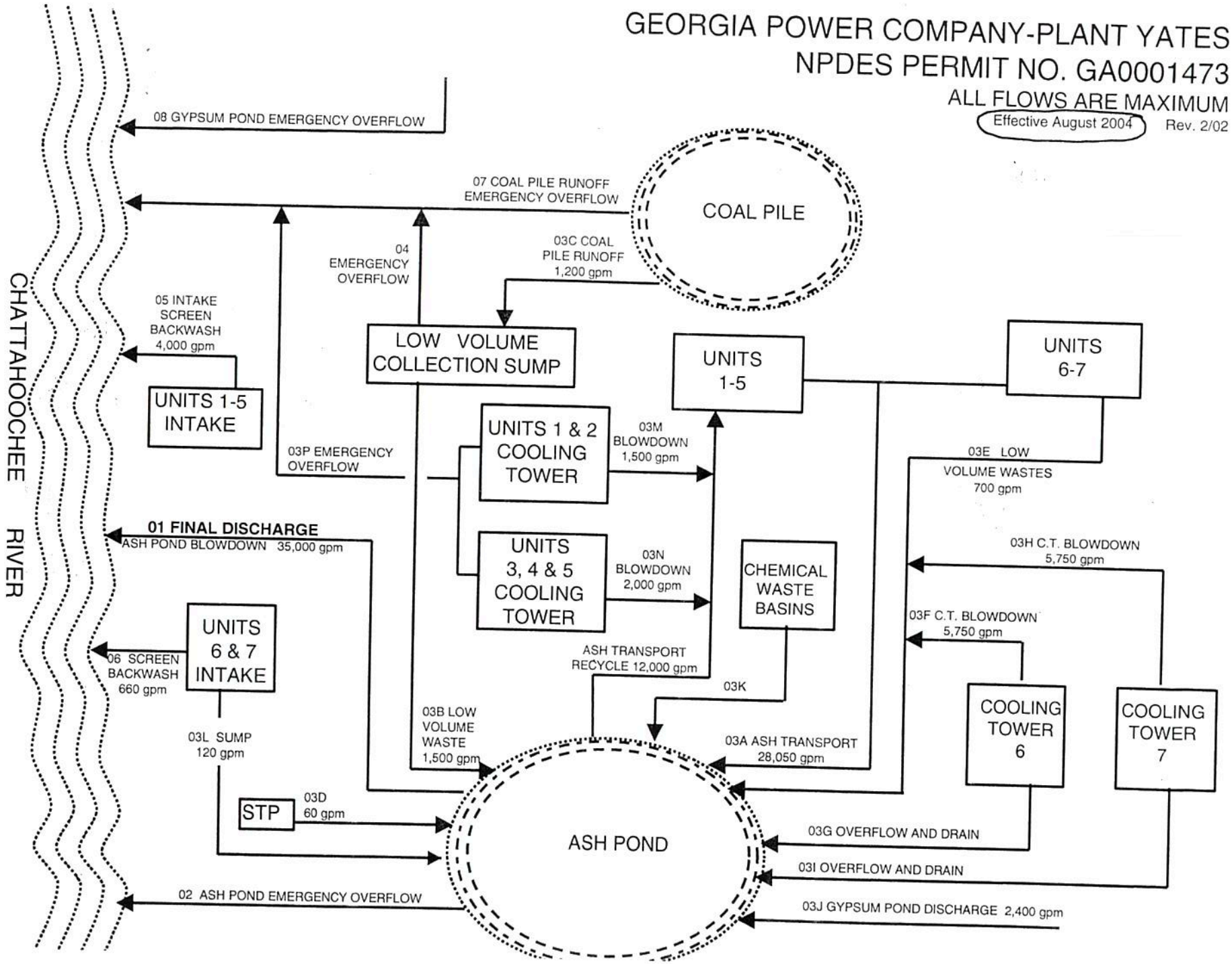
GEORGIA POWER COMPANY-PLANT YATES
NPDES PERMIT NO. GA0001473
ALL FLOWS ARE MAXIMUM

