

Selenium Monitoring Results at Select Facilities

EPA Recommended Chronic Freshwater Criteria for Aquatic Life = 5 µg/L; EPA Recommended Chronic Saltwater Criteria for Aquatic Life = 71 µg/L

State	Company	Plant	Outfall	Waste Type	Receiving Water	Flow Average (mgd)	Flow Maximum (mgd)	# of Samples	READING: MEAN SAMPLE VALUE (µg/L)	READING: MAXIMUM SAMPLE VALUE (µg/L)	LBS/DAY (Mean Concentration Flow Average)	LBS/DAY (Mean Concentration Flow Maximum)	Primary Source	EPA Docket ID
AL	TVA	Widows Creek	008	FGD Waste Pond	Direct Discharge to Tennessee River	3.88	9.9	1	131	131	4.2390	10.8159	NPDES Permit No. AL0003875 App. (Apr. 2004)	EPA-HQ-OW-2006-0771-1797.84
AL	TVA	Widows Creek	SP-2	FGD Wastewater	Direct Discharge to Widows Creek	1.68	Data Not Available	1	236	236	3.3066	N/A	Sample (9/11/2007)	EPA-HQ-OW-2006-0771-1733
FL	Tampa Electric	Big Bend	130	FGD Wastewater	Discharge through Internal Outfalls D0011, D0012, D0013, and D0014 to Discharge Canal to Hillsborough Bay ¹	0.25	0.313	4	2,798.5	4,911	5.8347	7.3051	ECHO Quarterly Monitoring (2008)	EPA-HQ-OW-2006-0771-1797.7
GA	Georgia Power	Bowen	01A	Ash Pond	Through Outfall 01 to Etowah River ²	Data Not Available	Data Not Available	1	37	37	N/A	N/A	Sample (11/20/2006)	EPA-HQ-OW-2006-0771-0592.45

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GA	Georgia Power	Yates	01	Ash Pond	Direct Discharge to Chattahoochee River	21.6	Data Not Available	1	59	59	10.6283	N/A	Sample (12/4/2006)	EPA-HQ-OW-2006-0771-0592.67; -0592.55
GA	Georgia Power	Yates	01	Ash Pond	Direct Discharge to Chattahoochee River	21.6	Data Not Available	1	32	32	5.7645	N/A	Sample (12/5/2005)	EPA-HQ-OW-2006-0771-0378; 0592.55
IL	Ameren	Meredosia	004	Ash Pond	Direct Discharge to Illinois River	0.2	0.6	1	26	26	0.0434	0.1301	NPDES Permit No. IL0000116 App. (2002)	EPA-HQ-OW-2006-0771-1797.57
IN	Duke Energy	Cayuga	002	Ash Pond	Direct Discharge to Wabash River	1.25	3.6	24	<20	50	<0.2084	<0.6004	NPDES Permit No. IN0002763 App. (Feb. 2006)	EPA-HQ-OW-2006-0771-1797.17

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IN	Vectren	A.B. Brown	004	Ash Pond	Direct Discharge to Unnamed Tributary to Ohio River	1.4	1.4	1	130	130	1.5178	1.5178	ECHO Sample (3/31/2008)	EPA-HQ-OW-2006-0771-0341
KY	AEP	Big Sandy	001	Ash Pond	Direct Discharge to Blaine Creek	6.421	12.13	6	27	35	1.4458	2.7314	NPDES Permit No. KY0000221 App. (Sept. 2005)	EPA-HQ-OW-2006-0771-1797.8
KY	Louisville Gas & Electric	Mill Creek	002	Ash Pond	Data Not Available	Data Not Available	Data Not Available	4	58.3	75	#VALUE!	#VALUE!	Quarterly Monitoring (2006)	EPA-HQ-OW-2006-0771-0416.15
KY	Kentucky Utilities	Tyrone	001	Ash Treatment Basin	Direct Discharge to Kentucky River	0.87	1.47	5	68	85	0.4934	0.8336	KPDES Permit No. KY0001899 (July 2006)	EPA-HQ-OW-2006-0771-1797.80
MD	Mirant	Brandywine	002	Discharge from Ash Disposal Facility	Data Not Available	Data Not Available	Data Not Available	5	20.4	35	N/A	N/A	ECHO Monthly Monitoring (2008)	

