

**House
Legislative
Analysis
Section**

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MUNICIPAL SOLID WASTE ASH

**House Bills 4304 and 4311 as enrolled
Second Analysis (7-17-89)**

**Sponsor: Rep. Michael J. Griffin
House Committee: Conservation, Recreation, &
Environment**

**Senate Committee: Natural Resources & Environmental
Affairs**

THE APPARENT PROBLEM:

The recent closure of several landfills in the state and the difficulty encountered when municipalities have tried to establish new landfills have contributed to the increase in the popularity of municipal solid waste incinerators as a method of dealing with waste disposal problems. However, many municipalities have encountered unexpected costs associated with incineration, and the incineration of municipal solid waste has presented certain unexpected problems. Under the federal Resource Conservation and Recovery Act (RCRA), Subtitle C (the section regulating hazardous waste), it is clear that municipal solid waste is exempt from hazardous waste provisions and that incinerators are not deemed to be treating, storing, disposing of, or managing hazardous waste if they receive and burn only household waste and waste from commercial or industrial sources that does not contain hazardous waste, if they do not accept hazardous waste, and if owners and operators establish contractual requirements or other measures to assure that hazardous waste is not received at or burned in the incinerators. However, once nonhazardous waste is burned, toxic ash may result due to several factors, including the combination of wastes burned in the facility. Once municipal waste is incinerated, the ash is often tested for leachability in order to determine what toxins will readily leach from the ash into the environment and, thus, the potential toxicity of the ash. Lead and cadmium are two carcinogenic metals of particular concern in the testing of ash because of the harm that they can cause to humans and the environment.

There is mounting confusion concerning the rules and regulations under state and federal law for the handling and testing requirements regarding incinerator ash. Representatives of industry and other groups complain that incinerator ash is exempt from federal law, that ash should not be tested for toxicity, that the current protocol for testing is not applicable to the manner in which ash is currently handled, and that ash should be handled according to rules and regulations governing the management of solid waste. The Department of Natural Resources (DNR), environmentalists, and other groups maintain that both federal and Michigan law require operators of incinerators that burn nonhazardous commercial, industrial and household waste (municipal waste) to test the ash in accordance with protocols specified in state and federal rules and regulations. (The current protocol for testing is the use of the Extraction Procedure Toxicity Test, EP Tox. Test. The purpose of the test is to determine whether any metals, such as lead and cadmium, are present in ash and will leach out of the ash disposal area into the environment if the disposal area leaks. Normally, a solution containing acid is run through the ash to test for harmful metals because acid will often increase the solubility of certain metals.) According to

testimony before the House Conservation, Recreation, and Environment Committee, some states have interpreted federal law to require testing and other states have not. Michigan law has been interpreted to require testing of municipal solid waste incinerator ash. However, the results of the EP Tox. Test on incinerator ash often vary, and many times a battery of tests must be run to determine whether ash is nonhazardous.

When new incinerators have been opened in Michigan in recent years, operators have assumed that their incinerator ash would be managed as a solid waste because the waste that they planned to burn was managed in that manner. However, ash samples from several incinerators in Michigan have failed the EP Tox. Test. Owners and operators of incinerators are very concerned about the results of the tests because a determination of incinerator ash to be hazardous can dramatically increase the total costs of an incineration project. The costs of landfilling ash in a solid waste disposal area run between \$2 and \$10 per ton of ash, but landfilling ash in a hazardous waste disposal area may cost at least \$180 per ton. In addition, there are only approximately three hazardous waste disposal areas in operation in the state, so it is quite probable that if the majority of municipal ash was determined to be hazardous, those landfills would be filled to capacity in the near future. Ash at the incinerator in Jackson County failed the EP Tox. Test during August 1988, and the facility shut down on October 28, 1988 because operators knew that they could not afford the costs to landfill several tons of ash in a hazardous waste area. However, the community has a \$23 million bond and other loans that total a \$28 million investment in incineration. The plant is reportedly losing \$4,000 per day in revenue from the sale of steam and electricity, and the county had to borrow money from another county fund to meet a \$1.2 million bond payment due in April. The situation in Jackson County is not unique. Municipal ash at the Grosse Pointe/Clinton Refuse Disposal Authority's incinerator failed the EP Tox. Test in December 1988, which led to the closing of the incinerator on December 28, 1988, the layoff of seventeen people, and a loss of \$500,000 as of March. A recent battery of tests upon ash from the City of Detroit's incinerator in Sumpter Township show samples of ash failing the EP Tox. Test, and the city may be forced to spend approximately \$18 million per year to landfill the ash in a hazardous waste area. Representatives of incinerators that expect their incinerators to begin operation soon, such as operators in Kent County, are concerned about the way in which ash is to be handled.