Effective August 2004 Rev. 2/02



PLANT YATES
ASH POND CO-TREATMENT STUDY
(Before Operation of New Cooling Tower)

FEBRUARY 2002

SUMMARY TABLE A
(Sheet 1 of 2)

(A). DRY WEATHER (PROCESS) FLOWS

• 03A Ash Transport Water	28,050 gpm*	40.39 MGD
• 03B Low Volume Waste Units 1-5	1,500 gpm	2.16 MGD
• 03C Coal pile Runoff (Included in 03B)	-	-
• 03D Sewage Treatment Plant	60 gpm	0.09 MGD
• 03E Low Volume Waste Units 6 & 7	700 gpm	1.00 MGD
• 03F Cooling Tower Blowdown Unit 6	5,750 gpm	8.28 MGD
• 03H Cooling Tower Blowdown Unit 7	5,750 gpm	8.28 MGD
• 03J Gypsum Surge Pond Discharge	2,400 gpm	3.46 MGD
• * Deduction for Ash Transport Water Recycle	-12,000 gpm	17.28 MGD
TOTAL DRY WEATHER (PROCESS) FLOW:	32,210 gpm	46.38 MGD

(B). RAINFALL RUNOFF

• Undeveloped Land	293.0 acres	
• Ash Pond 2 Surface Area – Wet	54.0 acres	
• Immediate Area to Ash Pond 2	50.0 acres	
• Remainder Area to Ash Pond 2	284.0 acres	
• Emergency Ash Pond 3	620.0 acres	
Total Runoff Area	1,301.0 acres	
10 year, 24 hour storm	5.80 inches	
Annual Rainfall	51.35 inches	
Equivalent Direct Run-off (Area 1)	2.65 inches	21.08 MGD
Equivalent Direct Run-off (Area 2)	4.12 inches	43.41 MGD
Equivalent Direct Run-off (Area 3)	Use Lag/Time of Conc.	37.98 MGD
TOTAL RAINFALL RUNOFF:		102.47 MGD

(C). REQUIRED WATER STORAGE VOLUME (MINIMUM FOR CO-TREATMENT)
(A) Total Dry Weather Flow + (B) Total Rainfall Runoff = 46.38 MGD + 102.47 MGD

TOTAL REQUIRED STORAGE VOLUME: = 148.85 MGD or 737,039 CY

(D). AVAILABLE WATER VOLUME
- Pond 2 (with Surcharge Capacity @ pond EL 725.5) = 156.39 MGD or 774,381 CY
- Pyrite Pond = 10.10 MGD or 50,000 CY

AVAILABLE VOLUME (POND 2 & PYRITE POND): =166.49 MGD or 824,381 CY

PLANT YATES
ASH POND CO-TREATMENT STUDY
(Before Operation of New Cooling Tower)

FEBRUARY 2002

SUMMARY TABLE A
(Sheet 2 of 2)

E). ASH POND REMAINING STORAGE
(D) Total Available Volume – (C) Required Water Storage Volume =

REMAINING STORAGE (POND 2 & PYRITE POND): = 824,381 CY – 737,039 CY = 87,342 CY

Projected Remaining Pond volume for wet storage on 12/31 **(See Note 3 below)**

YEAR	2002	2003	2004
CU YDS	87,342	87,342	87,342
MG	17.64	17.64	17.64

AVAILABLE WATER VOLUME on 12/31/2004: =17.64 MG or 87,342 CY

FROM ABOVE, (D) IS GREATER THAN (C), THEREFORE ASH POND 2 DOES HAVE ADEQUATE CAPACITY TO SATISFY CO-TREATMENT REQUIREMENTS.

NOTES:
1. The rainfall was determined using the Soil Conservation Service (SCS) Method and Georgia Manual for Sediment and Erosion Control, 2000 edition.
2. Surcharge interpretation uses EL 725.5 in Ash Pond 2 & 50,000 CY in the Pyrite Pond.
3. Volume projected for surcharge interpretation through year 2004 assumes that adequate dredging, dry stacking, and use of the monofill area will be implemented to prevent available storage volume from falling below the minimum required for co-treatment purposes.

