
**Local Law 37
Integrated Pest Management Planning
In New York City**



Prepared by the NYC Department of Health and Mental Hygiene,
Bureau of Environmental Surveillance and Policy

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In May 2005, Local Law 37 (introduced by the New York City Council as Intro 329) was signed into law. Local Law 37 (LL37) set forth a number of requirements related to the use of pesticides on New York City-owned or leased property, with the overall goal of reducing the City's use of hazardous pesticides and promoting the use of safer and more effective pest control practices, known as Integrated Pest Management (IPM). One of LL37's requirements was that City Agencies submit an IPM Plan in January of each year to the Mayor and New York City Council. This report, for calendar year 2007, is being submitted in fulfillment of that requirement. In it, we describe compliance with LL37 requirements and describe the evolving pest control practices of many agencies. In subsequent years we will use this opportunity to outline our progress and plans for future pesticide use reduction and continued use of Integrated Pest Management.

BACKGROUND

Local law 37 required the reduction of pesticides on municipal property through the elimination of the most toxic pesticides. These included certain pesticide products that were known to pose significant health risks, such as cancer, or reproductive or developmental damage. There are exemptions of certain pesticides from prohibition due to their low potential for exposure or harm, or their public health necessity. A waiver procedure was established that allowed the Department of Health and Mental Hygiene (DOHMH) to grant further individual exemptions from the prohibitions under certain conditions. Posting notices to building occupants twenty-four hours prior to pesticide applications was required as well as new, more detailed record keeping and reporting provisions. LL37 launched city agencies on a critical review of infestation, pest management and pesticide use on city-owned and leased properties. LL37 made a number of major reforms to citywide pest control practices and has thus far encouraged agencies to make pesticide use reduction an ongoing pursuit. The Bureau of Environmental Surveillance and Policy was charged with the implementation of Local Law 37 and continues to provide technical assistance to agencies in complying with this law.

In the first year of implementation, DOHMH developed guidelines and met with agencies to assist them with specific pest management issues. Agencies inventoried their

pesticide stocks and evaluated their use patterns to determine which products were affected by phase-outs, and then identified alternative products or practices to replace them.

In this second year of implementation, agencies continued to identify new pest management practices that are less chemical-dependent and more preventive in their approach. New York City agencies address a wide variety of pest control issues in a large number of settings – residential units, institutional settings, parks, schools, offices, highway medians, hospitals, and vacant lots. Agencies are confronted with chronic and emergent infestations, including roaches, rodents, flies, fleas, bedbugs, midges and mosquitoes. As such, pest control methodologies must be tailored to the context, populations and target pest for each agency. DOHMH continues to critically examine pesticide use and infestation patterns in the City, in order to help agencies design strategies that work for their agency utilizing least toxic pesticides and integrated pest management.

Integrated Pest Management (IPM) focuses on preventing pest infestation through improved sanitation and structural integrity. IPM seeks to use structural and behavioral modification to deny pests the essential food, water, means of entry and harborage they need to survive. At the same time, “pest-proofing” upgrades housing and workplaces in ways that improves the overall structural conditions for occupants. When physical improvements alone are not enough to address an infestation, IPM also encompasses the judicious use of least hazardous pesticides – such as newer gels and baits, and old standbys like boric acid, deployed in new ways. DOHMH encourages agencies to use pesticides to control infestation only as a last resort and to critically examine all other options prior to engaging in their use.

THE ROLES AND ACTIVITIES OF THE DEPARTMENT OF HEALTH AND MENTAL HYGIENE

DOHMH has been in the forefront of promoting IPM and in alerting and educating the public on the hazards of pesticides. This work has been guided by the recognition that the presence of pesticides in our environment frequently leads to unnecessary human exposures, emergency department visits and hospitalizations, and may be associated with other health problems. Furthermore, the presence of some pests is associated with asthma exacerbation, infectious disease and other health problems. Plant pests also pose a variety of threats to the use and durability of public infrastructure and threaten our ability to enjoy and protect certain natural resources. Balancing the need to live free of infestations and reduce the harm of pesticides, DOHMH encourages integrated pest management.