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MD	Mirant	Brandywine	006	Discharge from Ash Disposal Facility	Data Not Available	Data Not Available	Data Not Available	8	25.4	59	N/A	N/A	ECHO Monthly Monitoring (2008)	
MN	Minnesota Power	Laskin	011	Ash Pond Return Water	Direct Discharge to Partridge River	0.808	1.33	24	32.1	42.8	0.2163	0.3561	NPDES Permit No. MO 000090	EPA-HQ-OW-2006-0771-1797.49
NC	Duke Energy	Cliffside	002	Ash Pond	Direct Discharge to Broad River	7.33103	14.3233	12	22.4	30.2	1.3695	2.6758	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-1797.18
NC	Duke	Marshall	004	FGD Wastewater	Through Outfall 002 (ash basin) to Lake Norman (i.e., Catawba River) ³	1.02119	1.21443	5	86	200	0.7324	0.8710	ECHO Monthly Monitoring (8/2008 to 12/ 2008)	EPA-HQ-OW-2006-0771-1742
NC	Progress Energy Carolinas	Asheville Steam Plant	001	Ash & FGD Wastewater	Direct Discharge to French Broad River	1.9175	5.215	12	62.1	91.3	0.9931	2.7009	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-1797.3

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NC	Progress Energy	Roxboro	010	FGD Wastewater	Through Outfall 003 (discharge canal) to Hyco Lake ⁴	0.578	1.265	9	209.5	510	1.0099	2.2102	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-1556; 0300.9
OH	AEP and Buckeye	Cardinal ⁵	019	Ash and FGD Leachate	Direct Discharge to Blockhouse Hollow Run	9.398	16.85	5	68	100	5.3297	9.5558	ECHO Monthly Monitoring, NPDES Permit No. OH001258 1 App. (Aug. 2008 - Dec. 2008)	EPA-HQ-OW-2006-0771-1797.15
OH	American Electric Power and Buckeye Power	Cardinal	019	Ash and FGD Leachate	Direct Discharge to Blockhouse Hollow Run	11	18	1	53	53	4.8621	7.9562	NPDES Permit No. OH001258 1 App. (Jan. 2007)	EPA-HQ-OW-2006-0771-1797.15

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OH	AEP and Duke Energy	Conesville	601	Ash and FGD Waste Pond	Through Outfall 001 to Muskingum River ⁶	13.61	22.9	1	25	25	2.8376	4.7745	NPDES Permit No. OH005956 1 App. (Jan. 2007)	EPA-HQ-OW-2006-0771-1797.20
OH	Dayton Power & Light	J.M. Stuart	013	Ash Pond	Final Outfall to Ohio River	11.6818	21.8762	12	52.9	95.4	5.1537	9.6513	ECHO Monthly Monitoring (2008)	
PA	Reliant Energy	Cone-maugh	007	Mixed	Direct Discharge to Conemaugh River	0.228	0.395	11	159.6	560	0.3035	0.5258	ECHO Monitoring (2008)	EPA-HQ-OW-2006-0771-0123
PA	EME Homer City	Homer City	027	FGD Waste-water	Direct Discharge to Blacklick Creek	0.11	0.17	12	591.7	2,600	0.5428	0.8389	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-0683
SC	South Carolina Electric & Gas	Wateree	03A	Ash Transport Water	Direct Discharge to Wateree River	3.8	6.0	1	38	38	1.2043	1.9015	EPDES Permit No. SC0002038 (Aug. 5, 2004)	EPA-HQ-OW-2006-0771-1797.83

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TN	TVA	Allen	001	Ash Pond	Direct Discharge to McKellar Lake	9.56	9.79	1	30.5	30.5	2.4317	2.4902	ECHO Monitoring (Aug. 2008)	EPA-HQ-OW-2006-0771-1797.1
TN	TVA	Allen	001	Ash Pond	Direct Discharge to McKellar Lake	8.21	11.52	1	38	38	2.6019	3.6508	NPDES Permit No. TN000535 5 App. (Oct. 2004)	EPA-HQ-OW-2006-0771-1797.1
TN	TVA	Cumberland	001	Ash & FGD Waste Pond	Through DSN002 to Cumberland River ⁷	19.7	32.9	1	130	130	21.3583	35.6694	NPDES Permit No. TN000578 9 App. (May 2005)	EPA-HQ-OW-2006-0771-1797.21
TN	TVA	Gallatin	001	Ash Pond	Direct Discharge to Cumberland River	22.1	88.5	13	26	40	4.7921	19.1899	NPDES Permit No. TN000542 8 App. (May 2004)	EPA-HQ-OW-2006-0771-1797.30