Since there is considerable disagreement concerning the way in which municipal ash is to be handled and under which law the ash is to be managed, and because several communities have reached the point of financial crisis concerning their incineration projects and the disposal of their solid waste, legislation has been proposed to clarify the regulation of municipal ash.

H.B. 4304 & 4311 (7-17-89)

THE CONTENT OF THE BILLS:

House Bill 4311 would amend the Solid Waste Management Act to create special provisions for the handling of municipal solid waste incinerator ash. The bill would specify that incinerator ash would be regulated under the act as a solid waste and would not be regulated under the Hazardous Waste Management Act.

Specifically, the bill would detail three types of landfills in which ash could be disposed of and would provide for alternative disposal areas. The three types of landfills would meet current requirements of the act and rules promulgated under the act. The first option would allow municipal ash to be disposed of in a disposal area with a design that included the following (in descending order according to their placement in the disposal area):

- a leachate collection system;
- a synthetic liner at least 60 mils thick;
- a compacted clay liner of at least five feet;
- a leak detection and leachate collection system; and
- a compacted clay liner at least three feet thick, other material that provided a performance equivalent, or a synthetic liner at least 40 mils thick.

The second option would allow the disposal of ash in a landfill if the owner or operator had a letter of agreement with an existing municipal solid waste incinerator to receive ash and the owner or operator submitted the letter to the director within 90 days after the effective date of the bill. Further, the second option would allow disposal of ash in a landfill with a design that included the following, in descending order of their placement at the site:

- a leachate collection system;
- a synthetic liner at least 60 mils thick;
- a geotextile layer at least 100 mils thick;
- a synthetic liner at least 40 mils thick;
- a geotextile layer at least 100 mils thick;
- a leak detection and leachate collection system; and
- a synthetic liner at least 40 mils thick.

If design type two was used, the landfill's cells would each have to hold a maximum of 100,000 cubic yards of municipal solid waste incinerator ash. If contaminants that could threaten the public health, safety, welfare, or the environment were found in the leachate collection system, the owner or operator would be required to determine the source and nature of the contaminants and make repairs that would prevent the contaminants from entering the collection system. If the director of the DNR found that the source of contamination was caused by a design failure of the landfill, the director could require improved design standards.

The first and second disposal options would also require a landfill to be capped following its closure with a cap that included the following in descending order: six inches of top soil with a vegetative cover, a flexible membrane liner at least 30 mils thick, two feet of subsurface drainage media or cobbles, and three feet of compacted clay. A synthetic liner at least 30 mils thick with a geomembrane infiltration system above the liner could be used in place of the three feet of compacted clay if an owner or operator had a letter of agreement with an incinerator to receive ash and the owner or operator had submitted the letter to the director within 90 days after the effective date of the bill.

The third option would provide for ash disposal in a landfill with a design that included the following in descending order of their placement at the site:

- a leachate collection system;
- a synthetic liner at least 80 mils thick (if construction of the landfill began prior to June 1, 1990, the liner could be 60 mils thick);
- a leak detection and leachate collection system at the option of the owner or operator of the landfill; and
- at least ten feet of either natural or compacted clay.

The third option would require the landfill to be capped following its closure by all of the following in descending order:

- six inches of top soil with a vegetative cover;
- two feet of compacted clay;
- an infiltration collection system;
- a synthetic liner at least 30 mils thick; and
- one foot of compacted clay.

Other caps for ash landfills could be used if the cap design was approved by the director and it was at least as effective as cap designs specified in the bill.

The bill would provide for a fourth type of disposal area approved by the director utilizing an alternative design that would prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as design options one through three. Ash could also be stored at a standard solid waste landfill if the following occurred:

- the ash was generated by a municipal solid waste incinerator that was designed to burn at a temperature in excess of 2500 degrees Fahrenheit;
- the ash was tested by a laboratory from the list compiled by the DNR and the ash met federal standards; and
- the ash was disposed of in this manner for a period of not more than 60 days.

