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2004 Coal Combustion Product (CCP) Production and Use Survey

CCP Categories (Short Tons)	Fly Ash	Bottom Ash	FGD Gypsum	FGD Material Wet Scrubbers	Boiler Slag*	FGD Material Dry Scrubbers*	FGD Other*	FBC Ash*
CCP Production Category Totals**	70,800,000	17,200,000	11,950,000	17,500,000	2,202,296	1,829,830	115,596	867,397
CCP Production Total	122,465,119							
CCP Used Category Totals***	28,068,970	8,152,469	9,044,955	1,195,877	1,973,385	177,480	3,291	473,391
All CCP Used Total	49,089,818							
CCP Use By Application****	Fly Ash	Bottom Ash	FGD Gypsum	FGD Material Wet Scrubbers	Boiler Slag	FGD Material Dry Scrubbers	FGD Other	FBC Ash
1. Concrete/Concrete Products /Grout	14,121,868	789,071	291,439	0	0	37,343	0	0
2. Cement/ Raw Feed for Clinker	2,345,754	615,192	449,063	39,378	33,505	0	0	0
3. Flowable Fill	179,735	0	0	0	0	11,274	0	0
4. Structural Fills/Embankments	4,685,091	3,064,773	0	266,651	7,268	0	0	61,985
5. Road Base/Sub-base/Pavement	488,214	1,092,006	0	0	7,070	0	0	0
6. Soil Modification/Stabilization	500,630	21,117	0	0	0	0	0	190,426
7. Mineral Filler in Asphalt	90,033	0	0	0	39,942	0	0	0
8. Snow and Ice Control	5,563	830,329	0	0	87,711	0	0	0
9. Blasting Grit/Roofing Granules	0	70,312	0	0	1,747,238	0	0	0
10. Mining Applications	1,113,361	39,682	0	282,033	0	122,589	0	134,648
11. Wallboard	0	0	8,148,078	0	0	0	0	0
12. Waste Stabilization/Solidification	2,441,513	257,375	0	338	4,615	0	0	70,722
13. Agriculture	52,314	19,272	131,058	10,593	0	2,775	0	0
14. Aggregate	7,995	409,362	0	0	38,000	3,499	0	0
15. Miscellaneous/Other	2,036,899	943,978	25,317	596,884	8,036	0	3,291	15,610
CCP Category Use Totals	28,068,970	8,152,469	9,044,955	1,195,877	1,973,385	177,480	3,291	473,391
Application Use To Production Rate	39.65%	47.40%	75.69%	6.83%	89.61%	9.70%	2.85%	54.58%
Overall CCP Utilization Rate	40.08%							
Cenospheres Sold (Pounds):		11,391,150						

* As submitted based on 60 percent coal burn.

** CCP Production totals for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are extrapolated estimates rounded off to nearest 50,000 tons.

*** CCP Used totals for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are per extrapolation calculations (not rounded off).

**** CCP Uses by application for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are calculated per proportioning the CCP Used Category Totals by the same percentage as each of the individual application types' raw data contributions to the as-submitted raw data submittal total (not rounded off).

ACAA Releases 2004 Coal Combustion Products Production and Use Figures

September 9, 2005

The American Coal Ash Association today released coal combustion product (CCP) production and use data for calendar year 2004. ACAA is an industry association whose purpose is to promote the beneficial utilization of CCPs. ACAA's membership includes electric utilities, CCP marketers, service and engineering groups and various research and development organizations.

ACAA estimates total 2004 CCP production of 122.5 million tons for all of the various CCP types, compared to 121.7 million tons produced in 2003, or an increase of 0.6%. As in previous years, these 2004 figures are industry-wide estimates based on voluntary data received from electric utilities that are representative of the nearly 500 coal fueled utility power plants in the U.S. ACAA points out that these figures are estimates based on the sampling of data and total CCP production can actually vary significantly from year to year based on the total amount of coal burned, the ash content of the coal burned (including the splits between fly ash and bottom ash) and the extent of flue gas emission controls used.

CCP utilization for 2004 is estimated at 49.1 million tons, which represents a 40.1% overall CCP utilization rate. This compares to 46.4 million tons used and a 38.1% utilization rate in 2003. The increase in CCP tonnage use and corresponding increase in utilization are consistent with wider acceptance of CCPs in the building and construction industries. The increases are also testimonials to the environmental, technical and economic advantages that these materials present where each ton of CCPs used is one less ton disposed of.

On a tonnage basis, fly ash continues to be the largest CCP type with 2004 fly ash production estimated at 70.8 million tons; a small increase over the 70.2 million tons reported in 2003. As has been the case in prior years, the predominant use of fly ash in 2004 was as a substitute for portland cement in concrete products where an estimated 14.1 million tons were used compared to 12.3 million tons in 2003, an increase of 12%. The total fly ash usage for 2004 is estimated at 28.1 million tons compared to 27.1 million tons reported in 2003, or an increase of 3.7%. This fly ash use increase is consistent with the continued high demand for concrete construction. Fly ash contributes to enhanced concrete strength and durability and is typically less expensive than portland cement it replaces.

Bottom ash production (granular, gravel-like material) reduced by 5.0% in 2004 from 2003 with production estimated at 17.2 million tons versus 18.1 million tons in 2003. Bottom ash utilization remained virtually the same in 2004 compared to 2003 at 8.2 million tons. Bottom ash uses in structural fills, embankments, and pavement road base applications were among the significant contributors to this overall use. In all, about 47.6% of the bottom ash produced in 2004 was used.

Production of gypsum from flue gas desulphurization (FGD) systems increased only slightly in 2004 to just under 12.0 million tons versus 11.9 million tons reported in 2003. Year to year FGD (or synthetic) gypsum production is tied to the amount of sulfur content in coal burned and the resulting SO₂ emissions that are "scrubbed" during this flue gas desulphurization process. The predominant use of FGD gypsum in 2004 continued to be in the manufacturing of wallboard. The 2004 FGD utilization rate is estimated at 75.0% with an overall use of just over 9.0 million tons.

A newly reported category of CCPs for 2004 is "Cenospheres Sold." No comparative data is available from prior year surveys. Cenosphere inclusion is intended to monitor market demand for this high-value filler material. Because cenospheres are acquired via utility plant collection pond skimming and specific end-uses are not documented by utilities, this category will be displayed separately for reporting purposes. Cenospheres are typically marketed by the pound; therefore it is important to differentiate this total from that of all other survey data which is reported in short tons.

The survey is available on ACAA's website (www.acaa-usa.org) by clicking "CCP Survey" on the homepage list of menu options.