The DOHMH Bureau of Environmental Surveillance and Policy (BESP) oversees Local Law 37 implementation. BESP staff includes an entomologist, a pesticide analyst, a communications specialist and information technology managers. BESP convenes and chairs the Inter-Agency Pest Management Committee and the Waiver Review Committee, supports IPM planning for agencies, helps to launch and evaluate demonstration projects and conducts community outreach and education.

LL37 Waiver Review Committee

The waiver committee is tasked with evaluating requests by City agencies for waivers from pesticide prohibitions. The committee consists of individuals from across the agency, including licensed exterminators, health educators, environmental epidemiologists, risk assessors, and entomologists. Each is trained in integrated pest management principles and practices and on the requirements of Local Law 37. In 2006, agencies were granted 12 product waivers. In 2007, just 7 new waivers were granted, reflecting successful implementation of alternative strategies and product choices. A list of waivers issued in 2007 is available on our website (<http://nyc.gov/health/ll37>). .

Inter-Agency Pest Management Committee (PMC)

Local Law 37 established the PMC as a forum for agencies to share pest management information and strategies and to plan future reductions in pesticide use. The PMC is chaired by BESP and is made up of representatives from several agencies including:

- Department for the Aging (DFTA)
- Department of Citywide Administrative Services (DCAS)
- Department of Corrections (DOC)
- Department of Education (DOE)
- Department of Environmental Protection (DEP)
- Department of Homeless Services (DHS)
- Department of Parks and Recreation (DPR)
- Department of Sanitation (DSNY)
- Department of Transportation (DOT)
- Fire Department of New York (FDNY)
- Health and Hospitals Corporation (HHC)
- Housing Preservation and Development (HPD)
- New York City Housing Authority (NYCHA)

This group serves as the city's pesticide and pest management advisory committee, and meets twice annually. The PMC assesses ways to reduce pesticide exposures and to communicate better with employees and the general public about safe and effective pest control. Meetings in 2007 were held on August 2nd and November 1st.

The August 2007 meeting focused on a review of the pesticide application data submitted by the agencies for calendar year 2006, a discussion of the benefits of electronic reporting of pesticide application data and a presentation from a DCAS administrator on the new IPM contract offered by DCAS. The meeting also highlighted achievements of new IPM activities by city agencies (DOE, DPR, DCAS). The November 2007 meeting focused on planning for the reporting requirements in 2008 and updates on the New York City Pesticide Use Reporting System (NYCPURS). Agencies also discussed the challenges they have faced implementing Local Law 37, especially with regard to working with contractors for pest control and using the citywide pest control contract.

For the November 2007 meeting, representatives of national pesticide reduction efforts presented on several aspects of pest control, pesticide regulation and industry trends. Tom Green, President of the IPM Institute of North America Inc. described the STAR and Green Shield certification programs for IPM. The Green Shield Certified program is an independent, non-profit certification program that promotes practitioners of effective, prevention-based pest control while minimizing the use of pesticides. Dr. Green presented the NYC Department of Education with a certificate for achieving STAR certification for its IPM program in NYC schools. Laura Haight, Senior Environmental Associate of the New York Public Interest Research Group (NYPIRG) spoke about the importance of reducing pesticide use throughout the city. NYPIRG worked with the City Council in drafting Local Law 37, and expressed support to the agencies on their progress thus far, and encouraged agencies to continue to adopt IPM in their future practices and contracting. Susan Rezaei from the National Center for Environmental Health at the Centers for Disease Control and Prevention discussed national plans for pesticide tracking through the environmental and public health tracking program and commended New York City for the work they have done in tracking environmental triggers for health related issues.