As an alternative to landfills detailed in the bill, the owner or operator of a municipal solid waste incinerator could process municipal ash through mechanical or chemical methods, or both, to limit the leachability of ash or its constituents in order to minimize threats to human health and the environment or to diminish the toxicity of the ash, if the following occurred:

- processing was performed on the site of the incinerator or at the site of a landfill described under the bill;
- the process had been approved by the director of the DNR; and
- the ash was tested after processing in accordance with a protocol approved by the director.

The bill would establish guidelines for director approval of processing and testing protocol. Ash processed through mechanical or chemical methods, as described above, could be disposed of in a Type II landfill (solid waste). If ash was processed in accordance with these specifications, but did not satisfy testing protocol, the ash would be disposed of in accordance with disposal methods outlined in the bill. The disposal of municipal incinerator ash within a disposal area described in the bill would not constitute a new proposal requiring a new construction permit under the act if a construction permit had previously been issued under the act for the landfill and the owner or operator of the landfill submitted six copies of an operating license amendment application to the director for approval. The license amendment application would include revised plans and specifications for all facility modifications including a leachate disposal plan, an erosion control plan, and a dust control plan which would be part of the operating license amendment and would meet

requirements detailed under the bill. With the exception of a landfill that was in existence on the effective date of the bill, the owner or operator of a landfill would have to obtain the operating license amendment prior to initiating construction. The owner or operator would also have to submit to the director certification from a licensed professional engineer that the landfill had been constructed in accordance with the approved plan and specifications.

Once every month the bill would require the owner or operator of a solid waste incinerator to collect a 24-hour composite sample of the municipal ash generated by the incinerator and to test it for trace metals in order to determine the changes in characteristics of ash from source separation initiatives over the life of the facility. If fly ash and bottom ash were processed separately, separate tests would be performed by the owner or operator on the different types of ash.

The DNR would be required to compile a list of approved laboratories that are capable of performing the tests provided for in the bill. The department would publish the list before July 1, 1989 and would make it available to any person upon request. If the department believed that test results provided by an approved laboratory were fraudulent or carelessly performed, the department could conduct its own test, or could have an additional test performed at the department's expense.

Prior to and after the effective date of the bill, municipal ash could be stored on a temporary basis in a landfill if the ash was stored in a licensed solid waste landfill and the owner or operator applied for an operating or construction permit within 90 days of the effective date of the bill. The ash could be stored for no longer than nine months after an operating permit was approved or denied for a landfill described in the bill or no longer than 24 months after the effective date of the bill whichever came first. Temporary storage under this provision would provide for intermediate separation of municipal ash from other solid waste using at least two feet of compacted soil or a synthetic liner at least 30 mils thick and would require daily cover of ash in a manner that prevented the ash from blowing. In order to provide temporary storage the owner or operator, on the effective date of the bill, would need a letter or agreement with an existing incinerator or with an incinerator under construction to receive municipal ash and would need to submit the letter to the director within 90 days after the effective date of the bill. Also within 90 days after the effective date of the bill, the owner or operator of the landfill receiving the ash would submit to the director for approval an ash management plan that included leachate and runoff control measures and dust control measures. Upon approval by the director, the plan would become part of the operating license of the landfill. The owner or operator of a landfill who planned to temporarily store ash would have to notify the municipality and the county board of commissioners in which the landfill was located of that intent. Following a period of temporary storage, municipal ash would have to be permanently disposed of in accordance with the bill. A person who stored ash temporarily for a period longer than provided for under the bill would be liable for a civil fine of \$5,000 per day of violation in addition to any other penalty provided in the act. The owner or operator of a landfill that received municipal ash for temporary storage or disposal would have to manage the ash to control dust and manage the landfill to control track out. In addition, all access roads within the landfill would be managed to

control dust and only wet ash would be disposed of in landfills. If the ash was in temporary storage, it would be rewet prior to transport to a permanent landfill.

The bill would specify that the owner or operator of a municipal solid waste incinerator that was designed to burn at a temperature in excess of 2500 degrees Fahrenheit could operate the incinerator without an operating license in order to conduct tests and assess operational capabilities if notice was given to the director and the period of operation did not exceed 60 days. The bill would exempt municipal incinerators designed to burn at temperatures in excess of 2500 degrees Fahrenheit from construction permit requirements under the act.

