

Committee on Environmental Protection

Date	6-11-08
Start Time	
Finish Time	

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FOR IMMEDIATE RELEASE
Wednesday, June 11, 2008

Stewart O'Brien, Executive Director of the Plumbing Foundation of the City of New York, released the following statement today at the New York City Council-Oversight Hearing, Prevention of Backflow of Contaminants into the City's Potable Water Supply:

I am Stewart O'Brien, Executive Director of the Plumbing Foundation City of New York, Inc., a not for profit organization whose mission is to insure the enactment and enforcement of codes that protect the public health.

Throughout the country various states and municipalities have laws to protect against cross contamination of the public water supply, that is, discharge water from sinks, drains, boilers, cooling towers, etc. from within a building "crossing over" to the fresh water supply for other buildings. An example of how this can happen--a water main breaks so that the pressure supplying water into the building is lost. The loss in pressure creates a suction effect that can bring contaminated water into the fresh water supply of other buildings downstream of the event. There are numerous technical experts here today who can explain how these backflow incidents occur and the effects on public health. I would like to concentrate on the law in New York that is designed to prevent major incidents from occurring and how it is not being enforced in New York City.

Section 5-1.31 of the State Sanitary Code requires that each supplier of water protect the public water supply by requiring containment of backflows through the installation of certain devices, e.g. air gap, double check valve, reduced pressure zone. (In New York City the supplier of water is DEP.) The type of device is dependent on the degree of hazard in the building. In 1981 the NYS Department of Health, which has responsibility for ensuring that suppliers of water comply with this section, issued "Public Water Supply Cross Connection Control Guidelines" on how suppliers of water should classify buildings by the degree of hazardous material within the building.

(continued)

PLUMBING PROTECTS THE HEALTH OF THE NATION

The Plumbing Foundation City of New York, Inc., represents Licensed Plumbing Contractors and Plumbing Contractor Organizations throughout New York City



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Accordingly, on July 13, 1999, some 18 years after the State Department of Health issued its Guidelines, New York City's DEP wrote to the City Council and identified approximately 105,000 existing buildings in New York City that could require the installation of a device. That same letter went on, though, to identify 22,765 of the 105,000 as posing the greatest risk, "hazardous buildings". The types of buildings identified as "hazardous" by DEP---factories, gasoline stations, hospitals, funeral homes, and other COMMERCIAL buildings. No residential buildings were included, indeed, one and two family homes are classified as non hazardous and not requiring any device by the 1981 State DOH Guidelines.

Following the 1998 letter to the City Council the DEP Commissioner then formed a Task Force of representatives of the real estate, plumbing engineering and contracting community which was headed by the Chief Engineer of DEP. Its mission was to develop an implementation plan. On May 1, 2000 the Chief Engineer of DEP issued a Report to the DEP Commissioner. Highlights of the Report: --it reconfirmed the universe of existing hazardous buildings at 22,765¹ --it reconfirmed that there were an additional 82,235 buildings which also may require a device --it stated that the first priority should be given to achieving compliance in the 22,765 "hazardous" buildings --it targeted compliance in these hazardous buildings by May 2005 --it recommended a program to educate commercial property on their obligations under the law²

On June 22, 2006, 25 years after the 1981 mandate, 7 years after DEP identified the high hazard universe and 1 year after DEP sought 100% compliance, DEP reported compliance at only 15.6%.³

In 2007 DEP issued a draft "New York City Filtration Determination" in which it stated that it planned ONLY 225 enforcement actions against non compliant hazardous buildings. In its Annual Cross Connection Control Report for 2007, DEP reported ONLY 151 violations issued and 0 tap shut offs for not installing backflow devices in "High Hazard" buildings. Eighteen years after the initial mandate, 9 years after DEP identified the hazardous universe and 2 years after 100% compliance was supposed to be achieved, these numbers are paltry and demonstrate a lack of commitment to this health and safety law.

(continued)

¹ All new buildings constructed since the 1980s are required to have a device installed before a C of O is issued. Initially, DEP included the installation of devices in new buildings in its compliance statistics on the 22,765 existing buildings which incorrectly raised the reported compliance level significantly.

² In 2000 and 2001 the American Society of Plumbing Engineers, American Society of Sanitary Engineers and the Plumbing Foundation undertook a public relations campaign in real estate publications educating owners of the importance of installing backflow devices and their legal obligation to comply with the law. Given the poor compliance rates achieved by 2006, it does not appear that the educational route was favorably received.

