EXHIBIT 4
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HB 48

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Montana Environmental Information Center
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What is coal combustion waste?
Coal combustion waste is largely made up of ash and other unburned materials that are left when fossil fuels, like coal, are burned. These wastes are captured in the air pollution control devices. Coal power plant combustion wastes are typically disposed of either in landfills (for dry wastes) or surface impoundments (for liquid wastes). (U.S. EPA, 1999, Report to Congress, Wastes from the combustion of fossil fuels. EPA 530-R-99-010. March 1999)

Composition of Coal Combustion Waste
These wastes contain approximately 5% hazardous substances, including, aluminum, antimony, **arsenic**, barium, beryllium, boron, **cadmium**, **chromium**, copper, **lead**, manganese, **mercury**, molybdenum, nickel, selenium, strontium, thallium, vanadium, and zinc. Generally, this waste was initially excluded under the federal Resource Conservation and Recovery Act because it was a high volume low toxicity waste that Congress decided needed further study. That study has been complete and in 2000 EPA recommended regulating the waste.

Existing Problems
In the 2001 Toxics Release Inventory, coal burning power plants nationwide reported that they release more than 250 million pounds of toxic chemicals in the form of ash each year.

EPA estimates that about 40% of the coal waste landfills and 80% of the coal waste surface impoundments are unlined, and less than half the landfills and only one percent of impoundments have leachate collection systems. (U.S. EPA, 1999, Report to Congress, Wastes from the combustion of fossil fuels. EPA 530-R-99-010. March 1999)

EPA has identified over 70 sites where power plant waste has contaminated surface and groundwater, and has identified over 50 sites where it suspects water quality has been contaminated beyond the standards. (US EPA Office of Solid Waste, Damage Case List, June 2003) In the 2000 Federal Register notice, EPA said there were already 3 Federal Superfund sites caused by this waste. However, it noted that because most do not do groundwater monitoring, the number of sites that could be listed is probably higher.

The irony is that as stack emission controls become more effective, and the air becomes cleaner, the amounts and toxicity of these solid wastes are expected to increase.

Surface Water Discharge Permit Insufficient
MEIC supports the amendments to exclude facilities holding certificates under the Major Facility Siting Act or groundwater discharge permits under the Clean Water Act. These laws have authority to control pollution. However, we would not support an amendment to exempt facilities that hold surface water permits. Surface water permits are insufficient because under the clean water act, limitations have been established for discharges of total suspended solids, oil, and

grease, pH, copper, iron, free chlorine and temperature. Rarely do state regulations limit the discharge of other, more toxic, contaminants known to be in coal combustion waste.

Other Companies Burning Coal in Montana Comply with Solid Waste Laws

There are a number of companies around the state that burn coal and have to dispose of their waste under the solid waste laws of Montana, including Smurfit/Stone in Missoula, Stimpson Lumber in Bonner, Plum Creek in Columbia Falls, and the two cement kilns to name a few. Cement kilns have very high heating requirements and therefore use coal as one of the primary ingredients. Their waste is very similar to ash from coal-fired electric utilities. These wastes are regulated under solid waste laws in Montana. Coal-combustion wastes should be as well.

Solid Waste Laws are flexible

The solid waste laws in Montana are flexible. The state works with a company to help analyze a site and determine the level of control that will be necessary to prevent the waste from blowing off-site and from entering ground and surface waters. The State bases its analysis on such things as distance to ground and surface water and soil permeability. The fundamentals of the law simply require installation of liners, groundwater monitoring, a leachate collection system and some type of financial assurance for future cleanup of the site. These systems are designed on a site-specific basis. There is no one-size-fits-all method of permitting. Permitting is tailored to the needs of the site. Some sites certainly are better than others. My understanding is that when this waste is returned to the mine site, it would not be covered under this law. Those mine sites already have groundwater monitoring requirements. Whether those requirements are sufficient is being studied by the National Academy of Sciences. This bill does not have any impact on that discussion.

In addition, DEQ has indicated it intends to form an advisory committee to develop the regulations to implement this. There will be plenty of opportunity for input into the specifics of any regulation.

The Problem is Only Citizens Can Enforce the Law

Even though the federal government has stated that this waste should be handled as a solid waste, it has left enforcement up to the States. Remarkably, the State cannot require electric generating coal combustion companies to handle their waste appropriately. That means that currently citizens are the only entities that can enforce the law. That seems short-sighted, confusing, and expensive for everyone involved. Under the federal law, penalties are usually $25,000 per violation per day. State penalties are far less than that. Companies should want State oversight as opposed to citizen suit. State oversight provides some protection from citizen suits. Furthermore, by the time a citizen suit is brought, the damage has been done. This bill is designed to prevent that damage from occurring in the first place.

