



Summer 2011

Legislative Commission on TOXIC SUBSTANCES AND HAZARDOUS WASTES

4 Empire State Plaza, 5th Floor
Albany, NY 12248 • (518) 455-3711

NEWS FROM SHELDON SILVER, SPEAKER AND ASSEMBLYMAN MIKE SPANO, CHAIR
LEGISLATIVE COMMISSION ON TOXIC SUBSTANCES AND HAZARDOUS WASTES



Dear Colleagues and Readers:

I am pleased to present the 2011 Newsletter for the Legislative Commission on Toxic Substances and Hazardous Wastes. We have worked on a number of interesting issues this year. The Newsletter describes several important bills, including my legislation to regulate the recovery and recycling of mercury-containing lamps. We have also summarized the fiscal impacts of this year's Budget on the Department of Environmental Conservation and the Environmental Protection Fund.

The Newsletter discusses legislation that regulates the disposal of ionizing smoke detectors containing the radioisotope Americium-241; legislation that would ban the use of bisphenol A in receipt paper; a bill that prohibits the use of cadmium in children's jewelry and other products; and regulation of mercury in thermostats.

A significant portion of this Newsletter will focus on the topic of Manufactured Gas Plants and the resulting coal tar wastes. These sites have existed on New York's landscape since the early 1800's, yet for decades they have left a hazardous legacy that continues to challenge the State. The Commission has also produced a more detailed Briefing Paper on this issue.

This newsletter will present an overview of the development and use of manufactured gas plants (MGP's) in New York State; examine the hazardous materials and wastes that were left behind from the production of manufactured gas; review available remediation technologies and the timetable and costs to complete these cleanups.

I hope that you find this newsletter interesting and informative. I look forward to continuing to work on this issue in the future, and as always, I welcome your thoughts and concerns.

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Editor:
Marilyn M. DuBois

Contributors:
Marilyn M. DuBois
Patrick Golden
Deora Jenkins

Product Stewardship for Ionization Smoke Detectors

IONIZATION SMOKE DETECTORS AND AMERICIUM-241

There are two types of smoke detectors, ionization detectors and photoelectric detectors. Ionization detectors contain a source of ionizing radiation which is a minute quantity (approximately 1/5000th of a gram) of americium-241, an alpha particle and gamma emitter with a half-life of 432.7 years. Americium is a man-made metal produced when plutonium atoms absorb neutrons in nuclear reactors. The largest and widespread use of americium-241 is as a component in household and industrial smoke detectors.

“By requiring recovery and environmentally-sound recycling and disposal, this bill will also serve to reduce environmental exposures to landfill and sanitation workers, firefighters, and workers who manufacture smoke detectors, as well as the general public, to americium-241.”

— Assemblymember Spano

If americium-241 enters the human body, it tends to concentrate in the bone, liver and muscle and can remain for decades, continuing to expose the surrounding tissues to radiation. Americium-241 poses a significant risk if ingested, exposing tissue to both alpha and gamma radiation, thereby increasing the risk of developing cancer.

The Nuclear Regulatory Commission regulates the radioactive materials in smoke detectors. Because the amount of americium in these devices is so small, current NRC regulations exempt individuals purchasing smoke detectors from regulations related to disposal of radioactive materials. The public can dispose of single, household smoke detectors as ordinary trash.

THE LEGISLATION

In 2010, Assemblyman Spano joined Assemblyman Alan Maisel, Chair of the Legislative Commission on Solid Waste Management, to introduce a bill requiring manufacturers that produce and sell ionizing smoke detectors in New York to:

- establish take-back programs for proper disposal of these devices;
- register with the Department of Environmental Conservation (DEC) and submit a program for the collection, handling and recycling or reuse of such detectors, starting on July 1, 2012; and,
- pay a registration fee of one thousand dollars to be deposited into the Environmental Protection Fund.

The recovery program for ionization smoke detectors would at a minimum include:

- a mail or ship back return program;
- a public education program to inform consumers about the collection program, that includes an Internet website, a toll-free telephone number and written information about the environmental benefits of recycling radioactive material, batteries and other components of the detector;
- information on the return or other recycling arrangements for return of the detector, including instructions on safe handling and preparation of the detector for recycling; and,
- authorization for cooperative detector collection programs by more than one manufacturer.

Assemblymember Spano noted, “We are talking about the disposal of radioactive material, albeit very small amounts from individual smoke detectors, into the environment. The anticipated lifetime of an ionizing smoke detector is 5-6 years. Millions of these detectors will be disposed of into our landfills unless we require the manufacturers to bear the responsibility of ensuring proper disposal. This bill affords us the opportunity to prevent unnecessary exposures through responsible product stewardship.”

By requiring recovery and environmentally-sound recycling and disposal, this bill will also serve to reduce environmental exposures to landfill and sanitation workers, firefighters, and workers who manufacture smoke detectors, as well as the general public, to americium-241.”