³ Based upon DEP's research of 17,572 buildings out of a hazardous building universe then identified as 21,530.

In June and July 2007 the Chair of this Committee and the Plumbing Foundation separately wrote to the DEP Commissioner following a backflow incident in Southeast Queens. We asked a simple question—how long will it take DEP to report on the 22,000 hazardous buildings and put each in one of three categories—1) it was misclassified as a hazardous building, 2) device has been installed or 3) device is required but not installed and a violation has been issued. Neither you nor the Foundation received a response, EVER! All that was sought was a simple report detailing DEPs efforts to enforce the law. Unfortunately, DEP decided not to respond.

The issue is simple—when an agency has a 27 year track record of dragging its feet on an important health issue, should the Council accept its word when the agency NOW says, “your right, we need to focus on this. We are revamping the entire process and will make it better.” Or do the citizens of New York City deserve more? Commercial landlords may balk at installing these devices but it is **the law**. In addition, other municipalities enforce the law, why do the citizens of New York City deserve less. In other counties in New York, if a commercial landlord does not install a device as required by law, the supplier of water turns it off. In 2007 that never happened in New York City and has hardly ever happened.

To make sure that the lack of compliance does not continue indefinitely, we propose that the Council pass legislation. The legislation would require that by January 1, 2010, DEP Report to the Council whether each hazardous building is in compliance or that enforcement action (a violation) has been issued. Normally, we do not believe the legislature should intervene in executive matters. But given this long track record of lack of commitment, a legislative mandate is necessary.

In its 2007 Annual Report DEP disclosed 3 cross connection incidents. Fortunately no one was injured or killed. We need to make sure that DEP no longer drags its feet and that future incidents do not occur.

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THE PLUMBING FOUNDATION CITY OF NEW YORK, INC.

11 PARK PLACE, SUITE 1500, NEW YORK, NY 10007
PHONE: (212) 233-6555 FAX: (212) 233-6683

November 12, 1998

Honorable Joel A. Miele, Sr., P.E.

Commissioner

Department of Environmental Protection

59-17 Junction Boulevard

19th Floor

Corona, New York 11368

Dear Commissioner Miele,

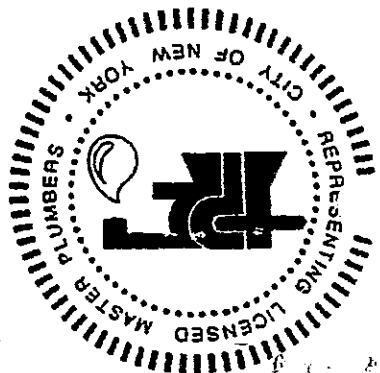
The recent incident in a Queens school, in which the coolant from the air conditioning system contaminated the drinking water, serves as a reminder of the potential health hazards posed by cross connections. I want to thank you for establishing the Backflow Prevention Task Force, which is meeting on the City's program to assure that the municipal water supply is protected from potential contamination caused, for example, by the siphoning effect that occurs during water main breaks. New York State law, which mandates the installation and annual testing of backflow prevention devices on service lines to certain types of buildings, must be enforced and we applaud your commitment to that goal.

As you know the Department of Environmental Protection, as the supplier of water, is the entity responsible for enforcing this law in New York City. Department of Environmental staff has concluded that approximately 105,000 buildings must have backflow prevention devices installed but that only about 6500 have done so. After having had over ten years to install these health/safety devices, this extremely low compliance rate concerns everyone.

We understand the City's interest in exploring with the State Department of Health whether the guidelines used to determine the universe of buildings which must comply is over broad and whether there is any flexibility in the type of device required in various buildings (i.e. RPZ versus double check valve). We have no problem with those discussions which, no doubt, will take many months to conclude.

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LAWRENCE J. LEVINE

Legal Counsel
STEWART D. O'BRIEN

Commissioner
Department of Environmental Protection

Department of Environmental Protection

Of more importance is the enforcement of the law in those buildings, which, we all agree, pose the greatest risk to public health (i.e., "hazardous category"). Department of Environmental staff has stated that in this highest risk category, compliance is only approximately 25 percent. Moreover, even in the high risk buildings which have installed a device, only a fraction of owners have the devices annually tested as mandated by State law.