PLANT YATES
ASH POND CO-TREATMENT STUDY
(After Operation of New Cooling Tower)

FEBRUARY 2002

SUMMARY TABLE B
(Sheet 1 of 2)

(A). DRY WEATHER (PROCESS) FLOWS

• 03A Ash Transport Water	28,050 gpm*	40.39 MGD
• 03B Low Volume Waste Units 1-5	1,500 gpm	2.16 MGD
• 03C Coal pile Runoff (Included in 03B)	-	-
• 03D Sewage Treatment Plant	60 gpm	0.09 MGD
• 03E Low Volume Waste Units 6 & 7	700 gpm	1.00 MGD
• 03F Cooling Tower Blowdown Unit 6	5,750 gpm	8.28 MGD
• 03H Cooling Tower Blowdown Unit 7	5,750 gpm	8.28 MGD
• 03J Gypsum Surge Pond Discharge	2,400 gpm	3.46 MGD
• 03M Cooling Tower Blowdown Units 1 & 2	1,500 gpm	2.16 MGD
• 03N Cooling Tower Blowdown Units 3, 4, & 5	2,000 gpm	2.18 MGD
• * Deduction for Ash Transport Water Recycle	-12,000 gpm	17.28 MGD
TOTAL DRY WEATHER (PROCESS) FLOW:	35,710 gpm	50.72 MGD

(B). RAINFALL RUNOFF

• Undeveloped Land	293.0 acres	
• Ash Pond 2 Surface Area – Wet	54.0 acres	
• Immediate Area to Ash Pond 2	50.0 acres	
• Remainder Area to Ash Pond 2	284.0 acres	
• Emergency Ash Pond 3	620.0 acres	
Total Runoff Area	1,301.0 acres	
10 year, 24 hour storm	5.80 inches	
Annual Rainfall	51.35 inches	
Equivalent Direct Run-off (Area 1)	2.65 inches	21.08 MGD
Equivalent Direct Run-off (Area 2)	4.12 inches	43.41 MGD
Equivalent Direct Run-off (Area 3)	Use Lag/Time of Conc.	37.98 MGD
TOTAL RAINFALL RUNOFF:		102.47 MGD

(C). REQUIRED WATER STORAGE VOLUME (MINIMUM FOR CO-TREATMENT)
(A) Total Dry Weather Flow + (B) Total Rainfall Runoff = 50.72 MGD + 102.47 MGD

TOTAL REQUIRED STORAGE VOLUME: = 153.19 MGD or 758,517 CY

(D). AVAILABLE WATER VOLUME

- Pond 2 (with Surcharge Capacity @ pond EL 725.5) = 156.39 MGD or 774,381 CY
- Pyrite Pond = 10.10 MGD or 50,000 CY

AVAILABLE VOLUME (POND 2 & PYRITE POND): = 166.49 MGD or 824,381 CY > 758,517 CY

PLANT YATES
ASH POND CO-TREATMENT STUDY
(After Operation of New Cooling Tower)

FEBRUARY 2002

SUMMARY TABLE B
(Sheet 2 of 2)

E). ASH POND REMAINING STORAGE
(D) Total Available Volume – (C) Required Water Storage Volume =

REMAINING STORAGE (POND 2 & PYRITE POND): = 824,381 CY – 758,517 CY = 65,864 CY

Projected Remaining Pond volume for wet storage on 12/31 **(See Note 3 below)**

YEAR	2005	2006	2007
CU YDS	65,864	65,864	65,864
MG	13.30	13.30	13.30

AVAILABLE WATER VOLUME on 12/31/2007: =13.30 MG or 65,864 CY

FROM ABOVE, (D) IS GREATER THAN (C), THEREFORE ASH POND 2 DOES HAVE ADEQUATE CAPACITY TO SATISFY CO-TREATMENT REQUIREMENTS.

NOTES:
1. The rainfall was determined using the Soil Conservation Service (SCS) Method and Georgia Manual for Sediment and Erosion Control, 2000 edition.
2. Surcharge interpretation uses EL 725.5 in Ash Pond 2 & 50,000 CY in the Pyrite Pond.
3. Volume projected for surcharge interpretation through year 2007 assumes that adequate dredging, dry stacking, and use of the monofill area will be implemented to prevent available storage volume from falling below the minimum required for co-treatment purposes.

