CO concentration in the effluent stream, in either ppmv or ppmvd after each adjustment was made;
e. The concentration of O_2 at which the CO and NOx concentrations were measured;
f. The fuel type and feed rate at the time of measurement

The permittee shall keep records of all shipments showing fuel sulfur content for the #2 fuel oil.

The permittee shall maintain the following records pursuant to the opacity testing required in 2. below:

a. Date and time of inspection
b. Emission point identification
c. Operation status of equipment
d. Observed results and conditions
e. Description of corrective action taken if needed
f. Date and time opacity problem was solved, if applicable
g. N.J.A.C. 7:27B-2 results if conducted
h. Name of person/s conducting the inspection

These records shall be maintained on site for a minimum of five years after the last collection, in a permanently bound log book, reasonably accessible files, readily accessible computer memory, or by another method acceptable to the Regional Enforcement Office. These records must also be available to representatives of the Department.

2. Monitoring

Fuel usage (both #2 fuel oil and natural gas) for both boilers shall be monitored monthly.

The permittee shall conduct visual opacity inspections during daylight hours on a daily basis when burning #2 fuel oil in the boilers to ensure there are no visible emissions. Visual inspections shall consist of a visual survey to identify if the stack has visible emissions, (other than condensed water vapor), greater than the prescribed standard. If visual emissions are observed, the permittee shall do the following:

a. Verify the equipment causing the emission is operating according to manufacturers specifications and the permit compliance plan. If the equipment is not operating properly, the permittee shall take corrective action immediately to eliminate the excess emissions. The permittee shall report any permit violation to NJDEP pursuant to N.J.A.C. 7:27 et seq.

b. If the corrective action taken in step a. above does not correct the problem within 24 hours, the permittee shall perform a check via a certified opacity reader, in accordance with N.J.A.C. 7:27B-2. Such a test shall be conducted each shift until the corrective action is taken to successfully correct the opacity problem. The permittee must report any continuing permit violation to NJDEP pursuant to N.J.A.C. 7:27 et seq.

3. Reporting

Release Summary Reports: The permittee shall submit to the Department, beginning from the effective date of this permit, a summary of all releases from this process. The requirements of this report are defined in Section III.D.3.a. of this permit.

3.C. Special Conditions

1. In accordance with N.J.A.C. 7:27-9.2(b), the permittee shall not accept, store, sell or burn #2 fuel oil with a sulfur content greater than 0.2% by weight.

2. A maximum of 3,025,600 gallons of #2 fuel oil or 1,133,050,428 ft3 of natural gas may be burned in a rolling calendar year. Any combination meeting the formula as follows is also acceptable:
F + 0.00718 * G <= 8,143,098 where F = gallons of #2 fuel oil burned and G = cubic feet of natural gas burned.

3. The maximum heat input for the Murray Boiler (50-STA-02) is 88 MMBtu/hr. The maximum heat input for the Vogt Boiler (50-STA-01) is 44 MMBtu/hr.

4. The Murray boiler (50-STA-02) is limited to burning #2 fuel oil for a maximum of 500 hours per year.

5. The permittee shall inspect the boiler burners as follows for both fuel types, natural gas and #2 fuel oil, in accordance with N.J.A.C. 7:27-19.16(a):

a. Inspect the burner, and clean or replace any components of the burner as necessary to minimize total emissions of NOx and CO;

b. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and

c. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

6. Storage tank 50-STV-01 shall be limited to a maximum throughput of 3,025,600 gallons per year of #2 fuel oil.

7. Flow meters to measure fuel oil flow to each boiler shall be installed and operational within 180 days of the effective date of this permit. Monitoring and recordkeeping of fuel oil to each boiler shall not be required until the monitoring devices are installed and operational.