LL37 Website and Fact Sheets

The LL37 public website (www.nyc.gov/health/ll37) developed by DOHMH to facilitate communication and the changes made to pest control by the law's passage, continues to provide information and guidance to agencies and the public. This website includes:

- fact sheets describing the law in general and each of the following specific provisions separately: record keeping and reporting, prior notification, product prohibitions, waiver procedures, and requirements for contractors;
- record keeping and reporting forms;
- waiver applications and past waiver decisions;
- posting signage templates;
- a product lookup function enabling agencies, contractors, pesticide manufacturers and distributors and the general public to determine whether and why a given product is prohibited under LL37.
- links to other sources of state and federal pesticide regulatory information.

Pesticide Use Reporting

New York City agencies are required to report annual pesticide use to DOHMH. A web-based electronic pesticide application reporting system for pesticide applications, called the New York City Pesticide Use Reporting System (NYCPURS) was created by DOHMH and launched in March of 2007.

NYCPURS is designed to streamline regulatory compliance. By entering data into the system, agencies and their contractors automatically satisfy LL37's reporting requirements. NYCPURS allows users to generate pesticide application reports that also satisfy the New York State Department of Environmental Conservation's (NYS DEC) reporting requirements. DOHMH is building a feature to permit data to be imported into NYCPURS from other electronic use systems that are capable of reporting DEC-compliant electronic data. This function will be

available in mid-2008. All agencies and their contractors will be required in 2008 to use NYCPURS.

To promote the use of NYCPURS, DOHMH began monthly training sessions in May 2007 and advertised the courses via the Pest Management Committee, e-mails and paid advertisements in the New York State Pest Management Association's newsletter. Over 100 representatives from city agencies and their contractors have attended NYCPURS training. In August 2007, DOHMH began awarding 2.5 NYS Department of Environmental Conservation licensure credits to New York State certified applicators for completing the training.

Local Law 37 reporting requirements were modified in November 2007 by Local Law 54 (LL54), which amended Subdivision b of Section 17-1208 of the Administrative Code of the City of New York. LL54 requires city agencies to submit a report on pesticide use to the Commissioner of DOHMH, in a form and manner prescribed by the Commissioner, every February 1st. Beginning May 1st 2008, and every May thereafter, DOHMH will submit a report to the Speaker of the Council that summarizes by agency the use of pesticides.

Pesticide Prohibition Search Application

To support compliance with city prohibitions of pesticide use, a web-based system allows users to determine the prohibition status of pesticide products. This system compares the active ingredients in the product queried against the California Proposition 65 developmental and reproductive toxin list and the EPA's carcinogen list.

HIGHLIGHTED ACHIEVEMENTS IN 2007

LL37 has prompted pest management changes and awareness across many agencies. A few of the notable examples of recent progress and activity are highlighted below.

Pro-Active Rodent Indexing

Rodent Indexing was designed by DOHMH's Bureau of Veterinary and Pest Control Services to aid efforts to combat the infestation of rats citywide. Indexing is a rapid inspection process that identifies active rat signs on properties, blocks and neighborhoods. Its goal is to determine the extent of rat activity in order to take proactive measures to ameliorate rat-related conditions. Indexing shifts the focus of inspectors to a more proactive approach to pest control; instead of relying on complaints, inspectors can use the indexing process to identify areas in need of action and to rapidly direct resources.

Indexing is being piloted and evaluated throughout the Bronx. While the majority of properties with active rat signs are privately owned, city-owned buildings will also receive rapid notification of the presence of rats. The citywide Rodent Task Force will address findings at its regular meetings, and continue to coordinate the activity of relevant city agencies to ameliorate conditions.

