



EPRI's coal combustion products (CCP) environmental research provides scientific data, engineering knowledge, restoration methods, and other tools for soil and groundwater protection associated with fossil fuel-fired power plants and CCP storage, disposal and use. Organized by topical area, this index

provides a comprehensive list of CCP environmental research reports and allows quick access to information and results. To view these documents electronically, go to www.epri.com and search for the product ID number.

TOPIC	PUBLISHING INFORMATION	
Ash Composition and Leaching		
The Leaching Behavior of Arsenic and Selenium From Coal Fly Ash	1015545	2008
Impact of Air Emissions Controls on Coal Combustion Products	1015544	2008
Gross Alpha and Gross Beta Measurements in Coal Combustion Product Leachate	1015546	2008
The Leaching Characteristics of Selenium from Coal Fly Ashes	E226748	2007
Characterization of Field Leachates at Coal Combustion Product Management Sites	1012578	2006
Quantifying the Availability and the Stability of Trace Cationic Elements in Fly Ash	E224986	2006
Weathering Processes and Secondary Minerals Formed in Coal Ash	1012582	2006
Arsenic and Selenium Speciation in Fly Ash and Wastewater	1005567	2005
Secondary Mineral Formation in Weathered Ash: Implications for Metals Sequestration	1005261	2003
Leaching of Inorganic Constituents From Coal Combustion By-Products Under Field and Laboratory Conditions: Volume 1	TR-111773-V1	1998
PCDDs and PCDFs in Coal Combustion By-Products	TR-110399	1998
Oil Combustion By-Products: Chemical Characteristics, Management Practices, and Groundwater Effects	TR-108014	1997
Orimulsion Combustion By-Products: Chemical Composition and Leaching Characteristics	TR-109020	1997
A Field and Laboratory Study of Solute Release From Sluiced Fly Ash	TR-104585	1994
Boiler Slag: Characterization of Slags From Coal-Fired Power Plants	TB-103176	1993
Detailed Physical, Chemical, and Mineralogical Analyses of Selected Coal and Oil Combustion Ashes	TR-101785	1993
Physical and Hydraulic Properties of Fly Ash and Other By-Products From Coal Combustion	TR-101999	1993
Use of Batch and Column Methodologies to Assess Utility Waste Leaching and Subsurface Chemical Attenuation	EN-7313	1991
Leachate Chemistry at the Montour Fly Ash Test Cell	EA-5922	1988
Chemical Characterization of Fossil Fuel Combustion Wastes	EA-5321	1987
Inorganic and Organic Constituents in Fossil Fuel Combustion Residues, Volumes 1 and 2	EA-5176-V1	1987
Inorganic and Organic Constituents in Fossil Fuel Combustion Residues, Volumes 1 and 2	EA-5176-V2	1987
Chemical Form and Leachability of Inorganic Trace Elements in Coal Ash	EA-5115	1987
Round-Robin Evaluation of Regulatory Extraction Methods for Solid Wastes	EA-4740	1986
Mobilization and Attenuation of Trace Elements in an Artificially Weathered Fly Ash	EA-4747	1986
Pilot Study of Time Variability of Elemental Concentrations in Power Plant Ash	EA-2959	1983
Extraction Procedure and Utility Industry Solid Waste	EA-1667	1981
FGD Product Composition and Leaching		
Characterization of Field Leachates at Coal Combustion Product Management Sites	1012578	2006
The Effects of Flue Gas Desulfurization (FGD) System Additives on Solid By-Products	TR-102367	1995
Laboratory Characterization of Atmospheric Fluidized-Bed Combustion By-Products	TR-105527	1995