Notwithstanding the efforts to work with State authorities regarding the universe of buildings which must comply and the types of devices to be installed, the Task Force should *immediately* begin to focus on the poor compliance rate in the high risk buildings. We look forward to an early scheduling of the next meeting of the Task Force, which should focus on how to increase compliance in high risk buildings and thereby protect public safety as required by State law.

Again, thank you for your commitment and cooperation.

Sincerely,

Stewart D. O'Brien
Executive Director

Chief Engineer
Department of Environmental Protection

SDO:elf

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Anthony Cosentino, P.E.

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Department of
Environmental
Protection

59-17 Junction Boulevard
Corona, New York
11368-5107

Joel A. Miele Sr., P.E.
Commissioner

Hon. Archie Spigner
Deputy Majority Leader and Chair
Committee on Housing and Buildings
The Council of the City of New York
City Hall
New York, NY 10007

RE: Cross connection control
through use of backflow
prevention devices ("BPD's")

Archie
Dear Chairman Spigner:

I am writing to clarify and update you on two issues concerning the City's backflow prevention program, which I last wrote to you about on March 25, 1999. The first issue is the question of which buildings that do not now have a BPD should install one because of the risk they pose to the City's potable water supply. The second issue is the extent to which the City should employ methods other than notification and outreach — such as the issuance of notices of violation ("NOV's") — to encourage buildings to install BPD's when the risk posed by the buildings so requires.

With respect to the first issue, neither DEP nor the New York State Department of Health (NYSDOH) has ever sought to force all buildings to install BPDs that would be required to do so under the broadest possible interpretation of the State Sanitary Code and relevant NYSDOH guidance. The reason for that, simply, is that such an interpretation would capture many buildings posing comparatively little risk to the potable water supply from cross-connections. As I explained in my March 25th letter, approximately 105,000 buildings could be covered under certain interpretations of an eighteen (18) year old guidance document developed by NYSDOH pursuant to the State Sanitary Code. I should add that this document was not developed for specific application to New York City and is often indiscriminate, vague or silent on what cross-connection controls should be applied to the myriad of building types and uses we have in New York City.

With the endorsement of its regulators, DEP has focused its own cross-connection control program on buildings such as hospitals and other health care facilities that are sources of pathogens. For example, we have



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(718) DEP-HELP

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July 13, 1999

specifically targeted members of the Greater New York Hospital Association (GNYHA) for BPD installation. At this point approximately 87% of all GNYHA members, and all of the larger facilities in its membership, have installed some form of BPD. We believe that by the end of the year all non-compliant GNYHA members will have developed a plan for BPD installation.

Although the GNYHA membership is the single most important target of DBP's cross connection program, GNYHA members are obviously not the only facilities in New York that have installed BPD's. As of October 1998, DBP staff had knowledge of 6540 installations. Since October, an additional 440 BPD's have been approved for installation during 1999. In addition, DBP staff estimates that another 1000 BPD's have been installed by owners without formal approval or recording by DBP.

The task faced by DBP, at this point, is to inventory the building types or uses that lack BPD's, prioritize them by the degree of risk they pose, and fashion a strategy to get an appropriate BPD installed to contain each risk. Using Department of Health guidelines, DBP staff have performed their own risk-based estimate of building types in order to establish which types should be addressed first. The following list comprises higher-risk building types that we believe should have a BPD, even if they do not all present an equal degree of risk.

Category	Total of buildings in that category
Factories/Industrial Bldgs.	3518
Garages/Gasoline Stations	985
Health care facilities	2015
Store Bldgs	7819
Funeral Homes/Mortuaries	224
Loft buildings	1573
Office Buildings	1769
Pools, Marinas, Yacht Clubs	157
Transportation Facilities	494

Schools/Universities	3722
Cemeteries	246
Selected Government Facilities	243
TOTAL	22765

Since approximately 8000 devices have been installed, assuming one device per building, there remain at least 14,765 buildings that should be part of a cross-connection control strategy.