Pesticide Hazard and Exposure Reduction (PHAER) Zone Training

On May 23, 2007 DOHMH and the Department of Parks and Recreation (DPR) in cooperation with the Central Parks Conservancy offered a full day of training in the Pesticide Hazard and Exposure Reduction (PHAER) Zones System. The PHAER Zone method, developed by consultant Phil Boise, promotes pesticide use decision-making based on the potential for human exposure and natural resource damage. Forty-five gardeners and assistant gardeners from DPR and the Central Park Conservancy attended the training. The Central Park Conservancy utilizes an extensive integrated pest management policy that includes turf, landscape and tree monitoring; preventative and targeted treatments; and the judicious use of organic products to safely maintain the health of Central Park. DPR, DOHMH and the Central Park Conservancy continue to work together to explore ways to continue to reduce pesticide use.

Bed Bug Protocols in Development

The re-emergence of bed bugs is a global phenomenon. DOHMH has provided technical assistance around safe responses to bed bug infestations and has produced a fact sheet in response to citizens' concerns and questions. The fact sheet developed has been widely disseminated through community meetings, the DOHMH Call Center and on-line. DOHMH, the Department of Housing Preservation and Development, the New York City Housing Authority and the Department of Education have all developed and disseminate protocols for the safe handling of bed bugs.

DOHMH also worked with the Cornell University Cooperative Extension to obtain funding from the Northeast IPM Institute to develop a bed bug response protocol for congregate living environments. The project was launched in June 2007 with the NYC Department of Homeless Services. A task force was convened to discuss the appropriate protocols for preventing and responding to bed bug infestations and the inappropriate use of pesticides in response to this. Protocols will be finalized and published in Spring 2008.

Department of Education (DOE) Awarded STAR Certification

The New York City Department of Education has earned the distinction of IPM STAR Certification from the North American IPM Institute, in partnership with the US Environmental Protection Agency (EPA). The DOE received this award for their team approach to solving pest problems. DOE is responsible for the maintenance of 1,200 school buildings with a population of more than one million students. Six hundred of these buildings are in use year-round. DOE has focused on increasing the frequency of inspections of school facilities by pest control staff, improving professionalism and technology, and communicating more regularly with allied staff, including administrators, teachers and food service, custodial and maintenance staff. DOE's IPM team has conducted training on IPM to upper management, teachers, food service, custodial and maintenance staff.

City-Wide Pest Control Contract

The Department of Citywide Administrative Services (DCAS) has signed a multi-year citywide contract with USA Exterminators for the provision of pest control services. The contract offers two service options; traditional pest control, and IPM based pest control. DOHMH is the first large purchaser of the IPM service option. In July 2007, the City Council provided funding to DOHMH to conduct enhanced rat control in parks. DOHMH has contracted with USA Exterminators to conduct regular inspections and exterminations in several city parks according to an agreed upon DOHMH-developed protocol. DOHMH will evaluate the contractor's performance, and advise DCAS and other agencies on any changes that should be made to the contract to promote better quality pest control.

Rodent Academy Expanded and Rodent Task Force Continues

DOHMH's Bureau of Pest Control convenes the Mayor's Rodent Task Force and the NYC Rodent Control Academy. The goal of the Rodent Control Academy is to provide a highly focused and standardized approach to managing rodent populations through Integrated Pest Management (IPM). After completing this course, pest control professionals are able to more effectively manage rodent populations because they will have a better understanding of the biology, behavior and habitat of rodents, contributing factors to infestation, effective ways of evaluating site-specific responses and strategies, and effective communication strategies with the public to achieve lasting change and improvements. In 2008, the academy will begin training private pest control professionals.

DOHMH is collaborating with other city agencies to address New York City's rodent problems through weekly rodent task force meetings. Each week the Mayoral Rodent Task Force meets to discuss the City's rodent problems and to develop ways to solve these problems as well as to better inform and educate the public.