Bayshore / Brightwaters MGP

Manufactured Gas Plant Sites Cleaning Up The Mess

The 2010 Commission Newsletter contained a brief discussion of the history of manufacturing gas in New York State. This spring, the Commission prepared a document titled “Briefing Paper on Manufactured Gas Plants in New York.” The paper chronicles the history of Manufactured Gas Plants (MGPs) starting in the early 1800’s. MGPs offered significant economic and social benefits to residential, commercial and industrial customers in New York State. The benefits received from the plants have long passed, but the wastes remain today, in numerous cases still posing significant environmental and health hazards.

The Briefing Paper also examines the hazardous materials and wastes that were left behind from manufactured gas production; reviews available remediation technologies for site clean-ups and the timetable for cleanup completion; examines available options for paying for site cleanups with known “responsible parties” and orphan sites where no responsible party has been identified; and examines the efficiency of the cleanup process for these sites. The Briefing Paper is available from the Commission upon request.

THE EVOLUTION OF MANUFACTURED GAS PLANTS

Long before the extensive network of natural gas pipelines and electrical power lines were developed, MGPs were the principal source of local gas production. In the early 1800’s, the search for sources of gas to initially fuel street lamps began in earnest. As the technology developed, manufactured gas became a common source for lighting, heating and fuel for industrial and commercial facilities, as well as for residential use.

The primary commercial source of gas came from a coal carbonization or coal gas process. The carbureted water gas process, which enhances the caloric and energy value of the coal

gas, came into general use in 1875. In 1889, the oil gas process was patented, producing gas by heating and cracking oil.

The material remaining from gasification was coal tar, which contains numerous toxic compounds including arsenic, benzene, chromium, lead, phenols, poly-cyclical aromatic hydrocarbons (PAH’s), toluene, xylene and cyanogens. These waste products were associated with all three forms of gas production.

The facilities that produced manufactured gas were widely dispersed, largely on the basis of population, demand and availability of water and rail transport for coal. These facilities had a significant impact on the areas where they were located, not only for the important societal and economic benefits they produced, but also because of the coal tar wastes that were left behind.

When natural gas and electricity became available from utility companies, many of the MGP were converted to other uses. MGP’s were also found at railroad yards and terminals; military installations; large institutions such as hotels, hospitals, prisons, colleges and schools; industrial facilities to power machinery and equipment, furnaces and kilns for smelters, brick works and cement plants; bottled manufactured gas facilities; experimental and technology development facilities; and “merchant coke works.” This vast array of sites now present an enormous clean-up challenge due to the hazardous waste contamination found in groundwater, soil, sediment, sludge and surface water.

Almost all of the MGP’s were decommissioned more than 50 years ago, preceding most federal and state environmental regulations. “Orphan” sites without a responsible party have been particularly difficult to locate. New remediation technologies have been slow to emerge and the entire cleanup process has languished due in large part to the enormous expense of remediating these sites.

MANUFACTURED GAS PLANT SITES IN THE UNITED STATES AND NEW YORK STATE

MGP Sites in the United States: By 2004, the U.S. Environmental Protection Agency (EPA) estimated that, in the period from 1800 to the mid-1900’s, there were between 36,000 and 55,000 MGP and related coal tar sites in the U.S. Industrial sites vary in size from less than one acre to approximately 200 acres, while institutional and residential plants range in size from several hundred square feet to a few acres. The majority of sites were corporately owned, although there were numerous municipal plants as well.

EPA calculates that 88% of these sites are suspected of having released contaminants to the environment, and that an estimated 30,000 to 45,000 sites have not been investigated, characterized nor remediated. About 50 percent of the sites are located in industrial and commercial areas, 30 percent in residential areas, and the remainder in recreational or vacant areas.

Numbers and Types of MGP Sites in New York State: In its 2006 report, “New York State’s Approach to the Remediation of Former Manufactured Gas Plant Sites,” the NYS Department of Environmental Conservation (DEC) estimated a total of 241 MGP sites currently identified (211 utility and 30 non-utility). Of these sites, 207 are under Order/Agreement (204 utility and 3 non-utility) and 25 need no further action (24 utility and 1 non-utility). The number of utility sites requiring remediation is currently estimated to be 221.

The expansion of MGP’s beyond New York City was influenced by the Hudson River which joined the Erie Canal in Schenectady. In terms of production, the major cities outside of NYC were Buffalo, Rochester, Schenectady, Syracuse and Troy, with new gas production processes continuing in the late 1880’s.

As previously noted, institutional gas plants emerged in the 1890’s, providing gas for State and private schools, asylums, hospitals, penitentiaries, military posts, soldiers’ homes, monaster-

Industrial MGP sites included coal-tar distillation, by-product coke oven plants, traction trolley lines, beehive charcoal kilns, gas production plants at industrial facilities, and acetylene companies.

CONSOLIDATION AND REGULATION OF NEW YORK GAS COMPANIES

Gas company consolidation occurred slowly in New York, and utility holding companies which originated in 1882, moved into the New York City area during the late 1890's. The first utility regulation came in 1905, with the creation of a temporary State Commission of Gas & Electricity, replaced 18 months later by the Public Service Commission (PSC). PSC was divided into districts - District One for upstate New York and District Two for New York City.