Table E1. Electric Power Generating Capacity by Company and Plant as of August 2004[1]

COMPANY	PLANT	COUNTY	ENERGY SOURCE	INITIAL OPERATION (First Unit)	GENERATOR NAMEPLATE	CAPACITY (MW) SUMMER CAPABILITY	WINTER CAPABILITY
Avista	Noxon Rapids	Sanders	Water	1959	466.2	527.0	527.0
Mission Valley Power Co.	Hell Roaring	Lake	Water	1916	0.4	0.4	0.4
Montana-Dakota Utilities	Glendive #1	Dawson	Natural Gas/#2 Fuel Oil	1979	40.7	34.1	42.3
Montana-Dakota Utilities	Glendive #2	Dawson	Natural Gas/#2 Fuel Oil	2003	43.0	38.7	30.0
Montana-Dakota Utilities	Lewis & Clark	Richland	Lignite Coal/Natural Gas	1958	50.0	52.3	47.6
Montana-Dakota Utilities	Miles City	Custer	Natural Gas/#2 Fuel Oil	1972	23.3	24.3	28.9
Clark Fork and Blackfoot LLC[2]	Milltown	Missoula	Water	1908	2.4	2.3	1.9
Northern Lights Cooperative	Lake Creek	Lincoln	Water	1917	4.5	4.7	4.5
NWE QF - Colstrip Energy Partnership	Montana One	Rosebud	Waste Coal	1990	41.5	39.0	39.0
NWE QF - Hydrodynamics	South Dry Creek	Carbon	Water	1985	2.0	2.0	-
NWE QF - Montana DNRC	Broadwater	Broadwater	Water	1989	9.6	6.0	8.0
NWE QF - wind	Various	Various	Wind	Various	0.3	-	-
NWE QF - other hydro	Various	Various	Water	Various	2.4	-	-
NWE QF - Yellowstone Partnership	BGI	Yellowstone	Petroleum Coke	1995	65.0	57.0	57.0
PacifiCorp	Bigfork	Flathead	Water	1910	4.1	4.2	4.2
PPL Montana	Black Eagle	Cascade	Water	1927	24.0	19.0	17.0
PPL Montana	Cochrane	Cascade	Water	1958	48.0	52.0	32.0
PPL Montana	Hauser Lake	Lewis & Clark	Water	1911	17.0	16.0	17.0
PPL Montana	Holter	Lewis & Clark	Water	1918	38.4	36.0	49.0
PPL Montana	J. E. Corette	Yellowstone	Subbituminous Coal	1968	163.0	160.0	160.0
PPL Montana	Kerr	Lake	Water	1938	211.5	180.0	165.0
PPL Montana	Madison	Madison	Water	1906	8.8	8.0	8.0
PPL Montana	Morony	Cascade	Water	1930	45.0	48.0	47.0
PPL Montana	Mystic Lake	Stillwater	Water	1925	12.4	11.0	11.0
PPL Montana	Rainbow	Cascade	Water	1910	35.6	40.0	40.0
PPL Montana	Ryan	Cascade	Water	1915	48.0	60.0	60.0
PPL Montana	Thompson Falls	Sanders	Water	1915	87.5	85.0	85.0
PPL Montana (50%) Puget Sound Power & Light (50%)	Colstrip 1	Rosebud	Subbituminous Coal	1975	358.0	307.0	307.0
PPL Montana (50%) Puget Sound Power & Light (50%)	Colstrip 2	Rosebud	Subbituminous Coal	1976	358.0	307.0	307.0
PPL Montana (30%) Avista (15%), PacifiCorp (10%) Portland General Electric (20%) Puget Sound Power & Light (25%)	Colstrip 3	Rosebud	Subbituminous Coal	1984	778.0	740.0	740.0
NorthWestern Energy (30%) Avista (15%), PacifiCorp (10%) Portland General Electric (20%) Puget Sound Power & Light (25%)	Colstrip 4	Rosebud	Subbituminous Coal	1986	778.0	740.0	740.0
Salish-Kootenai Tribe	Boulder Creek	Lake	Water	1984	0.4	0.4	0.4
Tiber Montana, LLC	Tiber Dam	Liberty	Water	2004	7.5	7.0	5.5
US Corps - North Pacific Division	Libby	Lincoln	Water	1975	525.0	598.0	573.0
US Corps - Missouri River Division	Fort Peck[3]	McCone	Water	1943	185.3	212.0	209.0
US BurRec - Great Plains Region	Canyon Ferry	Lewis & Clark	Water	1953	49.8	58.9	58.6
US BurRec - Great Plains Region	Yellowtail[4]	Big Horn	Water	1966	250.0	288.0	250.0
US BurRec - Pacific Northwest Region	Hungry Horse	Flathead	Water	1952	428.0	424.0	368.0
TOTAL MONTANA CAPACITY (MW)					5212.6	5130.9	4992.7

[1] Does not include a 10.8 MW waste-wood facility that supplies the Stone Container plant in Missoula and other, small self-generation units.

[2] An affiliate of NorthWestern Energy; previously owned by Montana Power Company. One unit is broken and may not be repaired, which would affect capability.