NYCHA Included IPM in a Development Renovation Contract

In 2007 the NYC Housing Authority (NYCHA) conducted a kitchen modernization project at Harlem River Houses. The project replaced flooring and cabinets, removed hazardous materials, and conducted preventive pest control in the kitchens of 690 apartments. The project included an inspection of every apartment to assess infestation levels, a pre-renovation treatment of apartments with severe infestation to crash the pest populations; cleaning of stoves, pipes and drains, removal of old cabinets and installation of new cabinets. The construction contractor hired by NYCHA for the renovation worked closely with an IPM sub-contractor to ensure that kitchen cabinets were pre-treated and tightly sealed to prevent entry.

ONGOING PEST CONTROL ACTIVITIES OF CITY AGENCIES

Below, pest control activities for many New York City agencies are summarized, and relevant changes to agencies' pest control practices and efforts to reduce pesticide usage by the agencies are noted.

Department for the Aging

The Department for the Aging (DFTA) contracts with non-profit senior service providers to administer 76 different city-owned and city-leased sites, 33 of which engage in food preparation or storage. DFTA contracts with private vendors for its pest control. Its contracts address typical structural urban pest issues, including roaches, rodents, and flies, through monthly extermination visits. DFTA monitors those facilities with food preparation areas to determine if more frequent extermination visits are necessary. Contracts have been updated to reflect LL37 requirements.

Department of Citywide Administrative Services

Department of Citywide Administrative Services (DCAS) manages 55 office buildings and court houses and nearly 2,500 City-owned vacant lots. DCAS also administers the city-wide contract for pest control. The contract reflects the requirements of LL37 and for the first time offers an IPM component. The current contract is for a three year period and became effective June 15, 2007. All city agencies have the option of buying into this contract for their own pest control needs.

In a typical year, DCAS properties encounter rodents, roaches, ants, fleas, fruit flies, mosquitoes and termites. Their contractor visits buildings routinely and provides general pest control services, meets with custodians, reviews pest complaint logs, and addresses problem areas. The contractor communicates with custodial staff to review pest complaint logs and responds to questionable areas. DCAS staff and contractors have attended DOHMH's Rodent Academy to learn effective IPM techniques for rodent control.

Since the adoption of LL37, DCAS has ceased the routine use of most sprays and all foggers. Among its challenges, however, are changing office occupant behaviors that promote infestation such as eating at desks, excessive food storage and poor waste handling. DCAS plans on conducting more tenant and maintenance staff education to promote IPM.

Department of Corrections

The Department of Corrections (DOC) manages ten facilities that have food preparation areas, laundries, residential areas for inmates, and office space. DOC does not employ contractors for pest management purposes, but relies on in-house pest control professionals. Although pesticide use occurs in DOC facilities, it is constrained by the fact that these facilities are continuously inhabited and cannot be vacated for pesticide applications. Because the exposure potential for residents is high, DOC has sought to improve sanitation practices and institute other IPM measures as a way to control pest problems. DOC's ten pest control staff have also replaced many of the pesticides it had been using with other products to respond to LL37 prohibitions. DOC has adopted NYCPURS for its pesticide use reporting.

Department of Education

Pest management at all New York City public schools is overseen by DOE. DOE employs fifteen in-house staff to conduct monthly monitoring inspections at 850 schools. In addition, DOE contracts directly with three different pest control companies to provide services for an additional 200 schools. The agency does not use the citywide DCAS contract.

The nature of the products used in school facilities has changed over the years. The dominant products currently used by DOE and its contractors are insect and rodent gels and baits, various formulations of boric acid, and certain other products that are deemed of such low toxicity that they are exempt from regulation by the US EPA and LL37.

To reinforce its IPM approach, DOE has sought to educate the broader school community about best practices. DOE conducts IPM workshops throughout all its divisions, including food preparation and facilities departments, and staff and members of the United Federation of Teachers. In 2007 DOE committed substantial resources to the purchase and installation of pest-proofing and mechanical exclusion strategies, including rodent- and insect-resistant door sweeps. As mentioned earlier, DOE was awarded the North American IPM Institute's STAR certification for its IPM practices.