Part of this strategy will be enforcement. At present, DBP's primary enforcement mechanism where an owner fails to install a device or fails to perform an annual test is suspension of water service for the entire building, or the threat thereof. DBP has not used this mechanism except in rare instances where a clearly defined hazard to public health warrants such action. As I explained in my March 25th letter, DBP has to date effectively used non-punitive measures, outreach and education to gain compliance from building owners and managers. I further explained that in consultation with the plumbing industry and the regulated community, DBP is drafting a revision of the regulations "Governing and Restricting the Use and Supply of Water" (Chapter 20 of Title 15 of the Rules of the City of New York). Notwithstanding the fact that DBP has not, in the past, relied on "command and control-type" regulations to prevent building owners or managers from contaminating the potable water supply, we expect this revision to contain general provisions authorizing issuance of notices of violation for failure to install BPD's. The most likely venue for these violations would be the Environmental Control Board ("ECB"). However, a change in law may be required to give ECB jurisdiction over these types of violations. We may also include in the amendments to Chapter 20 a modification of current guidelines which call for annual testing. As you may be aware, DBP has established a Cross Connection Control task force consisting of representatives from the Plumbing Foundation, the Master Plumbing Council, the American Society for Sanitary Engineering and the Real Estate Board of New York. The enforcement issue has been assigned to the task force for discussions and I expect to use its recommendations in devising an enforcement strategy.

Obviously, the ideal cross-connection control program is one that strikes a balance between costs to building owners and risks to the potable

water supply system. To the extent such a balance can be achieved, we can hope for substantial compliance through notification and outreach without an aggressive enforcement program. Although we intend to establish enforcement provisions via the Chapter 20 revision, we will measure the success of potable water protection by the degree of compliance, not by the number of summonses we issue.

I look forward to continuing our correspondence on this matter.

Very truly yours,

Joel A. Miele Sr., P.E.

Stewart D. O'Brien ✓



Department of
Environmental
Protection

59-17 Junction Boulevard
Corona, New York
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Joel A. Miele Sr., P.E.
Commissioner

Anthony S. Cosenino, P.E.
Chief Engineer

Tel (718) 595-7406
Fax (718) 595-7432

Date: May 1, 2000

Subj: Cross Connection Control Task Force

From:

Joel A. Miele Sr., P.E.
Commissioner
Anthony S. Cosenino, P.E.
Chief Engineer

As per your direction, in the fall of 1998 the Cross Connection Control Task Force was established to examine DEP's program and to ensure compliance with the State's Department of Health Sanitary Code. The Task Force, comprised of Professional Engineers, the plumbing industry, owners and Department's staff have been meeting on a regular basis to discuss means and methods to achieve maximum compliance and public awareness of the New York State Department of Health Sanitary Code.

Background

Section 5-1.31 of the State DOH/Sanitary Code requires that each supplier of water protect the public water supply system by requiring containment of hazardous backflows through the installation of air gaps, reduced pressure zone devices (RPZ's) or double check valves (DCV's) on water service lines. The purpose of installing such devices is to insure that any contamination of the water supply within a building does not migrate into the public water supply system. The type of device required is dependent on the degree of hazard and in some cases, e.g. 1 and 2 family homes, no device is required at all. The State Sanitary Code also requires that the installation of any device be approved by the supplier of water or by the New York State Department of Health and that any mechanical device (i.e. RPZ or DCV) be annually checked by a "tester" certified by the State Department of Health and a report filed. In New York City, DEP is the supplier of water and the Bureau of Water and Sewer Operations is the Bureau at DEP with responsibility for enforcing the above referenced State Sanitary Code provisions.

In 1981 the New York State Department of Health issued guidelines on how local suppliers of water were to classify degrees of hazard so that it could be determined whether a water service line for a building required an Air Gap, RPZ, DCV, or no device at all. Consistent with those guidelines, in an October 22, 1998 report, DEP estimated that approximately 105,000 buildings in New York City may require some sort of protective device. DEP also reported that, as of September 1998, the installation of 4963 devices had been completely approved and installed with another 1578 devices in various stages of review or approval but without evidence of completed installation (see enclosed report).



Universe of Buildings that Must Comply

While the Task Force did not have the expertise to determine whether the DEP estimate of 105,000 buildings was accurate, all members agreed that compliance efforts should be directed at the buildings with the greater potential (hazardous) health risks in the event of a cross connection incident (e.g. hospitals, colleges/universities, mortuaries, etc.). With that goal in mind, DEP identified approximately 22,765 buildings in this hazardous category. The Task Force agreed that compliance efforts should be directed at this group with a goal to achieve compliance within five (5) years.