[3] Three of the five units in this dam, with a total capability of 118 MW, may be synchronized either to the west (WECC) or the midwest (MAPP).

[4] Units 1-4 are normally synchronized to the west (WECC); however, two units may be synchronized to the midwest (MAPP).

Source: On-line date and nameplate - U.S. DOE Energy Information Administration "Existing Electric Generating Units in the United States by State, Company and Plant, 2003 (Preliminary Data)" http://www.eia.doe.gov/cneaf/electricity/page/capacity/newunits2003.xls; Capability - Western Electricity Coordinating Council, *Existing Generation and Significant Additions and Changes to System Facilities 2003 - 2013* ; Fort Peck and Canyon Ferry capability - Mid-Continent Area Power Pool Regional Reliability Council *Coordinated Bulk Power Supply Program* (Eia-411; 07/01/01; http://www.mapp.org/assets/pdf/2001_USA.PDF); MDU plant capability - MDU; Lake Creek capability - Northern Lights Cooperative; Milltown, South Dry Creek and wind/other hydro Qualifying Facilities capability - NorthWestern Energy; Hellroaring and Boulder Creek data - Mission Valley Power; Tiber Dam data - Tiber Montana, LLC.

Appendix A — Exposure Pathways and Potential Health Effects of Combustion Waste Constituents

Groundwater Contamination[1]

Populations at risk evaluated by EPA	Human Exposure Pathways	FFC Waste Constituent of Concern	Potential Health Effects
Adult & children residents	Ingestion of groundwater contaminated by FFC waste constituents leaching from unlined disposal units	Arsenic	Known human carcinogen. Skin damage; circulatory system problems reported in humans; ingestion associated with lung, skin, bladder & liver cancer.[2]
		Chromium VI	Exposure to high levels in drinking water could result in allergic dermatitis over many years could experience allergic dermatitis.[2]
		Nickel	Certain forms are potential carcinogens. Consuming large amounts has been reported to cause lung disease in dogs & rats & to affect the stomach, blood, liver, kidneys, immune system & reproduction & development in rats & mice.[2]
		Selenium	People exposed to very high levels of selenium in have reported dizziness, fatigue, irritation, collection of fluid in the lungs, & severe bronchitis. The exact levels at which these effects occur are not known. Upon contact with skin, selenium compounds have caused rashes, swelling, & pain. If too much selenium is eaten over long periods of time, brittle hair & deformed nails can develop. People may also lose feeling & control in the arms & legs.[3]

Non-Groundwater Contamination[4]

Populations at risk evaluated by EPA	Human Exposure Pathways	FFC Waste Constituent of Concern	Potential Health Effects
Farmer & child of farmer	Wind dispersion & direct inhalation of contaminated dust particles from uncovered disposal units.	Chromium VI	EPA has classified chromium VI as known human carcinogen by inhalation.[5]
Adult resident, home gardener, farmer & child of farmer	Ingestion of fruits, vegetables, beef, & dairy contaminated by runoff, wind dispersion & direct deposition of waste, or use of waste as an agricultural soil amendment.	Arsenic	Known human carcinogen. Skin damage; circulatory system problems; ingestion associated with lung, skin, bladder & liver cancer.[5]
		Barium	Potential effects on blood pressure in humans, & both blood pressure & kidney function in animals.[5]
		Beryllium	EPA considers beryllium a probable human carcinogen of moderate to low potency. Causes intestinal lesions.[5]
		Thallium	A study on workers exposed on the job over several years reported nervous system effects, such as numbness of fingers & toes, from breathing thallium. Changes in blood chemistry in animals.[2]
Fisher	Ingestion of fish contaminated by runoff, direct discharge, & direct deposition of particles into surface water body near disposal unit; conconstituents then bioaccumulate in fish	Methylmercury	Methylmercury is a developmental neurological toxin that can cause subtle deficits in behavior & cognitive development that are difficult to measure until the children are older. Pregnant women & children that ingest above average amounts of fish are particularly at risk. In adults, methylmercury can interfere with the function of cerebellum & visual cortex.[3]

Footnotes:

[1] EPA, 1998. Technical Background Document for the Supplemental Report to Congress on Remaining Fossil Fuel Combustion Wastes: Ground-water Pathway Human Health. Risk Assessment Revised Draft Final. Office of Solid Waste. June.

[2] ATSDR, 2000. Agency for Toxic Substances and Disease Registry (ATSDR). Online. ToxFAQs. Division of Toxicology. Atlanta, GE

[3] U.S. EPA, 1997. Mercury Study Report to Congress. Volume V: Health Effects of Mercury and Mercury Compounds. EPA-452/R-97-007. December.

[4] Research Triangle Institute, 1998. Non-groundwater Pathways, Human Health, and Ecological Risk Analysis for Fossil Fuel Combustion Phase 2 (FFC2). Draft Final. Prepared for U.S. EPA. April. Summary of health effects information prepared for this appendix.

[5] U.S. EPA, 2000. Integrated Risk Information System (IRIS). Online. Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH.