REVISION NO. 1, June 15, 1992

1990 Coal Combustion By-product—Production and Consumption*

(SHORT TONS**)

	FLY ASH	BOTTOM ASH	BOILER SLAG	FGD MATERIAL	
A. By-product Production	**48,931,722**	**13,705,653**	**5,234,316**	**18,932,688**	
Subtotal			**67,871,690**		
Total				**86,804,378**	
B. By-product Consumption	12,420,163	5,360,104	3,252,220	215,852	****
Subtotal			**21,032,487**		
Total				**21,248,339**	****
1. External Market					
a. Cement and concrete products	7,179,576	496,664	305,385	0	
b. Structural fills	427,189	414,651	0	0	
c. Road base/ Subbase	778,101	437,284	148,300	20,782	
d. Mineral filler in asphalt	127,833	2,734	19,138	0	
e. Snow and ice control	0	813,901	886,452	0	
f. Blasting grit/Roofing granules	0	175,154	1,661,691	0	
g. Grouting	338,864	0	0	0	
h. Coal mining applications	61,798	0	0	0	
i. Wallboard	0	22	0	43,925	
j. Miscellaneous/Other	645,902	367,749	73,525	86,270	
Subtotal	**9,559,263**	**2,708,137**	**3,094,490**	**150,977**	
2. Internal Utility Use					
a. Cement and concrete products	6,026	0	0	0	
b. Structural fills	2,253,375	1,074,908	6,184	29	
c. Road base/Subbase	56,908	560,133	1,094	62,213	
d. Snow and ice control	0	16,586	365	0	
e. Miscellaneous/Other	544,577	1,000,319	150,088	2,632	
Subtotal	**2,860,886**	**2,651,945**	**157,730**	**64,875**	
C. By-product Consumption as a Percentage of Production by Individual By-product	25.4%	39.1%	62.1%	1.1%	****
D. By-product Consumption as a Percentage of Fly Ash, Bottom Ash, & Boiler Slag Only			31.0%		

Comparative Results by Year***

E. By-product Production (million short tons) by Individual By-product and for Combined Production of Fly Ash, Bottom Ash & Boiler Slag Only

	1987	1988	1989	1990
Fly Ash	50.11	50.91	53.38	48.93
Bottom Ash	14.72	14.27	14.21	13.71
Boiler Slag	4.12	5.03	4.27	5.23
Combined	**68.95**	**70.20**	**71.86**	**67.87**

F. By-product Consumption (million short tons) by Individual By-product and for Combined Production of Fly Ash, Bottom Ash & Boiler Slag Only

Fly Ash	11.05	11.36	10.15	12.42
Bottom Ash	4.77	5.43	4.85	5.36
Boiler Slag	2.44	2.83	2.52	3.25
Combined	**18.26**	**19.83**	**17.52**	**21.03**

G. By-product Consumption (percent) as Percentage of Production by Individual By-product and as Percentage of Combined Production of Fly Ash, Bottom Ash, & Boiler Slag Only

Fly Ash	22.0%	22.3%	19.0%	25.4%
Bottom Ash	32.4%	38.1%	34.1%	39.1%
Boiler Slag	59.2%	56.4%	59.0%	62.1%
Combined	**26.5%**	**28.0%**	**24.4%**	**31.0%**

*Based on total coal burn of 772,000,000 short tons by domestic electric utilities, as reported by the National Coal Association.
**1 short ton = 2,000 pounds.
metric tons = short tons X 0.9078.
***Data is also available for earlier years beginning in 1966.
****Revised data.

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