Department of Environmental Protection

The Department of Environmental Protection (DEP) operates water pollution control plants, well stations, pumping stations, shafts, chambers, reservoirs, aqueducts, tunnels, gate houses, office space, garages, repair shops, maintenance shops, and police precincts within New York City and in upstate counties. The agency provides pest control services at sewage treatment facilities and sewage pump stations. Additionally, treatments are applied to fixed structures associated with the NYC Water supply system and green spaces, together with offices, garages, laboratories and warehouses.

A range of pest problems are encountered in these properties including ants, mosquitoes, gnats, flies, midges, wasps, raccoons, weeds, mice and roaches. DEP contracts for some pest control services and employs 19 licensed applicators for upstate reservoir pest control. DEP's Environmental Coordination Committee has disseminated policies consistent with LL37 to all of its operational units. As part of its continued adoption of IPM principles, DEP has committed to ongoing staff training. Staff has attended training and meetings on Local Law 37 and IPM techniques at the New York Botanical Garden.

Department of Health and Mental Hygiene

The Bureau of Veterinary and Pest Control Services at DOHMH protects the public from animal- and vector-borne diseases and other hazards, including those that result from uncontrolled or unregulated rodents and other animals, and from mosquito-borne pathogens. Two programs -- Pest Control Services (PCS) and Vector Surveillance and Control (VSC) have pest management responsibilities.

PCS focuses on rodent control – performing inspections, cleanups and treatments of both private and public property. Currently, PCS employs twenty-one exterminators to bait

properties that have signs of active rodents. PCS only uses rodenticide placed directly in rat burrows or in tamper-resistant containers. PCS is developing a new model of surveillance that is characterized by proactive inspection and cataloging of neighborhood conditions in order to identify and mitigate problem areas before complaints arise. PCS also sponsors the Rodent Academy.

VSC is charged with mosquito management for the prevention of West Nile Virus. Prevention – eliminating standing water where mosquitoes breed – is the preferred management method, but in areas where standing water cannot be eliminated (such as wetlands and other water bodies), or where field assessments have determined that larval proliferation is a problem, VSC applies biological (non-chemical) larvicides to prevent mosquitoes from hatching. VSC also conducts surveillance for West Nile virus, monitoring larvae, animal hosts, and adult mosquitoes for evidence of escalating viral activity. If these indicate that there is a substantial risk of a West Nile virus outbreak in humans, targeted insecticide spraying is used to suppress adult mosquitoes in threatened areas.

Department of Homeless Services

The Department of Homeless Services (DHS) manages homeless shelters and dormitory facilities across the City. Pest management services, which primarily address rodent and cockroach problems are provided by the DCAS citywide contract. Although DHS has no in-house pest control personnel, DHS staff members have attended DOHMH's Rodent Academy and NYCPURS training. DHS continues to monitor the pesticides used on its facilities as a result of LL37 prohibitions and to achieve a broader goal of ongoing pesticide use reduction through continued IPM training and through forging cooperative relationships with other agencies.

In 2007, DHS conducted extensive training of its maintenance personnel to promote practices that help prevent and respond to infestations. DHS has demonstrated how vertical integration of pest prevention messages can substantially reduce the need for pesticide use. Protocols exist for pest discovery, general insect pest management, staff and client communication, and emergency infestation response. As mentioned earlier, DHS is collaborating with Cornell University Cooperative Extension to develop and implement a bed bug prevention and response protocol.

Department of Parks and Recreation and Central Park Conservancy

New York City has 28,000 acres of parks, playgrounds, athletic fields, natural areas, recreational facilities, comfort stations, beaches, historic buildings, and parkways maintained by the Department of Parks and Recreation (DPR). The major routine pest issues facing DPR are weeds (including weed shrubs and trees) and rodents. Rarer infestations of exotic insect pests and diseases, often targeting trees, also occur. To address all of these, DPR employs 111 certified pesticide applicators.