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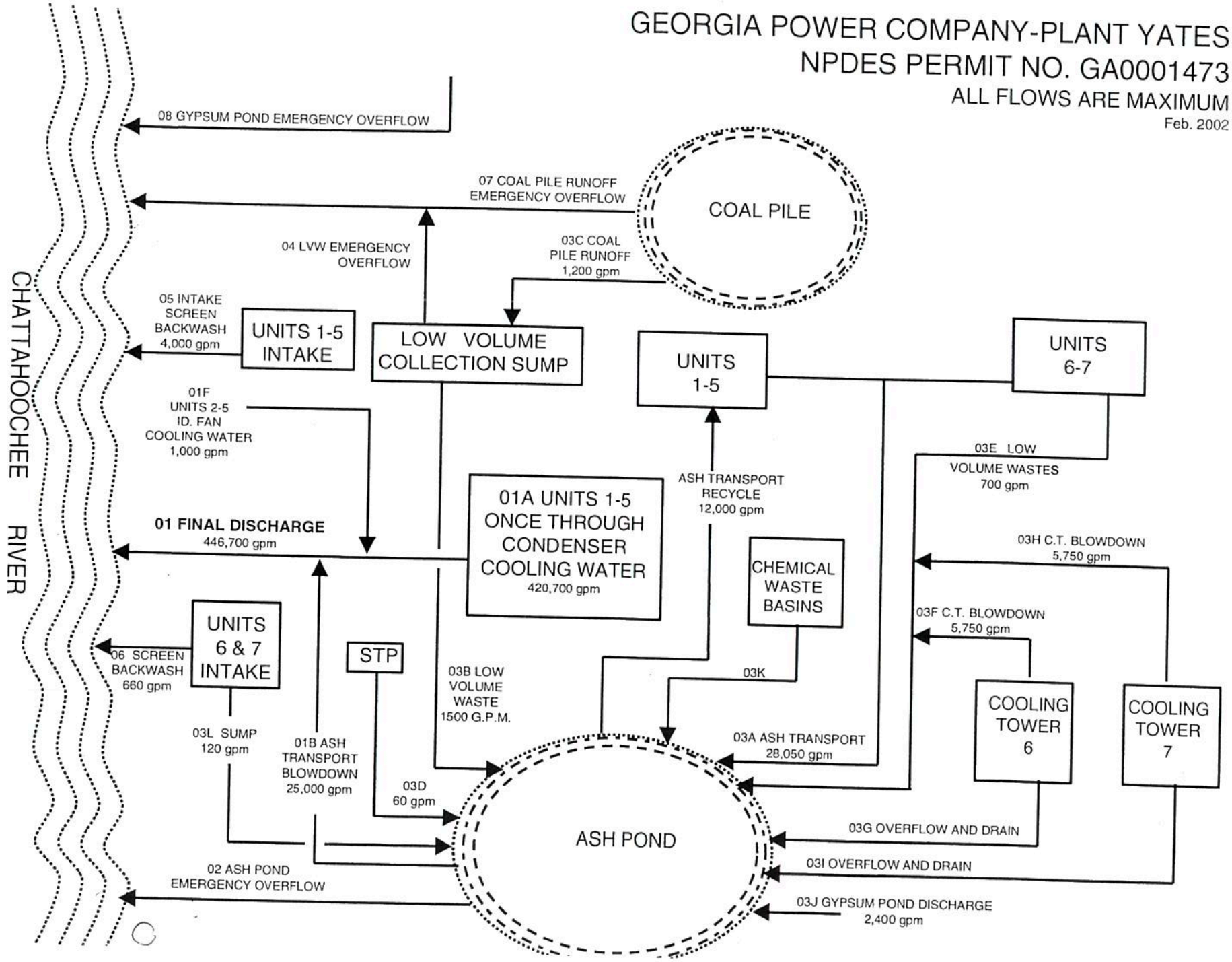
Feb. 2002