Transition to Natural Gas in New York: Although natural gas was discovered in Fredonia in 1824, the replacement of manufactured gas with natural gas did not happen quickly. Other locations where natural gas was found initially included Chautauqua County in 1824; Cattaraugus County in 1864, and Allegany County in 1880. John D. Rockefeller constructed the first long-distance (146 km) natural gas pipeline from McKean, PA to Buffalo in 1883.

The major impediment associated with supplying natural gas was the need to accumulate and store it to meet winter demands. This condition peaked in 1927, when numerous upstate cities and towns such as Buffalo, Elmira, Caledonia and Pavilion resorted to quick supplementation of natural gas with the addition of manufactured gas.

HAZARDOUS WASTE CLEANUP LAWS

Federal Law: The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, commonly known as Superfund, created a tax on the chemical and petroleum industries that was deposited into a trust fund to pay for cleanup of "orphan" hazardous waste sites. All site cleanups controlled by the federal Superfund were placed on EPA's National Priorities List (NPL), including orphan sites as well as those for which there

is a responsible party. The federal and state governments directly bear the costs of cleanup for orphan sites. EPA is responsible to oversee the cleanup if the site is listed on the National Priorities List (NPL). Currently there is only one NYS MGP site listed on the NPL, a 7 acre parcel located in Saratoga Springs. EPA proposed the site for the NPL in 1988; Niagara Mohawk signed a site investigation consent order in 1989; and in 1997, a consent decree was signed for the remedial design.

New York State Law: The Inactive Hazardous Waste Disposal Site Program (NYS Superfund) administered by DEC is the State's program for identifying, investigating and cleaning up sites contaminated with consequential amounts of hazardous wastes. When the presence of a consequential amount of hazardous waste is confirmed by DEC, the site is added to the State Inactive Hazardous Waste Disposal Site list.

NYS Classification of MGP Sites: According to DEC, currently there are only 18 Class 2 MGP sites on the State's Registry of Inactive Hazardous Waste Disposal Sites. By DEC's own admissions, most MGP sites in New York would likely qualify as State Superfund sites. However, DEC has agreed at this time to defer listing utility sites, if a utility has entered into an order/agreement to investigate those for which they are responsible.

Non-Responsible Party MGP Sites in New York: Orphan sites in New York State will be the responsibility of DEC. DEC uses State Superfund money to pay for the site investigation costs. The Environmental Remediation Fund pays for the actual costs of cleanup.

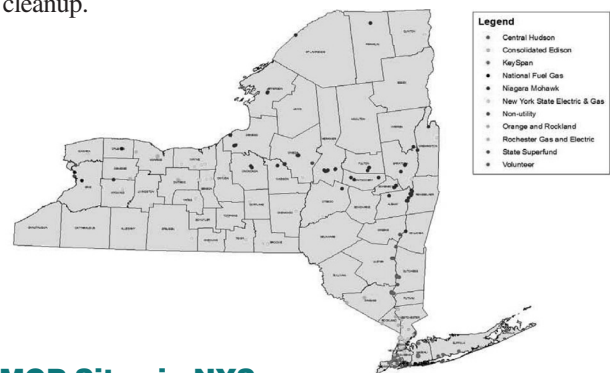


Figure 1: Distribution of MGP Sites in NYS

| UTILITY | MGP Sites Currently Identified | Under Order/ Agreement | Completed/ No Further Action |
|---------------------------------------|--------------------------------|------------------------|------------------------------|
| Central Hudson G & E | 7 | 6 | 0 |
| Con Edison | 51 | 51 | 5 |
| Key Span (Former BUG/LILCO) | 43 | 41 | 2 |
| NYS Electric & Gas | 38 | 37 | 6 |
| National Grid (Former Niagara Mohawk) | 51 | 51 | 7 |
| Orange & Rockland | 7 | 7 | 1 |
| Rochester Gas & Elec. | 10 | 8 | 0 |
| National Fuel Gas | 4 | 3 | 3 |
| Non Utility | 30 | 3 | 1 |
| TOTALS | 241 | 207 | 25 |

The chart and map reveal the geographical distribution of MGP's throughout New York State. Obviously the highest density of former MGP sites is in the New York City area.

MGP Waste Disposal, Waste Remediation Technologies, and Costs

Waste Disposal: Millions of tons of coal per year were processed into manufactured gas as the industry grew. MGP operators faced the question of managing the coal tar and associated wastes. Disposal methods included dumping wastes into the nearest waterway or storage in large pits or holding ponds at or near the gas plant. The sheer waste volume soon overwhelmed site storage capacity of many plants. During the century and a half that MGP's produced gas, billions of gallons of extremely hazardous wastes were generated.

DEC Evaluations of NYS MGP Sites: DEC, consulting with NYS Department of Health (DOH), has sole authority to prioritize remediation with each responsible party. Site characterization can be complicated, due to the type of facility that occupied the site, the length of time it operated, the amount of waste produced and individual site characteristics.