Achieving Compliance With Cost Efficiency

All Task Force members agreed that the installation of RPZ's was more expensive than DCV's, and that sometimes DEP's Risk Assessment Chart, which details the type of device required for various building usages, was overly restrictive. We agreed that as long as the public was provided with adequate protection, employing less expensive and less complex methods would serve to encourage owners to comply. The total labor and material installation costs of commonly used RPZ's (4" in size) is approximately \$ 11,475. Total labor and material installation costs of commonly used DCV's (4" in size) are approximately \$ 6,350. Accordingly, the Task Force recommended in a number of instances that a DCV was sufficient in lieu of a RPZ (e.g. a DCV should be considered a satisfactory substitute for a RPZ on a building with a treated boiler as long as the boiler has its own internal backflow device). Five (5) such recommended changes were forwarded to the New York State Department of Health between July 1999 and January 2000. Four (4) of these recommended changes were approved by the New York State Department of Health. Other recommendations are expected to be made by the Task Force in the future.

Compliance Protocol for New Installations

~~It was obvious that after 12 years, compliance is at a low level.~~
Compliance is only 30% if viewing the higher risk buildings (6541 out of approximately 22,765). It should be noted that there may be an additional 82,235 buildings which may also require devices and which may not be in compliance.
Under the current Rules (RCNY Title 15/Chapter 20) when an owner continues to ignore the demands of the Department to install a device the Commissioner of DEP is only empowered to shut off the water supply to the building.
In view of the above, the Task Force has recommended the following protocol to achieve maximum compliance:

Achieving Compliance

As previously stated, the Task Force has recommended that the outstanding high hazard buildings be targeted for compliance within the next five years, and has suggested reasonable compliance protocols to achieve that goal. Compliance for this category cannot be achieved with the present staffing level.

The only cross connection control device compliance records maintained by DHP's Bureau of Water and Sewer Operations are intended to record that a building has a device and that an annual test has been performed. It is recommended that the Bureau of Water and Sewer Operations (BWSO) develop a computerized compliance tracking system which lists each building believed to require a device and which records compliance steps achieved (i.e. inspector visited site, letter sent to owner, plans filed or owner responded, plans approved, device installed, annual test performed, etc).

Recommendations

- 1) Promulgate draft revision of RCNY Title 15, Chapter 20.
- 2) Increase staff of the Division of Permitting and Connections of BWSO to sufficient levels to achieve the 5 year target goal.
- 3) Develop comprehensive computerized compliance tracking system.
- 4) Continue Task Force meetings regularly in order to continue to define (in conjunction with recommendations from NYSDOH) the direction to be taken by the DHP cross connection control program in the areas of:
 - * Achieving more realistic cross connection control device requirements,
 - * Monitoring compliance efforts and achievements, and
 - * Developing educational programs intended to encourage owners to comply with the law.

Enclosure

CC: F/D/C Chapin, C/S Sturcken, D/C Greeley, D/C Scharf, D/G/C Schiano, Dep/Dir. Farag, Chief Kass, C/E Cosenino, File

ASC/jv 5/1/00

March 31, 2004

David Tweedy
First Deputy Commissioner
Department of Environmental Protection
59-17 Junction Blvd.
Corona, NY 11368

Dear Commissioner Tweedy:

Thank for attending the Backflow Task Force Meeting on March 19, 2004. DEP issued a Report in May 2000 identifying 22,000 "high risk" existing buildings requiring the installation of backflow devices to comply with the safety requirements of the 1981 State Sanitary Code. The DEP Report called for a program to insure compliance within five years. As presented at the meeting and based upon DEP statistics, DEP's program over the last 3 years has led to the installation of an average of only 100 installations a month, and many of those were in connection to new buildings, not the existing 22,000 "high risk" universe. Based upon this rate of compliance it will take DEP approximately another 10-15 years to achieve compliance with the high-risk universe. (This does not even address the other 105,000 buildings that DEP estimated in its May 2000 Report may also have to comply.) You appreciated the urgency of the problem and promised to get back to us with DEP's response.

After you left the meeting we reviewed compliance over the last 3 1/2 months. It was far worse than before. Based upon DEP's numbers, in the period between December 1, 2003 and March 15, 2004, new installations dropped from a monthly average of 100 to ONLY 18.

The Minutes of our meetings over the past 4 years demonstrate that the Task Force relaxed procedural requirements in order to reduce costs to building owners and that there were many promises by DEP to increase staff but additional resources have never been forthcoming. We look forward to a new commitment from DEP, a commitment that will be reflected in increased enforcement by this summer.

