2010 CCP Production and Use Survey Report
Release Letter – 12/13/11

ACAA Members:

ACAA is pleased to announce the results of its annual coal combustion products (CCPs) production and use survey for the year 2010. This survey reflects the statistical status of CCP utilization and recent trends. Results are reported in short tons and percentage comparisons provided for those CCPs which were able to avoid disposal and instead be used in beneficial industrial and/or commercial uses.

Voluntary responses from electric utilities for 2010 represented approximately 231,379 megawatts of generation of the total estimated 327,983 coal fueled megawatts as reported by the Energy Information Agency (EIA). This means the actual data reported represents nearly 70% of US coal-fueled electric utilities and is the highest percentage reported since the survey began in 1968.

ACAA uses data from other sources to attempt to predict production and use of three specific categories, fly ash, bottom ash and FGD gypsum. For these three materials, ACAA takes the actual data reported by all respondents (70% for 2010) and then extrapolates the missing data (this year approximately 30%) to provide estimates for the production and use of these three CCPs in all fourteen categories. The data for these three products are marked by two asterisks on the report form. All other categories reported by ACAA reflect actual data received from survey respondents.

Annual CCP production in 2010 (130,181,364 tons) was 4.5 million tons less than reported by ACAA for 2009 last year (134,699,739). However, this large reduction was, in part, due to a reporting error made by ACAA last year that overstated the production of dry FGD scrubber materials by approximately 9.1 million tons. We apologize for that past error and are confident that this year's numbers are more accurate.

Total utilization in 2010 for all CCP categories was 42.5% as compared to 41.3% reported in 2009. With the correction of the FGD Dry scrubber material error in 2009, utilization in 2009 would have been 44.3%. We believe the downturn in CCP utilization in 2010 was due to two primary factors: 1) the continuing stagnation of the economy; and 2) the regulatory uncertainty resulting from EPA proposed regulations on CCP disposal. Housing and other construction starts were considerably lower in 2010 as compared to 2007, before the economic recession.

Survey factors include: 1) the types of coal consumed to generate electricity, (i.e., bituminous, sub-bituminous and lignite); the method of combustion (i.e., the boiler system used); and 3), and the type of resulting CCPs produced: [i.e. fly ash, bottom ash, boiler slag, flue-gas desulfurization (FGD) materials, fluidized-bed combustion (FBC) ash and cenospheres]. Other factors considered when estimating utilization include seasonal demands for coal-fuel generated electricity due to weather conditions, plant outages or shutdowns, changing industry standards or specifications, government regulations and world-wide production and demand for CCPs.

The beneficial applications for CCPs are diverse; this survey addresses fourteen of the most common, beneficial uses. This year no CCPs were reported as used as mineral filler in asphalt, prompting ACAA to remove that category from the 2010 report. Also reported are cenospheres, a sub-set of fly ash, which is a high-value material, used for the manufacture of paints, plastics, metal alloys and other applications. Particular note should be paid to the production units for cenospheres as ***the volume of this material is reported in pounds***, not tons. It is assumed that all cenospheres collected are used.

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Findings

Fly Ash beneficial use saw a total increase of almost 4% utilization in the total categories reported. Concrete and concrete products consumed nearly 1.3 million more tons in 2010 as compared to 2009, but this number is still well below the 13.7 million tons used in 2007. Fly ash continues to be the most widely used CCP, with respondents reporting its use in thirteen of the fourteen survey application categories. Fly ash was consumed primarily in concrete products, structural fills, waste stabilization and raw feed as clinker for cement production. ACAA believes the volume of fly ash reported this year for use in cement kilns as raw feed is significantly under-reported based on historical data. We think, but cannot easily substantiate, that nearly 5 million tons of fly ash is used annually in the production of cement clinker, therefore we opted for a more conservative amount.