TOPIC	PUBLISHING INFORMATION	
FGD Product Composition and Leaching (cont.)		
Laboratory Characterization of Advanced SO ₂ Control By-Products: Dry Sodium and Calcium In-Duct Injection Wastes	GS-6622	1989
Laboratory Characterization of Advanced SO ₂ Control By-Products: Furnace Sorbent Injection Wastes	CS-5783	1988
Laboratory Characterization of Advanced SO ₂ Control By-Products: Spray Dryer Wastes	CS-5782	1988
Sampling and Analytic Protocol for Advanced SO ₂ Control By-Products	CS-5625	1987
Ammoniated Fly Ash		
Experience With Ammoniated Fly Ash	1014269	2007
Ammoniated Ash - Effect on Metals Release	E223722	2006
Effects of Ammonia on Trace Element Leaching from Coal Fly Ash	1010063	2005
Ammonia/Fly Ash Interactions	1008310	2005
Leaching of Selected Constituents from Ammoniated Fly Ash Samples: Initial Laboratory Studies	1005260	2004
Behavior of Ammoniated Ash	1004394	2003
Characterization of Ammonia Leaching from Coal Fly Ash	1005163	2001
Impacts of Ammonia Contamination of Fly Ash on Disposal and Use	1004609	2001
Mercury		
The Effect of Ammonia on Mercury Partitioning in Fly Ash	1014014	2008
Mercury Flux to Air from CCPs	E222376	2006
Mercury in Coal Combustion Products	1010061	2005
Mercury in FGD Byproducts	1010345	2005
Potential for Methylmercury Formation in Coal Combustion By-Product Management Settings	1005506	2003
Mercury Releases from Coal Fly Ash	1005259	2002
Occurrence and Fate of Mercury in Coal Ash and Flue Gas Desulfurization Sludge	1005212	2001
Disposal		
An Evaluation of Bamboo as a Low-Cost Natural Screen at Power Plant Sites	1014377	2006
Ashes to Diamonds: A Sports Complex Rises from Ash Ponds in Akron, Ohio	1011791	2005
FGD By-Product Disposal Manual: Fourth Edition	TR-104731	1995
Coal Ash Disposal Manual: Third Edition	TR-104137	1995
Guidelines for the Design and Installation of By-Product Containment Facilities	TR-103322	1994
Sodium-Based Flue Gas Desulfurization Sludge Disposal Ponds	TR-103915	1994
Calcium-Based Flue Gas Desulfurization Sludge Disposal Ponds	TR-103914	1994
Field Investigation of a Flue Gas Desulfurization (FGD) Sludge Disposal Site	EA-5923	1989
Calcium Spray Dryer Waste Management: Design Guidelines	CS-5312	1987
Physicochemical Measurements of Soils at Solid-Waste Disposal Sites	EA-4417	1986
Monitoring the Fixed FGD Sludge Landfill-Conesville, Ohio	CS-3702	1984
Environmental Settings and Solid-Residues Disposal in the Electric Utility Industry	EA-3681	1984
Engineering Evaluation of Projected Solid-Waste Disposal Practices, Volume 1	CS-2627-V1	1982
Engineering Evaluation of Projected Solid-Waste Disposal Practices, Volume 2: Case Studies	CS-2627-V2	1982
Monitoring the Fixed FGD Sludge Landfill, Conesville, Ohio: Phase II, Second Interim	CS-2498	
Caps and Liners		
Evaluation and Modeling of Cap Alternatives at Three Unlined Coal Ash Impoundments	1005165	2001
Evaluation of an Ecolotree TM CAP for Closure of Coal Ash Disposal Sites	TR-112442	1999
Improving Liners for Power Plant Impoundments	TB-109472	1997
Infrared Thermography for Quality Assurance of Synthetic Liners	TB-109473	1997
Liner-Waste Compatibility for Coal-Fired Power Plants: Final Report	TR-104947-SI	1996

TOPIC	PUBLISHING INFORMATION	
Caps and Liners (cont.)		
Innovative Systems for Waste Isolation and Containment	TR-104900	1995
Revegetation of Flue Gas Desulfurization Sludge Pond Disposal Sites	TR-103312	1994
Compatibility of Admix and Synthetic Liner Materials With Clean Coal Technology By-Products	GS-7226	1990
Enhanced Liners for Attenuating Utility By-Product Liquors	GS-6798	1990
Liner-Waste Compatibility Studies for Coal-Fired Power Plants	GS-6381	1989
Interaction Between Coal Combustion By-Products and Natural Liners	CS-5801	1988
Liner-Waste Compatibility Studies for Coal-Fired Power Plants	CS-5426	1987
Comanagement with Low Volume Wastes		
Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: LS Site	1014050	2007
Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: PA Site	1012580	2006
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High-Volume By-Products: CY Site	1005504	2005
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High-Volume Coal Combustion By-Products: OK Site	1005268	2004
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High-Volume Coal Combustion By-Products: MO Site	1005267	2003
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High-Volume Coal Combustion By-Products: FC Site	1005266	2002
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High Volume Coal Combustion By-Products: AP Site	1005164	2001
Field Evaluation of the Comanagement of Utility Low-Volume Wastes with High-Volume Coal Combustion By-Products: HA Site	1000720	2000
Revegetation of a Comanaged Utility Waste Disposal Area: A Southwestern Site	TR-113939	1999
Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: P4 Site	TR-108420	1998
Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: SX Site	TR-108409	1998
Field Evaluation of the Comanagement of Utility Low-Volume Wastes With High-Volume Coal Combustion By-Products: CL Site	TR-108242	1997
Coal Combustion By-Products and Low-Volume Wastes Comanagement Survey	TR-108369	1997
Guidance for Comanagement of Mill Rejects at Coal-Fired Power Plants	TR-108994	1997
Comanagement of a High-Volume Combustion By-Product and Low-Volume Utility Wastes: A Southwestern Site	TR-105673	1996
Geochemical Investigation of Pyrite Codisposal with Sluiced Fly Ash and Implications for Selecting Remedial Actions	TR-105065	1995
Comanagement of Coal Combustion By-Products and Low-Volume Wastes: A Midwestern Site	TR-100955	1992
Comanagement of Coal Combustion By-Products and Low-Volume Wastes: A Southeastern Site	EN-7545	1991
Environmental Geochemistry and Health Effects		
Chemical Constituents in Coal Combustion Product Leachate: Thallium	1016801	2008
Chemical Constituents in Coal Combustion Product Leachate: Arsenic	1015550	2008
Chemical Attenuation Coefficients for Boron Using Soil Samples Collected from Selected Power Plant Sites	1014058	2008
Arsenic Health and Ecological Effects: Soil and Water	1014015	2007
Chemical Attenuation Coefficients for Selenium Species Using Soil Samples Collected from Selected Power Plant Sites	1012585	2006
Chemical Constituents in Coal Combustion Product Leachate: Beryllium	1012583	2006
Characterizing As(III, V) adsorption by Soils Surrounding Ash Disposal Facilities	E224985	2006
Chemical Constituents in Coal Combustion Product Leachate: Boron	1005258	2005
Chemical Attenuation Coefficients for Arsenic Species Using Soil Samples Collected from Selected Power Plant Sites: Laboratory Studies	1005505	2004
Health Effects for Boron and Borates	1005502	2004
Manganese Occurrence Near Three Coal Ash Impoundments in Illinois	1005257	2002
Environmental Chemistry of Arsenic: A Literature Review	1000585	2000
Chemical Attenuation of Selenium	TB-103684	1994
Chemical Attenuation Reactions of Selenium	TR-103535	1994
Aqueous Complexation, Precipitation, and Adsorption Reactions of Cadmium in the Geologic Environment	TR-100751	1992