DEC has verbally confirmed that numerous MGP sites along the Hudson River have contributed contamination to the river bed, where in some cases wastes have migrated as deep as 40 feet. Contamination has been located under bridge supports and other river structures.

To further complicate site evaluations, former MGPs have been converted to a variety of uses since they ceased operations. Utility sites are being used as electric substations, storage yards, truck garages, office buildings and major generation stations. Other site uses range from abandoned industrial property to commercial/retail uses, schools and residences. These non-utility sites may not be readily identified and the current uses complicate site evaluation and remediation. DEC ultimately expects that as many as 300 MGP sites will be discovered in New York State, so the true extent of total cleanup and remediation costs cannot be accurately estimated.

DEC Remediation Approaches to MGP Sites: DEC has developed a series of remediation protocols which they apply to sites that have been identified as containing MGP coal tar wastes. They include

- **Surface Area Removal:** This strategy is used to reduce contamination even where the final remedy might be waste containment or treatment on-site. This includes removal of structures and piping, although no information is available as to where these materials are taken, decontaminated, disposed of or destroyed.
- **Surface Soil Remediation:** When contamination is not removed from the site, DEC uses engineering controls, including site caps, to reduce exposure and environmental easements to limit future site use and protect engineering controls.
- **Subsurface Soil Remediation:** Deep or inaccessible source areas can be treated by in-situ treatment or stabilization, or contained by barrier walls, with envi-

ronmental and institutional controls to prevent exposure.

- **Non-Aqueous Phase Liquid (NAPL) Collection and Disposal:** NAPLs are generally targeted for removal to the greatest extent technically feasible. NAPLs that are not removed are controlled, contained or treated in-situ.
- **Groundwater Remediation:** Source control, plume containment and remediation strategies are considered to clean up groundwater contamination. The soluble constituents [BTEX (benzenes, toluene, ethyl benzene and xylene) compounds and naphthalene] will undergo natural decay and therefore are not remediated.
- **Sediment Remediation:** Sediment in water bodies contaminated with tars or NAPLs will be removed to the extent feasible. Sediments contaminated with PAHs, lead and other MGP constituents will be analyzed to determine potential environmental or public health effects. The final remediation will be determined on a site-specific basis, taking into account biological studies, background levels and technical feasibility of remedial action.
- **Odor Control:** Benzene, naphthalene and other volatile compounds are often controlled by spraying active excavation and stockpiles with detergents or odor-suppressing foams.

EPA Remediation Options: The Commission Briefing Paper contains a detailed chart from the EPA report "Cleaning Up the Nation's Waste Sites: Markets and Technology Trends" lists remediation alternatives used at MGP sites. These alternatives include soil vapor extraction, in-situ bioremediation, low and high-temperature thermal desorption, incineration, surfactant flushing, and soil washing.

"New" Technologies: In 2007, DEC approved a technology developed by VeruTEK Technologies, Inc. Surfactant-Enhanced In-Situ Chemical Oxidation was touted as an innovative, green remediation technology that was to be tested at the Bay Shore/ Brightwaters MGP site. According to the company, the technology uses biodegradable, food-grade plant extracts such as coconut, castor and soybean oils, along with oxidants to destroy contaminants in soil and groundwater. The success of this pilot program has not been verified by DEC.

Central Hudson Gas and Electric utility, working with the Electric Power Research Institute (EPRI), has been testing a technology utilizing absorption panels to remove contaminants from the Hudson River near Poughkeepsie. Since May 2009, 75 panels filled with organo-clay, a mineral that draws off oil, have been in place to collect coal tar. The panels are being tested for sites where direct application of organo-clay is not feasible. Verbal discussion with DEC earlier this year indicates that this technology was not particularly effective, but no details are currently available.

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Site Remediation Costs: EPA has estimated average remediation costs for a variety of site types. For example, they estimate commercial MGP sites ranging from 1 – 100 acres in size to cost between \$3 million and \$100 million for remediation.

DEC estimates that on average an MGP site will cost \$10 million minimum to remediate. A number of site cleanups are anticipated to cost significantly more. As previously noted, the

cleanup costs for the 30 orphan sites are anticipated to be \$300 million, although this is a conservative estimate. Currently the State's Environmental Remediation Fund has \$20 million remaining.

In the Public Service Proceeding (Case # 11-M-0034), PSC estimates the cleanup costs for all utility MGP sites to be \$2 billion.

NYS Utility MGP Site Investigation and Remediation (SIR)

The NYS Public Service Commission is charged with the regulation of electric and gas utility rates, including costs associated with cleanup of contaminated sites. A key element is the determination of what costs can be charged to ratepayers and what costs must be absorbed by the utility. Previously in most PSC rate determinations, utilities have been able to fully recover incurred SIR costs, although there have been decisions that allocated a portion of the cost to shareholders. DEC has currently identified 221 MGP utility sites; 204 sites are under remediation order or agreement, 17 are awaiting action, with 24 sites either complete or requiring no further action.