Herbicides account for the largest share of the Department's total pesticide use. Weed control is thus the management arena that has seen the largest change as the result of LL37. In 2007, DPR and the Central Park Conservancy trained all senior gardeners in safer pest control. In fall 2007, DPR began partnering with DOHMH on an enhanced rodent control

program that dedicates DOHMH staff and contracted resources to regular parks inspections and baiting, where necessary. Regular recommendations are made by contractors and DOHMH and Parks staff for landscaping, sanitation and structural repairs to reduce rodent harborage. Only rodenticides placed deeply into rat burrows or in tamper-resistant containers are used.

The Central Park Conservancy manages pest problems on its park grounds, ball fields, playgrounds, comfort stations, field offices, and outdoor storage space. Rodents, turf and tree insects, turf pathogens, weeds and invasive plants or undesirable vegetation are the typical pests encountered. There are currently 22 certified applicators on staff that manages pest control as well as two private contractors.

IPM has been adopted as DPR's overall pest management and planning strategy through routine surveillance, the use of threshold levels of infestation to guide the judicious use of pesticides, and a commitment to reducing the use of pesticides. DPR is field testing alternative vegetation management products. The Conservancy reports significant reductions in the park's rat population following enhanced monitoring and follow-up. Conservancy and DPR staff have attended PHAER Zone, Rodent Academy and NYCPURS courses offered by the DOHMH and continue to dedicate considerable staff time and resources in IPM training.

Department of Sanitation

The Department of Sanitation of New York City (DSNY) manages garages, office buildings, transfer stations, and various publicly-owned lots throughout the city. DSNY employs two certified pesticide applicators that make routine visits to facilities and responds to emergency calls. Contractors are used on occasion to deal with less typical pests, such as raccoons and squirrels. Because of the nature of the agency's work – managing garbage – pest problems are endemic at some facilities. Following LL37's adoption, DSNY has taken steps to reduce infestation by focusing on sanitation and structural upgrades to inhibit the entry and movement of rats and insect pests. The agency has continued with its "Dump on Shift" program to reduce the amount of garbage stored at facilities. Loaded trucks are being stored outside of garages to minimize interior infestations. DSNY staff attended NYCPURS training, and will begin using the system in 2008.

Department of Transportation

DOT is responsible for pest management at maintenance yards, lots, and agency offices throughout the city, as well as on rights-of-way along city highways. DOT is also contracted by New York State to provide right-of-way maintenance on state highways within city borders. Right-of-way management consists chiefly of controlling roadside vegetation, and is done by in-house certified applicators within the Roadways Arterial Maintenance Group. Members of this group and others have attended NYCPURS training and are now using the reporting system to capture the data for their arterial work. Several of the herbicides used by DOT have been subject to LL37 prohibitions. The agency continues to monitor products for compliance with LL37.

Health and Hospitals Corporation

The New York City Health and Hospitals Corporation (HHC) oversees eleven hospitals, six diagnostic and treatment centers, 82 community health and school-based clinics, and five long-term care/specialty hospital and nursing home facilities. Because each facility is managed separately, pest control protocols differ among facilities. A few facilities have pesticide applicators on-staff, but the majority relies on one of two outside contractors. Many specifically report the use of IPM protocols, which combine preventative measures with monitoring, and pesticide applications as a last resort. Some contracts, however, call for more routine treatments and complaint-driven responses.

Reflecting the variety of services provided in their facilities, HHC reports that its operations also encounter a range of urban pests problems – rodents, roaches, flies, ants, bed bugs, pigeons, and squirrels. To address these problems facilities report using insect gels and baits (boric acid and hydramethlynon-based), rodent baits and tracking powders, and a range of other insecticides. As a result of LL37, some facilities have had to eliminate certain insecticide products and replace them with boric acid products. Staff and contractors from several HHC facilities have attended NYCPURS training.

