Richard B. Russell Powerplant and Dam

Drainage Area	Square Miles
Above mouth of Savannah River	10,579
Above Augusta, Georgia	7,245
Above J. Strom Thurmond Dam	6,144
Above Richard B. Russell Damsite	2,900
Above Hartwell Dam	2,088
Between Richard B. Russell and Hartwell Dams	812

Lake Elevations	Feet, msl
Spillway design flood	490.0
Induced surcharge pool	485.0
Standard project flood	484.3
Flood control pool	480.0
Maximum power pool	475.0
Average power pool	473.0
Minimum power pool	470.0

Reservoir Areas	Acres
Standard project flood, elev.	31,770
Flood control pool, elev. 480.0	29,340
Maximum power pool, elev. 475.0	26,653
Minimum power pool, elev. 470.0	24,117

Reservoir Storage Volumes	Acre-Feet
Spillway design flood, elev. 490.0	1,288,155
Standard project flood, elev. 484.3	1,305,000
Flood control pool, elev. 480.0	1,166,166
Maximum power pool, elev. 475.0	1,026,200
Minimum power pool, elev. 470.0	899,400

Allocated Storage Volumes	Acre-Feet
Flood storage, elev. 475 – elev. 480	140,000
Power storage, usable, elev. 470 – elev. 475	126,800
Surcharge storage, elev. 480 – elev. 490	322,000

Dam

Type: Concrete gravity and earth embankment

Length, feet	
Concrete section	1,580
Earth embankments	3,496
Saddle dike	1,100
Elevations, msl	
Top of dam	495
Streambed	300
Spillway crest	436
Top of tainter gates, closed	481
Freeboard, feet	5
Height, maximum, feet	
Concrete section	210
Earth embankment	195
Top width, maximum, feet	
Concrete (non-overflow)	18
Earth embankment	20

EARTH EMBANKMENTS

Georgia (West) Earth Embankment

Length, feet (excluding terminal cone)	2,180
Maximum top width, feet	20
Maximum base width, feet (outside diversion channel)	700
Elevation top of dam, feet msl	495
Elevation streambed, feet msl	300
Maximum height, feet (above bottom diversion channel)	165
Freeboard, feet	5

South Carolina (East) Earth Embankment

Length, feet (excluding terminal cone)	460
Maximum top width, feet	20
Maximum base width, feet	340
Elevation top of dam, feet msl	495
Elevation streambed, feet msl	300
Maximum height, feet (above bottom cutoff trench)	90
Freeboard, feet	5

Quantities

Concrete dam (non-overflow and spillway)	
Mass concrete, cy	568,600

Concrete, spillway piers, and training walls, cy	17,480
Concrete, terminal cone retaining wall	840
Reinforcing steel, lb.	3,741,000
Miscellaneous steel, lb.	18,000
Galvanized steel, lb.	26,000
Concrete dam (power intake section)	
Mass concrete, cy	190,000
Concrete, intake wall, cy	2,800
Reinforcing steel, lb.	1,354,000
Galvanized steel, lb.	45,000
Intake gates and guides, lb.	870,000
Trash racks and guides, lb.	512,000
Stoplog and guides, lb.	343,000

Hydraulic Design

(1) Elevation, Feet, m.s.l.:

Top of flood control pool	480.0
Top of spillway gates	481.0
Maximum possible pool without flood discharge	475.0
Maximum power pool	475.0
Minimum power pool	470.0
Average power pool	473.0
Tailwater: (Minimum J. Strom Thurmond pool El. 312.0)	
Tailwater with four units running	327.5
Tailwater with eight units running	328.0
Minimum (no flow)	312.0
Maximum	335.0
Powerhouse design (Thurmond Pool – Spillway Flood)	356.0

(2) Head, net, feet:

Maximum	168.0
Minimum (tailwater el. 335.0)	134.0
Minimum (tailwater el. 330.0)	139.0
Rated (tailwater el. 328.0)	144.0

Hydraulic Design

(3) Elevation, Feet, m.s.l.:

Top of flood control pool	480.0
Top of spillway gates	481.0
Maximum possible pool without flood discharge	475.0
Maximum power pool	475.0
Minimum power pool	470.0
Average power pool	473.0

Tailwater: (Minimum J. Strom Thurmond pool El. 312.0)

Tailwater with four units running	327.5
Tailwater with eight units running	328.0
Minimum (no flow)	312.0
Maximum	335.0
Powerhouse design (Thurmond Pool – Spillway Flood)	356.0

(4) Head, net, feet:

Maximum	168.0
Minimum (tailwater el. 335.0)	134.0
Minimum (tailwater el. 330.0)	139.0
Rated (tailwater el. 328.0)	144.0