On February 18, 2011, the PSC issued an order (Case No. 11-M-0034) to review and evaluate the utilities' SIR expenses related to MGPs. The responsible utilities are Consolidated Edison, KeySpan (previously Long Island Lighting Co. and Brooklyn Union Gas Co.), Central Hudson Gas and Electric, Orange and Rockland, National Grid (previously Niagara Mohawk Power Corp.), New York State Electric and Gas and Rochester Gas and Electric.

The outcome of this proceeding will result in a statewide policy establishing funding mechanisms used to support utility SIR expenditures. PSC will decide whether ratepayers or utilities and their shareholders (or both) should bear responsibility for the approximately \$2 billion in remediation costs statewide.

The principal stakeholders in this proceeding are:

- Utilities that want to recover their SIR costs from ratepayers either in base rates or through a surcharge mechanism.
- DEC prefers an evidentiary hearing process to allow the development of a complete record, during which they would offer testimony if the PSC decision would in any way affect the effectiveness of site remediations.
- NYS Department of State, Division of Consumer Protection prefers a comment process on policy issues. If factual disputes cannot be resolved in technical conferences, then sworn testimony and the opportunity for cross examination would be necessary as a last resort.
- Multiple Intervenors (MI), an unincorporated association of approximately 55 large industrial, commercial and institutional energy consumers located in NYS. MI contends that utility shareholders should bear some SIR costs (20%) for previous utility actions.



Assemblyman Spano discusses remediation of Mt. Vernon MGP site with a Consolidated Edison representative.



Mt. Vernon former Manufactured Gas Plant site. — Assemblyman Spano tours site.

Selected Manufactured Gas Plant Records of Decision (RODS)

A Preliminary Site Investigation is performed to determine the condition of each MGP site. If the site meets the criteria for Superfund, it is added to the State's official list. Class 2 sites undergo a detailed remedial investigation paid for by the responsible party or with money from the 1986 Environmental Quality Bond Act for orphan sites. A Record of Decision (ROD) is developed and approved, which details all investigation and remediation requirements.

Citizens living on and adjacent to the former MGPs have concerns regarding public health and environmental exposure concerns. As a result, public controversy has surrounded the remediation programs for many sites. It remains to be seen whether

the cleanup programs will meet their concerns.

The Briefing Paper discusses six RODs, which were selected because of the size, nature and current use of the site, the potential human and environmental exposure potential and the cleanup requirements. The sites include Bay Shore/Brightwaters (RP – National Grid via Brooklyn Union Gas and Key Span), Sag Harbor MGP - (RP - National Grid via Brooklyn Union Gas & Key Span), Mt. Vernon MGP- (RP - Consolidated Edison),

Port Jervis MGP – (RP - Orange & Rockland Utilities), Ithaca Court Street MGP – (RP: New York State Electric & Gas), and Patchogue MGP: (RP - National Grid via Brooklyn Union Gas & Key Span).

CONCLUSIONS OF THE INVESTIGATION

The NYS Assembly Legislative Commission on Toxic Substances and Hazardous Wastes will monitor and evaluate the complex and controversial cleanups of hazardous wastes that have been identified at former Manufactured Gas Plant sites in New York State. Of particular interest will be the evolution of the Public Service Commission proceeding regarding distribution of cleanup costs among utility com-

panies, their shareholders, and ratepayers. The Commission is also concerned with the pace of cleanups at utility sites, which is directly related to the manner in which the costs are distributed. In addition, the cleanup of orphan sites will be monitored, given the very limited available funding to complete the work at these sites. The Commission will continue to report on this important program in future newsletters.

Bisphenol-A (BPA) in Receipt Paper

Assemblyman Spano Sponsors Legislation Banning BPA in Paper Receipts

BISPHENOL-A

In 2010, New York State joined a handful of States and one city that took action against BPA in products manufactured for use by young children, including Minnesota, Connecticut, Washington State, Wisconsin and the City of Chicago. New York's landmark law bans BPA in baby bottles, sippy cups, straws, baby bottle liners, cups and cup liners.

The stakes in the debate over BPA safety are extremely high - economically, politically and biologically. BPA has been used commercially since the 1950's and current BPA production globally exceeds 6 billion pounds. BPA has become a ubiquitous component of our economy, environment and bodies. Astonishingly, this chemical has been found in the urine of 93% of surveyed Americans over the age of six.

BPA is a principal component in the production of polycarbonate rigid plastic and epoxy resins. These plastics are found in a broad range of food and drink packaging applica-

tions, as well as many products made for and used by children such as pacifiers, baby bottles and teething rings. The chemical bond between BPA molecules is unstable and can be disrupted by heat, acidic reactions and other conditions that can release BPA into food or beverages within the containers or directly into the human body.

BPA is a known estrogen-mimicking endocrine disrupter chemical – endocrine disruptors generally have been linked to breast cancer, early onset of puberty, heart disease, immune system disruption, brain deterioration, type-2 diabetes, prostate cancer and obesity. BPA can alter the expression of several hundred genes. Pre-natal and neonatal exposures to BPA have been linked to altered DNA function and genetic expression, male reproductive disorders and lowered sperm counts, insulin resistance, early puberty and changes in prostate and mammary gland development, leading to breast cancer and other cancers later in life.