Thank you for your assistance in this important matter.

Very truly yours,
Stewart O'Brien

Suggested Agenda Item
Date: 1/5/2005 10:17:25 AM Eastern Standard Time
From: Stewobrien
To: ealetter@dep.nyc.gov

Compliance with 1981 Backflow Law. In May 2000 DEP issued a Report identifying 22,765 "hazardous" buildings (out of an estimated 105,000 buildings required to comply) and established a 5 year period within which to achieve compliance. DEP, through its Backflow Task Force, has repeatedly promised to report back by Jan 1, 2005 on the status of the original 22,765 hazardous buildings (i.e. how many have complied, how many have been inspected and determined that compliance is unnecessary, etc.)

Plumbing Task Force April 15, 2005 Meeting

AGENDA

→ 1,375	Commissioner's Orders issued (As of 6/1/04)	13,081	→
→ 778	Letters to NYC DOH in advance NOV's (As of 6/1/04)	13,942	→
→ 369	NOV's issued for failure to install a device	1,752	→
→ 75	Cease and Desist Orders issued	1,772	→
→ 2	Water Service Shutoffs for Non-Compliance	2,440	→
→ 1,083	Blue Preliminary Inspection Reports		

2) Presentation by Dan Misa; Application Process.

3) Calendar Year Compliance.

4) Compliance of "High Hazard" Premises (based on F-2, F-4, G-3, G-4, and I-7) Total Premises = 3136

A) Premises in Compliance	327	10.5%
Devices Installed	221	
Device Not Needed	106	
B) Compliance Initiated	160	5%
Plans Approved	137	
Plans Submitted	23	
C) Enforcement Action Initiated	31	1%
Premises to be Inspected	2618	83.5%

5) Compliance Requirements for lots which have more than one (1) service line:
Can DEP accept immediate installation of devices on hazardous service lines, along with a timetable for installation of devices on non-hazardous service lines?
What should DEP's policy be regarding:
A) Release of Approved Plans?
B) Release of Approval Numbers?

7) Multiple Fire Protection Services:
Does a building have fire protection devices if it has separate (not interconnected) domestic sprinkler and standpipe service lines?

8) Should a PE or RA be required to mention internal devices on Form GEN-215B (Test Report)?

9) Exemptions for small swimming pools

10) DOB Sewer Connection Inspections

11) Tapping crews may refuse to install a new tap (for tap and plug jobs) unless the old tap has been destroyed.

12) Tap Location Permit by Electrical Indicator (M-scope) will not apply to jobs where a 3-day notice has been issued or where the service line is leaking.

13) Sewer connection linings.

14) Suction tank Requirement when Fire/Sprinkler Pumps Exceed 400 gpm.

15) Metering Issues

16) Complex Plumbing (Deviates Slightly from NYSDOH Yellow Book):
Situations/Equipment which may be considered complex plumbing:

1) Pumped Supply	_____	YES (Needs DCV)
2) Roof Tank	_____	Fire YES (Needs DCV) Combined - NO Domestic - NO
3) Suction Tank	_____	No
4) Hydropneumatic Tank	_____	YES (Needs DCV)
5) Separation of internal zones	_____	Device(s) needed as required by Risk Assessment
6) Combined fire/sprinkler/domestic	_____	Device(s) needed only on hazardous take off(s).

Cross Connection Control Task Force Minutes of June 22, 2006 Meeting

by H. Kass

Attendees:

H. Kass -----DEP	S. O'Brien -----Plumbing Foundation
W. Liebold -----DEP	J. Jaeger -----Master Plumbers Council
K. Milosky -----DEP	D. Misa -----Master Plumbers Council
A. Rettig -----DEP	M. Martone -----Subsurface Plumbers Assn.
A. Cordes -----DOB	I. Graber -----Subsurface Plumbers Assn.
H. Li -----DOHMH	C. Rampasand -----Subsurface Plumbers Assn.
K. Klein -----Syska & Hennessy	T. Maniuszko -----Plumbing Foundation
H. Weiss -----BOMA	

The meeting began with H. Kass informing all attendees that this and future meetings would exclude subsurface plumbing issues, because Mr. Magdi Farag has resumed periodic meetings with the Subsurface Plumbers Association. H. Kass also stated that Task Force name had been changed to its original name, Cross Connection Control Task Force.