Housing Preservation and Development

Housing Preservation and Development (HPD) oversees occupied and vacant residential and commercial buildings, vacant lots as well as a very limited number of agency offices. In addition, its Emergency Repair Program occasionally encounters and responds to rats and fleas in occupied private buildings. There are no certified applicators on staff and the agency is currently negotiating a new contract for pest control services. The agency issues small purchase orders on a regular basis selecting from a precertified list of vendors.

Occupied residential buildings get regularly scheduled exterminations for roaches and rodents. Vacant buildings and lots are exterminated in response to complaints or when a problem is identified by the property manager during routine inspections. Buildings being demolished are exterminated prior to and during demolition.

New York City Housing Authority

NYCHA manages 344 housing developments and 181,000 apartments, as well as office space and grounds. NYCHA currently maintains approximately 75 certified pesticide applicators on staff that perform routine inspections and treatments, carry out specialized intensive IPM interventions, and respond to complaints and requests from other agencies. NYCHA staff members regularly address a range of insect and rodent problems, including interior mice, cockroaches and bedbugs and exterior rats, weeds, and mosquito control. Contractors are used for termite infestations.

NYCHA conducts regular staff training in pest management, including IPM techniques for cockroach, rodent and bed bug control, and encourages staff participation in Rodent Academy and NYCPURS training. NYCHA is in the process of developing a new scannable form to allow electronic data capture which would be uploaded into NYCPURS beginning in 2008. The agency has deployed a variety of new equipment and techniques and has placed greater emphasis on the use of HEPA vacuums for allergen, pest and harborage removal,

steam machines for removing cockroach waste and eggs, handheld ultraviolet lights for inspections, and exterior oxygen-voiding trash compactors.

NYCHA continues to evaluate its program for compliance with LL37 and continue to expand its resident education efforts. NYCHA has worked with the DOHMH on IPM programs and will continue to explore and collaborate on similar programs in the future.

INTEGRATED PEST MANAGEMENT IN NYC: LESSONS LEARNED FOR FUTURE IPM PLANNING

1. *Adopting integrated pest management principles is complex, and resource-intensive.* Local Law 37 has encouraged agencies to do a critical assessment of their pest control practices. Implementing and adapting to pesticide prohibitions, prior notification requirements and enhanced recordkeeping were relatively straightforward endeavors. Adopting a truly preventive approach to pest monitoring and control requires a more sustained and deliberate approach that is limited by staff and resource availability. Some agencies and their contractors are still beginning to embrace the full concept of integrated pest management and fully recognize the extent to which routine maintenance and operational activities bear upon pest problems.

2. *Contracted pest control services awarded are an impediment to adoption of integrated pest management* Agencies want to get the best possible service for their pest management needs and are hampered by the availability of reasonably priced high quality services. Contracted services that adhere to LL37 requirements and principles require greater oversight and involvement by agency staff. Often, agencies with their own applicators on staff are better able to adapt to a shift toward IPM in pest control.

3. *Pest control is not just the responsibility of pest control professionals.* Pest control workers are all too often defined professionally by their ability to apply pesticides. But pesticides are just one of many tools in the pest control tool belt. Some agencies and programs have attempted to share responsibility among maintenance staff, building occupants, design staff and the public. Future success in safer pest control will depend on integrating these activities in planning, resource allocation and monitoring.

4. *We have not yet realized the potential of pesticide use data to support improved pest control planning.* The myriad systems for maintaining information about pesticides used on New York City property – some paper, electronic, photo image – has not yet enabled the City to summarize its pesticide use or track trends. Local Law 54 of 2007 will allow for greater use of electronic reporting by City Agencies and allows us to begin preparing summary reports. As agencies proceed with their adoption of NYC PURS, we will have increasingly complete electronic records of which, when, where, how, how much and why pesticides were used. These data will be useful for evaluating alternatives, trends, and opportunities for continued adoption of safer and more effective pest control.