LEGISLATION BANNING BPA IN RECEIPT PAPER

In 2010, Assemblyman Spano joined Assemblyman Maisel to introduce legislation that would prohibit the use of paper containing BPA for the recording of any business or banking transaction. In 2011, the bill was re-introduced as A 212-A and sponsored in the Senate (S 4532-A) by Senator Alesi. Other provisions of the bill include the following:

- receipt paper manufacturers could not replace BPA with another chemical compound that has been scientifically established to be a known human carcinogen as classified by the United States Environmental Protection Agency, a developmental toxin, an endocrine disruptor or a reproductive toxin.
- paper manufacturers would be required to use the least toxic alternative chemical compound to replace bisphenol A.
- DEC would be required to certify that any chemical compound used to replace BPA in receipt paper is the least toxic alternative available, and is not a known human carcinogen as classified by the United States Environmental Protection Agency, a developmental toxin, an endocrine disruptor or a reproductive toxin.
- DEC would be required to investigate and determine acceptable methods of disposal and recycling for paper receipts in order to eliminate or minimize exposure to BPA.
- DEC would be required to advise the public regarding safe practices in handling and disposing of such paper receipts.

Finally, the bill also creates a DEC Advisory Committee on Least-Toxic Alternatives to BPA, composed of competent, independent scientists with substantial experience in evaluating toxicological and epidemiological data on toxic chemicals, including their potential carcinogenic, endocrine disruptive, reproductive, developmental or neurological effects. The bill has not received legislative action at this time.

BPA IN RECEIPT PAPER

BPA has been used in carbonless copy paper (e.g. credit card receipts) and thermal imaging papers for many years. A powdery layer of BPA is coated onto a piece of paper along with invisible ink which merge and provide "color" when subject to heat or pressure. The Warner Babcock Institute for Green Chemistry, co-founded by organic chemist John C. Warner, has been testing cash register receipts and has found an alarming amount of BPA on these receipts. The average receipt using the BPA technology was found to contain 60 - 100 milligrams of free BPA, which is a thousand times above levels leaching from polycarbonate bottles. Free BPA is not bound into a polymer, but simply individual molecules loose and available for uptake.

The Environmental Work Group (EWG) in Washington, D.C. had a testing program conducted by the Missouri Division of Biological Sciences laboratory on receipts from major retailers, including Wal-Mart, Safeway, McDonalds, the U.S. Postal Service, and Bank of America ATMs. The laboratory found that the total mass

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of BPA on a receipt is from 250 to 1,000 times the amount of BPA typically found in a can of food or a can of baby formula. Forty percent of 36 printed receipts collected from fast food restaurants, big retailers, grocery stores, gas stations and post offices in seven states and the District of Columbia contained BPA.

Bio-monitoring surveys by the federal Centers for Disease Control and Prevention has found BPA in the bodies of 93% of Americans over the age of 6. The EWG analysis of the CDC data found that people who reported working in retail industries had 30 percent more BPA in their bodies

than the average U.S. adult and 34% had more BPA than other workers. As of May 2009, 1 in 17 working Americans - 7 million people - were employed as retail salespersons and cashiers, according to the Bureau of Labor Statistics.

The nation's largest manufacturer of thermal paper, Appleton Papers in Wisconsin, stopped using BPA in 2006 because of a growing concern about the safety of the chemical. Japan has also replaced BPA in receipt paper. However, BPA has been replaced with Bisphenol S (BPS), about which little is known, therefore raising concerns that we replace one toxin with another.

Assemblyman Spano Introduces Legislation to Regulate Disposal of Lamps Containing Mercury

MERCURY POISONING

Mercury poisoning is a disease caused by exposure to mercury or its compounds. Mercury is a heavy metal occurring in several forms, all of which can produce toxic effects in high enough doses. Toxic effects of mercury exposure include damage to the brain, kidney, and lungs. Symptoms typically include sensory impairment (vision, hearing, speech), disturbed sensation and a lack of coordination. The type and degree of symptoms exhibited depend upon the individual toxin, the dose, and the method and duration of exposure.

Mercury is such a highly reactive toxic agent that it is difficult to identify its specific mechanism of damage, and much remains unknown about the mechanism. It damages the central nervous system, endocrine system, kidneys, and other organs, and adversely affects the mouth, gums, and teeth. Exposure over long periods of time or heavy exposure to mercury vapor can result in brain damage and ultimately death. Mercury and its compounds are particularly toxic to fetuses and infants. Women who have been exposed to mercury in pregnancy have sometimes given birth to children with serious birth defects.

Mercury exposure in young children can have severe neurological consequences, preventing nerve sheaths from forming properly. Mercury inhibits the formation of myelin, an electrically insulating material that forms a layer, the myelin sheath, usually around a portion of a neuron. It is essential for the proper functioning of the nervous system.

