Characterization of Coal Fly Ash Associated with a Release of Fly Ash at TVA's Kingston Fossil Plant

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TVA Sampling

TVA collected ash samples from private residences property adjacent to the TVA Kingston Fossil Plant (KIF) in September 2008 through the Design Cell and 23 residential ash samples from one Concerning, vertical profile samples were collected through the Design Cell. These vertical samples were collected with a Geoprobe® and analyzed for a suite of characteristics including heavy metals. The samples were analyzed for a suite of characteristics including heavy metals by Geo-Research Inc. (GRI) using EPA Method 3051, 3052, 3060, and 3061. The results were reported in this study as mg/kg.

In February 2009, additional samples were collected at ash Mixing and Resident adjacent to the site at Ennrail on the Design Cell. These samples were analyzed for a suite of characteristics including heavy metals by Geo-Research Inc. (GRI) using EPA Method 3051, 3052, 3060, and 3061. The results were reported in this study as mg/kg.

Results and Discussion

Table 1-1 presents the range of concentrations of metals detected in the released ash and reference soils. The data were obtained from the various elements expressed in mg/kg. Groupings plotted are “Ash” which consists of the various elements detected in the released ash and “Soil” which consists of the various elements detected in the reference soils. The various elements detected in the released ash and reference soils are compared in the following tables and figures.

Analytical Methods

Residual sample media were returned to TVA and sent to separate laboratories for analysis. Samples were collected on January 6 and 12, 2009, from the released ash in the vicinity of the KIF site on December 27, 2008 through January 2, 2009. On December 31, 2008, the KIF site was closed to overlying soil.

Analytical Methods

EPA performed soil sampling on the clinched soil at KIF site. Soil samples were collected on January 6 and 12, 2009, from the released ash in the vicinity of the KIF site on December 27, 2008 through January 2, 2009. On December 31, 2008, the KIF site was closed to overlying soil.

Particle Size Analysis

Particle size analysis has been carried out on the original material with natural and dry sieving, following the procedure for particle size analysis. The size distribution of the material was expressed as cumulative percentage, cumulating weight of the particles. The cumulative percentage was calculated from the weight of the particles passing through each size cut. The cumulative percentage was expressed as the cumulative percentage of the total weight of the particles. The cumulative percentage was calculated from the weight of the particles passing through each size cut. The cumulative percentage was expressed as the cumulative percentage of the total weight of the particles. The cumulative percentage was calculated from the weight of the particles passing through each size cut. The cumulative percentage was expressed as the cumulative percentage of the total weight of the particles.

Microscopy

A thin foil sample was selected for metallographic examination in a scanning electron microscope. The foil was inserted in a cold stage and cooled to -196 °C under liquid nitrogen. The thin foil sample was observed in the microscope stage using a low vacuum mode and an accelerating voltage of 10 kV. The thin foil sample was observed in the microscope stage using a low vacuum mode and an accelerating voltage of 10 kV. The thin foil sample was observed in the microscope stage using a low vacuum mode and an accelerating voltage of 10 kV. The thin foil sample was observed in the microscope stage using a low vacuum mode and an accelerating voltage of 10 kV. The thin foil sample was observed in the microscope stage using a low vacuum mode and an accelerating voltage of 10 kV.

Radiotopes

Ash samples collected from private residences had results similar to those from the released ash in the entomology and ash sampling in the Design Cell. The ash is a matter for concern but not of a magnitude that could result in levels that would exceed the maximum levels for TCLP.

TDEC Sampling

TDEC collected 12 ash samples on January 7 and 8, 2009. Two of the ash samples were collected from the Design Cell and 10 of the ash samples were collected from the residents of the Kingston Ash Recovery Project. The samples were analyzed for metals, TCLP, radiotopes, PAHs, and other compounds. TDEC has reviewed the data and posted the results online at http://www.tva.gov.kingston/solids. See also www.tva.gov.kingston/solids.

EPa Sampling

TDEC collected 10 ash samples from January 7 and 8, 2009. Two of the ash samples were collected from the Design Cell and 8 of the ash samples were collected from the residents of the Kingston Ash Recovery Project. The samples were analyzed for metals, TCLP, radiotopes, PAHs, and other compounds. TDEC has reviewed the data and posted the results online at http://www.tva.gov.kingston/solids. See also www.tva.gov.kingston/solids.

Conclusion

The initial assumption was that the ash release was taking in the various parts of the ash that were released. The ash release was taken from the various parts of the ash that were released. The ash release was taken from the various parts of the ash that were released. The ash release was taken from the various parts of the ash that were released. The ash release was taken from the various parts of the ash that were released.