Currently, a disposal area cannot receive solid waste that was not generated in the county in which the disposal areas is located unless the acceptance of the waste is authorized in the county solid waste management plan. The bill would prohibit the acceptance of municipal ash unless acceptance was authorized in the county solid waste management plan.

Within nine months after the effective date of the bill, or within nine months after the completion of construction of an incinerator, the owner or operator of a municipal solid waste incinerator would submit a plan to the director for a program to reduce incineration of noncombustible materials and dangerous combustible materials and their hazardous byproducts at the incinerator. Within six months after approval of the plan by the director, the owner or operator would implement the plan according to the schedule set forth in the plan. Operation of a municipal solid waste incinerator without an approved plan would subject the owner or operator, or both, to all of the sanctions provided by the act.

Under the act, the director of the DNR is prohibited from issuing a license to operate a disposal area unless the applicant has filed a bond to cover closure and postclosure monitoring and maintenance costs. Disposal areas created under the bill would be subject to current bonding provisions and would be required to provide a bond or letter of credit equal to \$50,000 per acre of the disposal area, up to a total of \$1 million. The bond or letter of credit would have to provide assurance for remedial action at the site until 30 years after the disposal area or any portion of the disposal area was completed. In addition, a municipal ash landfill would have to file a bond or letter of credit equal to \$2 million to provide assurance for remedial action at the landfill until 30 years after the landfill or any portion the landfill closed.

The act requires counties to develop solid waste plans with the approval of the director of the DNR. Under the bill, the director could not approve a plan update unless the plan contained an analysis or evaluation of the feasibility of source separation of materials that contained potentially hazardous components at disposal areas.

The bill would specify that if municipal ash was transported by rail, it would be transported in covered, leak proof railroad cars. The bill would also specify that the outside of all vehicles and accessory equipment used to transport municipal incinerator ash would be kept free of the ash.

House Bill 4311 is tie-barred to House Bill 4304, which would amend the Hazardous Waste Management Act to specify that the generation, transportation, treatment, storage, disposal, reuse, and recycling of municipal solid waste incinerator ash would be regulated under the Solid Waste Management Act.

MCL 299.405 et al.

FISCAL IMPLICATIONS:

According to the Department of Natural Resources, the bills would have no fiscal implications for the state. (7-18-89)

ARGUMENTS:

For:

Federal law has not been clear concerning management of incinerator ash. During the previous Congressional session, five bills were introduced to address ash management. During the current session two bills, Senate Bill 1894 and House Bill 4387, have been introduced to address the issue. All of the federal legislation has suggested creation of a "special waste category" for municipal incinerator ash. House Bill 4311 will follow the federal lead by addressing ash as a special waste and by requiring ash to be landfilled in monofills (disposal areas or cells with one type of waste) that are more secure than solid waste disposal areas or as secure as hazardous waste landfills, such as landfills that meet the requirements of design option number one. The bills will also clear up confusion as to whether municipal incinerator ash is to be regulated as a solid waste or a hazardous waste by specifying that ash will be regulated under the Solid Waste Management Act. Further, the bill will address some concerns regarding the handling of municipal ash and the limiting of public exposure to waste by requiring waste that is transported by rail to be covered in leakproof rail cars. Current laws would also affect the handling of the ash. For example, recently enacted truck safety legislation requires trucks to be securely covered to prevent their contents from blowing out. In addition, the truck safety laws detail further measures to be undertaken in order to prevent spillage during transportation. House Bill 4311 will also address the testing protocol issue by specifying that municipal ash could be landfilled in a solid waste disposal area if the ash were processed in accordance with a protocol approved by the director of the DNR and if other measures detailed in the bill were taken to limit the leachability of toxins. If the bill is enacted, Michigan reportedly will have one of the toughest, if not the most stringent, laws concerning ash management in the United States.

Against:

The bills will allow waste that is hazardous to be stored in special disposal areas that are less secure than hazardous waste areas, thereby exposing the population and environment of the state to hazardous conditions, and constituting violation of the Resource Conservation and Recovery Act. The DNR, environmentalists and others have interpreted the federal law to require hazardous ash to be stored in hazardous landfills. Under RCRA any person is allowed to bring legal action to compel another person to comply with any provision of the federal act. Two suits have already been instituted in federal court: Environmental Defense Fund (EDF), Inc. v. Wheelabrator Technologies, Inc. and Westchester RESCO, L.P., and EDF and Citizens for a Better Environment v. the City of Chicago.