The consumption of fish is by far the most significant source of ingestion-related mercury exposure in humans and animals, although plants and livestock also contain mercury due to bioaccumulation of mercury from soil, water and atmosphere, and due to biomagnification by ingesting other mercury-containing organisms. Exposure to mercury can occur from breathing contaminated air, from eating foods which have acquired mercury residues during processing, from exposure to mercury vapor in mercury amalgam dental restorations, and from improper use or disposal of mercury and mercury-containing objects, for example, after spills of elemental mercury or improper disposal of fluorescent lamps.

LEGISLATION TO REQUIRE RECOVERY AND RECYCLING OF MERCURY-CONTAINING LAMPS

Assemblyman Spano introduced legislation in 2011 (A 6596-A) that would establish producer responsibility requirements for the collection and recycling of mercury-containing lamps sold in New York State. Further, the bill would require manufacturers of mercury-containing lamps sold in the state to submit plans to the Department of Environmental Conservation (DEC) by June 1, 2012 that provide for the collection and recycling of such lamps intended for disposal. Each manufacturer would be responsible for all costs associated with the collection and recycling programs. Manufacturers would be required to implement their collection programs by December 1, 2012 and would be required to report annually to DEC on the implementation of their plan.

There are currently some voluntary lamp collection programs by large retail stores, but there are no statewide requirements for recycling and recovering the mercury from such lamps in New York. This bill would ensure that these mercury-containing products would not enter our landfills, thereby reducing the potential for human exposure to mercury and contamination of the land and water. The bill would hold manufacturers, who profit from the sale of these lamps, responsible for the collection and recycling of mercury-containing lamps at the time of disposal.

The bill was assigned to the Assembly Environmental Conservation Committee.

Chairman Spano Introduces Hazardous Materials Notification Bill

This issue came to the attention of Assemblymember Spano through discussions with local fire firefighters, who claimed they have little or no information about hazardous materials that are used and stored at commercial facilities. The absence of information and hazard identification places firefighters, first responders and emergency personnel at significant risk for encountering toxic exposures.

Therefore, Assemblymember Spano and Senator Stewart-Cousins introduced legislation in 2010 and again in 2011 (A 220/ S 2826) that would better inform local firefighting agencies of the presence of hazardous materials in commercial facilities.

THE BILL: The bill would make changes to the current hazardous materials reporting requirements in the General Municipal Law that would apply to towns and cities (except cities with a population of one million or more). The bill would require:

- each commercial business to identify and quantify each hazardous material used or stored at each site to the local fire department. Businesses that do not use or store hazardous materials would also be required to provide notice accordingly;
- every municipality (town or city) to annually notify all commercial businesses in their jurisdiction of the notification and other hazardous materials reporting requirements. The notification may be provided with tax bills or other official notifications;
- commercial businesses granted a reporting exemption (exemption provision currently in the law) to immediately notify the fire department of any changes in the hazardous materials or the amounts used or stored at each site;
- that any requests for an exemption from public disclosure of hazardous materials used or stored at a site

still be subject to the Public Officers Law (Freedom of Information Law - FOIL) to ensure that fire companies have adequate information when responding to fires and other events at such sites.

The changes to the existing law that the bill proposes would significantly improve knowledge of hazardous materials stored and used within our communities, enhance municipal response to fires and other hazardous events at such facilities and better protect response personnel. Firefighters and emergency personnel can be exposed to carcinogens, neurotoxins and other dangerous chemicals and materials that are often used or stored in the workplace. OSHA protects workers in the workplace – obviously firefighters, first responders and emergency medical personnel who enter these workplaces should be afforded the same protections.

Other Environmental Legislation of Interest

Assemblyman Spano is the sponsor of numerous other bills, including several which will be of interest to our readers.

Regulation of Mercury-Added Products, A668 Jaffee, Spano et al; **S 3888** Grisanti et al: The bill removes the current requirement that DEC make a finding that there are suitable mercury-free alternatives prior to prohibiting the sale or distribution of mercury sphygmo-manometers, mercury wetted reed relays, mercury flame sensors, mercury thermometers, or mercury thermostats. The bill authorizes DEC to grant 2-year waivers to manufacturers that ensure a system exists for proper collection, transport, and processing of mercury-added consumer products at the end of their useful lifetime, if no mercury alternative is available. The bill passed both houses and was signed into law as Chapter 20 of the Laws of 2011.

Regulation of Toxic Chemicals in Children's Products, A 3141 Sweeney, Spano et al; **S 1526** Perkins et al: The bill would require DEC to establish a publicly-accessible website to inform the public of all chemicals of high concern; periodically update the list of priority chemicals; and set criteria

for designating priority chemicals. The bill also requires every manufacturer of children's products containing a priority chemical to notify DEC. DEC may require an assessment of the chemical, including alternatives. Within two years of the effective date of the law, children's apparel or children's novelty products containing priority chemicals may not be sold in NY. The bill moved to the Assembly Codes Committee and is assigned to the Senate EnCon Committee.