Flue Gas Desulfurization (FGD) Gypsum remained the second highest used CCP when compared to fly ash when both totals are compared. Approximately 48.6% of the estimated 22 million tons produced, or 10.7 million tons, were used for beneficial purposes. The ongoing economic stagnation has resulted in fewer gypsum panel products produced and consumed in 2010. Because of the increase of installed flue gas desulfurization emission control systems, production numbers were 4 million tons higher than in 2009 and this upward trend should continue for several more years.

Bottom Ash utilization was 7.5 million tons or 42.3% of the total 17.8 million tons produced. This is a modest increase over 2009, mainly due to more actual data received this year. Bottom ash was primarily used in structural fills, concrete and concrete products, road base, raw feed for portland cement clinker, aggregates, mining applications and snow and ice control.

Production of FBC Ash reported in 2010 was 10.2 million tons as compared to 12.5 million tons in 2009 almost all of which was produced by independent power producers located in Pennsylvania (ARIPPA). The majority of this ash is used in mine reclamation activities (re-contouring, treatment of acid mine drainage, and land restoration). The drop in production reflects the lower generation rates of these independent power producers. The utilization rate for FBC ash is reported as 85% in 2010 as compared to nearly 94% in 2009.

Boiler Slag, although produced in relatively small numbers (2.3 million tons in 2010), reported the second highest use percentage among regularly reported categories. Nearly 61% of boiler slag produced is used for applications such as blasting grit, roofing granules, aggregates and snow and ice control. The availability of boiler slag is predicted to be reduced as more and more cyclone and slag-tap boiler units are retired.

Summary. This year's numbers reflect a definite decline when compared to the corrected numbers for 2009. Whereas 2009 data should have been published showing utilization at 44.3% (slightly down from the 44.5% reported in 2008), this year's reduction to 42.5% clearly demonstrates that regulatory uncertainty is having an adverse impact of CCP use. Utilities, marketers and end-users continued to report numerous examples of loss-of-market in 2010. This uncertainty has prompted many utilities to take a wait and see attitude, choosing to dispose of rather than use many of their CCPs.

The U.S. Environmental Protection Agency's proposed coal ash disposal rulemaking identified only a small number of applications that the EPA considered to be beneficial, mainly those used in concrete, concrete products, cement production and gypsum wallboard. Most other uses were considered by the EPA to be "unencapsulated" and potentially subject to some sort of regulatory control similar to disposal. This is the key issue that many utilities fear and that could result in future liability unless regulations are much clearer than those proposed. This uncertainty is

anticipated to continue into 2012 or later, unless Congressional action results in a solution different than proposed by the EPA.

Furthermore, when one looks back over the last decade, CCP utilization in 1999 was 33.2%. The following year the EPA made its Final Regulatory Determination that CCPs did not need to be managed under Subtitle C or RCRA and in 2002 began actively promoting CCP use through the Coal Combustion Products Partnership (C^2P^2). From that date until 2009, utilization grew to 44% despite an ever increasing volume of material being produced. When the regulatory uncertainty following the Kingston spill began, utilization rates flattened and then, as seen in 2010, started to decline. One cannot under-emphasize that certainty at the Federal level concerning CCP regulations is a primary reason utilization increased between 2000 and 2009. Until that certainty returns, CCP producers and the beneficial use industry will find it difficult to make the substantial investments necessary to build infrastructure supporting increased beneficial use. Flat usage rates (at best) or continuing declines are expected.

ACAA thanks the many companies that provided this year's data. ACAA will continue to promote and defend the positive impact of CCP utilization despite regulatory uncertainties. The annual survey findings offer just one tool for evaluating the effectiveness of these CCP promotional initiatives. ACAA advances the management and use of CCPs that are environmentally responsible, technically sound, commercially competitive and more supportive of a sustainable global community. For more information about ACAA visit its website at http://www.acaa-usa.org. Also visit its two additional CCP information websites, http://www.fgdproducts.org and http://www.wwccpn.org.

Please address questions or comments concerning the CCP survey to me at the address below.

Sincerely,

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