Both environmentalists and the DNR suggest that Michigan may be subject to a similar suit if the bill is enacted and interpreted to be less stringent than federal law.

Under the Hazardous Waste Regulatory Program of RCRA, states have the authority to run their hazardous waste programs in place of the federal program if they are at least as stringent as the federal law. Representatives of the U.S. Environmental Protection Agency (EPA) have stated that if the bill is interpreted to allow hazardous waste to be landfilled in a solid waste landfill, Michigan could jeopardize its authority under federal laws. In addition, the EPA has stated that state legislation such as House Bill 4311 is premature since federal legislation addressing the issue will probably be acted upon during the current Congressional session.

Response: Although legislation has been introduced at the federal level to address the municipal solid waste incinerator ash issue, there is no guarantee that the legislation will be enacted during the current Congressional session. Many Michigan communities face a potentially financially devastating problem concerning incineration projects, and the problem must be addressed quickly. The state cannot afford to wait for the eventual passage of federal laws to solve the problem. Further, the bills will address the issue in a manner consistent with the proposed federal legislation by establishing a special waste category for municipal ash. Once federal legislation has been enacted, the Michigan legislature may always reassess the issue if required.

Against:

If, as many argue, House Bill 4311's standards regarding the landfilling of municipal ash are lower than those in other states, resulting in costs for landfilling ash in Michigan that are less than costs in other states, other states will ship their ash to Michigan. The state already reportedly receives asbestos waste from New York and other types of waste from the City of Chicago. Representatives of the DNR and environmental groups warn that the bill will also provide a strong incentive for Michigan operators of municipal solid waste incinerator ash landfills to import ash. A representative of Senator Don Riegler's office has stated that the bill could be perceived to encourage the importation of ash and would be inconsistent with the intent of the senator's bill, S 269, to limit the interstate transport of waste. If ash was imported and landfilled in a special landfill, provisions would be needed to verify that the ash was, in fact, ash from the combustion of municipal waste. Reportedly, the DNR only has 75 percent of the staff required to sufficiently evaluate waste in disposal sites, and thus it is likely that the regulation of imported ash will pose a severe strain on the staff of the agency.

Response: The notion that the bill will provide an incentive for incinerator operators to import ash is utterly ridiculous. The state already effectively restricts importation of waste through requirements in the law concerning county solid waste management plans. In particular, all solid waste imported into a county must be identified in the county solid waste management plan. Therefore, ash could not be imported unless a county board approved the importation. In addition, one of the reasons that incineration projects are being developed in the state is that landfill space is limited. There is no need for solid waste disposal operators and owners to import waste because the state already has more than enough waste to fill disposal areas.

Against:

The bill only addresses landfilling of ash and does not undertake measures to ensure recycling of waste. Although House Bill 4311 prohibits the director from approving a county plan for solid waste management unless the plan includes analysis of the feasibility of source separation of materials containing hazardous compounds, the bill does not require source separation. If source separation of bottom ash from fly ash occurred, the possibility for recycling would be increased, as bottom ash can be used in asphalt and concrete, for fill and for other applications. However, bottom ash is often mixed with fly ash, which is usually highly toxic, in order to reduce the toxicity level of the ash aggregate, making chances for recycling slim.

Against:

House Bill 4311 circumvents public participation provisions currently required for the siting of other disposal areas. Reportedly, Sumpter Township in Wayne County and Watertown Township in Clinton County were both recently successful in preventing the siting of hazardous waste landfills in their communities. Under the bill, hazardous waste in the form of municipal ash could be deposited in a solid waste landfill temporarily, or in a monofill that was an extension of a solid waste landfill permanently, without consideration of public input. Therefore, communities such as Sumpter Township and Watertown Township will not have the opportunity to comment on the siting of certain disposal areas in the future. When there is opportunity for public comment concerning solid waste and hazardous waste landfills, the DNR in many cases can address the problem. However the DNR will not be aware of the public's concerns if opportunities for public comment are not available.

Response: The bill includes provisions which require public notification of certain procedures concerning the storage of municipal ash. Included among these provisions is a requirement for public meetings concerning operating license amendment applications for municipal ash landfills. Thus, there are provisions for public input included in the bill.