Regulation of Cadmium-Added Novelty Consumer Products, A 1158 Sweeney, Spano et al, **S 2729** Fuscillo et al. The bill would prohibit the sale of jewelry, toys or ornaments to which cadmium has been added intentionally during formulation or manufacturing after June 1, 2013. The bill defines "cadmium-added" to mean an amount equal to or greater than 0.0075 percent by weight. Manufacturers must notify retailers of the ban and inform them how to properly dispose of

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Environmental Budget Issues

New York continues to struggle with enormous budgetary challenges, balancing the need to reduce state spending while preserving programs

that are critically important to New Yorkers, including environmental and public health protection and public lands protection and accessibility.

ENVIRONMENTAL PROTECTION FUND (EPF)

For Fiscal Year 2011-12, the Governor proposed to retain funding for the EPF at the 2010-11 level of \$134 million, which the Legislature accepted, although there were changes within

the funding categories. The chart provides information about funding for categories of interest over the past 10 years.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) BUDGET HIGHLIGHTS

The Governor proposed a 4.9% reduction in funding for DEC, although there were no proposed staff reductions from 2010-11 to 2011-12 (budgeted personnel level – 3003).

The Governor proposed to permanently extend the pesticide product registration fees; the Legislature extended this authority for three more years.

EPF Hazardous Materials and Waste Appropriations from FY 01/02 to FY 11/12 (thousands of \$)

| Fiscal Yr → EPF Category ↓ | 01-02 | 02-03 | 03-04 | 04-05 | 05-06 | 06-07 | 07-08 | 08-09* (DRP) | 09-10 | 10-11 | 11-12 |
|---|-------|-------|--------|--------|--------|--------|--------|-----------------|--------|--------|--------|
| Secondary Materials | 5,225 | 4,995 | 6,500 | 6,500 | 7,000 | 8,750 | 8,750 | 2,500 | 2,250 | 1,000 | 1,000 |
| Pesticides Program | 2,625 | 2,625 | 2,625 | 2,475 | 2,475 | 2,475 | 2,025 | 0 | 575 | 575 | 575 |
| Pollution Prevention Institute | 0 | 0 | 0 | 0 | 9 | 9 | 2,000 | 1,000 | 2,350 | 2,000 | 2,000 |
| Non-point Source Pollution Control (Ag) | 5,500 | 6,000 | 10,100 | 10,850 | 11,700 | 11,003 | 12,833 | 9,500 | 12,200 | 13,297 | 13,297 |
| Non-point Source Pollution Control (Muni) | 0 | 0 | 0 | 0 | 0 | 5,502 | 6,417 | 4,750 | 5,600 | 3,703 | 3,703 |
| Water Quality Improvement | 0 | 0 | 0 | 0 | 0 | 7,000 | 10,000 | 9,000 | 9,000 | 2,932 | 2,932 |

* FY08-09 figures represent appropriations after that year's Deficit Reduction Plan (DRP) was implemented



**Legislative Commission on
Toxic Substances and Hazardous Wastes**
4 Empire State Plaza, 5th Floor
Albany, NY 12248



To Further our efforts to reduce waste, please inform us if you have a change in address by calling us at: **(518) 455-3711**, fax at **(518) 455-3837** or write us at: **The LCTS & HW, 4 Empire State Plaza, 5th Floor, Albany, NY 12248.**

OTHER ENVIRONMENTAL LEGISLATION OF INTEREST

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the remaining inventory. Cadmium is a metal that is inexpensive, malleable and highly resistant to corrosion, making it desirable for use in plastics as a stabilizer and in electroplating. However, cadmium interferes with the body's use of calcium and has been associated with harmful health impacts including cancer and kidney disease. High levels of cadmium have been found in low-priced children's jewelry sold in the U.S. The bill passed the Assembly and is assigned to the Senate EnCon Committee.

Environmentally Sound Packaging Act, A 3543 Colton, Spano et al. This bill would require all packaging sold in New York State after January 1, 2014, to be "environmentally sound," qualifying if it is specifically designed for reduction, reuse or recycling. Within five years of enactment, 45% post-consumer recycled content

would be required in packaging. Labels indicating compliance would be required on all packaging. Conditional exemptions are authorized by DEC where no alternative packaging is available. Packaging comprises more than one-third of the municipal solid waste stream and yet is recognized as a major potential market for secondary materials collected under municipal programs. The bill was assigned to the Assembly EnCon Committee.

Phase-Out of Mercury Thermometers, A 3485 Sweeney, Spano et al, **S 5600** Savino et al. This bill would require thermostat manufacturers, no later than June 1, 2012, to submit a plan to the Department of Environmental Conservation (DEC) establishing a collection program for out-of-service thermostats. The collection program would be free of cost to contractors, service tech-

nicians and homeowners. The program would include an education and outreach program, provision for distribution of collection containers for mercury-containing thermostats; measures to prevent fraudulent return of mercury-containing thermostats; criteria to encourage purchase of mercury-free thermostats; and criteria to ensure that the capture rate of out-of-service mercury thermostats is maximized. Manufacturers would be required to implement their plans by December 1, 2012, and no later than June 2013, required to submit a report to DEC identifying the number of thermostats collected, the estimated total amount of mercury in the thermostats, a program evaluation, and an accounting of the administrative costs incurred. The bill passed the Assembly and is assigned to the Senate EnCon Committee.