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TN	TVA	Gallatin	001	Ash Pond	Direct Discharge to Cumberland River	25.17	28.2	3	29	39	6.0875	6.8203	ECHO Monitoring (2008)	EPA-HQ-OW-2006-0771-1797.30
TN	TVA	Kingston	001	Ash Pond	Through Plant Intake Canal to Clinch River	24.7	42.2	1	24	24	4.9438	8.4466	NPDES Permit No. TN000545 2 App. (Dec. 2002)	EPA-HQ-OW-2006-0771-1797.45
VA	Dominion	Chesterfield	004	Ash Pond	Direct Discharge to James River, Farrar Gut	7.7	10.5	4	23	27	1.4770	2.0141	NPDES Permit No. VA000414 6 App. (Aug. 2001)	EPA-HQ-OW-2006-0771-1797.16
VA	AEP	Glen Lyn	007	Ash Storage Landfill Runoff	Direct Discharge to New River	0.03411	0.24992	1	21	21	0.0060	0.0438	NPDES Permit No. VAD00189 4542 (Jan. 9, 2004)	EPA-HQ-OW-2006-0771-1797.33

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WI	Wisconsin Electric	Pleasant Prairie	102	FGD Wastewater	Through Outfall 001 to Lake Michigan ⁸	0.0648	0.0648	35	6,488.5	18,000	3.5065	3.5065	FGD Monitoring Data (2007)	EPA-HQ-OW-2006-0771-0699; 1542.1; 1542.2; 1803.1
WV	Appalachian Power	John B. Amos	001	Ash Pond	Direct Discharge to Little Scary Creek	0.16	8.43	12	24.3	31.1	0.0324	1.7084	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-0589.2
WV	Appalachian Power	Mountaineer	001	Ash Pond	Direct Discharge to Ohio River	3	7.7	12	77.8	152	1.9465	4.9960	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-1797.64
WV	Ohio Power	Mitchell	004	Ash Pond	Direct Discharge to Fish Creek (to Ohio River)	1.872	11.913	12	53.1	94.7	0.8290	5.2756	ECHO Monthly Monitoring (2008)	EPA-HQ-OW-2006-0771-1736

¹ There was no monitoring data available from the applicable Discharge Canal at the Big Bend facility for selenium.

² There was no monitoring data available for Outfall 01 on ECHO from the Bowen facility for selenium.

³ The ECHO database provided selenium readings from Outfall 002 of 11.6 ug/L (maximum) and 6.53 (average of 5 months) for the Marshall facility. These readings are lower than those from Outfall 004, but still higher than the recommended 5 ug/L limit.

⁴ The Roxboro Power Plant does not monitor or report selenium discharges from Outfall 003 to EPA's ECHO database.

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<p>⁵ EPA's ECHO database did provide selenium values for the months of January to August of 2008 in addition to the months on this chart for AEP's Cardinal Power Plant. However, because the numbers reported for those months were abnormally high (25,150 - 98,050 µg/L), EIP excluded these values from the average.</p>	
<p>⁶ Selenium readings from Outfall 001 in the same Conesville permit application were 67 ug/L (maximum daily) and 1.7 ug/L (mean of 44 samples).</p>	
<p>⁷ The selenium concentration from DSN002 in the same permit application was 1 ug/L with an average flow reading fo 2,485 MGD. Therefore, although the concentration of selenium in the effluent from DSN002 appears to be lower, the amount of selenium being discharged into the Cumberland River was roughly the same as what was coming out of Outfall 001 - an average of 20.724 lbs/day.</p>	
<p>⁸ There was no selenium monitoring data available from Outfall 001 for the Pleasant Prairie facility.</p>	