TOPIC	PUBLISHING INFORMATION	
Environmental Geochemistry and Health Effects (cont.)		
Chromium Reactions in Geologic Materials	EA-5741	1988
Geochemical Behavior of Chromium Species	EA-4544	1986
Chemical Attenuation Rates, Coefficients, and Constants in Leachate Migration, Volumes 1 and 2	EA-3356-V1	1984
Chemical Attenuation Rates, Coefficients, and Constants in Leachate Migration, Volumes 1 and 2	EA-3356-V2	1984
Groundwater Assessment		
MANAGES 3.0, Groundwater Data Management and Evaluation Software, Version 3.0	1012581	2006
Groundwater Monitoring Guidance for the Industry Action Plan on Coal Combustion Product Management	1010064	2005
MYGRT Version 3.1, Groundwater Protection and Coal Combustion Products & Management Program on CD-ROM for Win 2000/XP	1010066	2005
Transport of Tritium and Four Organic Compounds During a Natural-Gradient Experiment (MADE-2)	TR-101998	1993
Physical Model Studies of Dense Solute Plumes in Porous Media	TR-101387	1992
Mixing and Plume Penetration Depth at the Groundwater Table	TR-100576	1992
Three-Dimensional Solute Plume Transport Through an Unsaturated Field Soil	EN-7283	1991
Measuring Hydraulic Conductivity With the Borehole Flowmeter	EN-6511	1989
Estimates of Macrodispersivity Based on Analyses of Hydraulic Conductivity Variability at the MADE Site	EN-6405	1989
Field Evaluation of Instruments for the Measurement of Unsaturated Hydraulic Properties of Fly Ash	EA-5011	1987
A Review of Field-Scale Physical Solute Transport Processes in Saturated and Unsaturated Porous Media	EA-4190	1985
Groundwater Data Analyses at Utility Waste Disposal Sites	EA-4165	1985
Preliminary Results on Chemical Changes in Groundwater Samples Due to Sampling Devices	EA-4118	1985
Demonstration of Unsaturated and Saturated Groundwater Flow Modeling at a Coal Ash and Dry FGD Disposal Site	CS-3173	1983
Groundwater Treatment and Remediation		
Laboratory Screening Tests and Evaluation of Permeable Reactive Barrier Media	1015551	2008
Laboratory Screening Tests for Permeable Reactive Barrier Media	1014018	2007
Groundwater Remediation of Inorganic Constituents at Coal Combustion Product Management Sites	1012584	2006
Evaluation of a Remedial Action at an Unlined Coal Ash Landfill: PI Site	1005262	2002
Evaluation of Remedial Actions at an Unlined Coal Ash Landfill: CS Site	1005214	2001
Groundwater and Abatement Options Assessment at the Little Blue Run FGD Disposal Area	1001023	2000
An Analysis of Cost Savings for a Constructed Wetland Treatment System	TR-108652	1997
Power Plant Wastewater Treatment Technology Review Report	TR-107081	1996
Constructed Wetland Treatment Systems for the Remediation of Metal-Bearing Aqueous Discharges	TR-105487	1995

For more information, contact the
 EPRI Customer Assistance Center
 at 800.313.3774, (askepri@epri.com).

CONTACT

Ken Ladwig, Senior Program Manager,
 262.754.2744; keladwig@epri.com

Electric Power Research Institute

3420 Hillview Avenue, Palo Alto, California 94304-1338 • PO Box 10412, Palo Alto, California 94303-0813 USA
 800.313.3774 • 650.855.2121 • askepri@epri.com • www.epri.com

© 2009 Electric Power Research Institute (EPRI), Inc. All rights reserved. Electric Power Research Institute, EPRI, and TOGETHER... SHAPING THE FUTURE OF ELECTRICITY are registered service marks of the Electric Power Research Institute, Inc.