The following issues (organized by Agenda item) were discussed:

Agenda Item #1

- D. Misa noted that there are probably between 20,000 and 30,000 cross connection control containment devices in existence, but only 2085 annual test reports had been received by DEP as of 6/1/06.

- H. Kass replied that DEP continues to issue Notices of Violation to property owners who fail to submit test reports. However, DEP does not follow up with water service termination for failure to submit test reports. Therefore, whether to submit test reports becomes a business decision for the property owner.

Agenda Item #2

- H. Kass stated that the correct number of "High Hazard" premises is in question and presented statistics for compliance based upon 21,530 "High Hazard" premises and 29,066 "High Hazard" premises. Therefore, "High Hazard" reporting will probably be discontinued for the next 5 year USEPA filtration avoidance determination.

Agenda Item #3

- H. Kass stated that several forms for cross connection control self certification had been forwarded to DOHMH for review.
- A. Cordes stated that DOB is now asking for a copy of the backflow preventer test report in addition to evidence of cross connection control approval.
- H. Weiss questioned the need for testing backflow preventers when meters are replaced. H. Li agreed to look into that issue.
- K. Klein questioned whether car washes which are not commercial car washes require containment devices. Task Force members agreed that such cases should be handled on a case by case basis.
- Attendees questioned the need for MFA numbers for cross connection control containment devices which are listed on NYSDOH lists of acceptable devices. A. Cordes stated that MFA numbers are required at this time, but adoption of the proposed revised Building Code will probably eliminate the need for MFA numbers for such devices.
- H. Li agreed to look into whether DEP can accept a letter from a P.E. or R.A., along with a photo or PDF record drawing, stating that a cross connection control containment device is capable of preventing

Cross Connection Control Task Force June 22, 2006 Meeting AGENDA

1) Cross Connection Control Statistics (6-1-06):

a) Total Devices Installed (Initial)	→	16,163	e) Commissioner's Orders issued (As of 6/1/06)	→	1,910
b) Total Plans Approved	→	17,268	f) Letters to NYC DOH in advance NOV's (As of 6/1/06)	→	1,092
c) Test Reports Received in 2006 (Annual)	→	2,085	g) NOV's issued for failure to install a device	→	544
d) Annual Test NOV's issued (based on letters)	→	1,808	h) Cases and Distri Orders issued	→	160
e) Annual Test NOV's issued (calendar year compliance)	→	656	i) Water Service Shutoffs for Non-Compliance	→	3
f) Enforcement Letters Directing Installation (As of 6/1/06)	→	3,280	j) Preliminary Inspections	→	10,696

2) Compliance of "High Hazard" Premises (prepared by V. Goldschmeyer):

a) Premises in Compliance	→	2,736	(45.6%)
Devices Installed	→	1,754	
Devices Not Needed	→	982	
Compliance Initiated	→	1,167	(6.6%)
Plans Approved	→	1,000	
Plans Submitted	→	167	
Enforcement Action Initiated	→	3,120	(17.8%)
* Includes enforcement where inspection was done prior to 1-1-01.			
Based on 21,530 Total High Hazard			
Based on 17,572 Researched:			
Balance of 3,958 to be Researched			
Total High Hazard = 21,530			

2)

3) Other Cross Connection Control Issues:

- Self Certification of Backflow Preventer Plans.
- Self Certification of Backflow Preventer Exemptions.
- Backflow Preventer Plans which cannot be Self-Certified.
- Backflow Preventer Exemptions which cannot be Self-Certified.
- Approval List of Cross Connection Control Devices.
- Can DEP accept letter from PE or RA along with photo or PDF record drawing in lieu of a paper record drawing?
- Annual Test Review Form ("Unacceptable" vs. "Unacceptable Because Device Does Not Work")

4)

4) Metering Issues:

- BCS Program for Replacement/Installation of Meters on Combined Service Lines yes. Cross Connection Control Requirements.

5)

5) Miscellaneous Issues:

- DOB requirements for abandonment of septic system.
- DEP enforcement procedures.
- Revision of RCNY Title 15, Chapter 20.

6)

6) Complex Plumbing (Devices Slightly from NYS DOH Yellow Book): Situations/Equipment which may be considered complex plumbing:

- Pumped Supply
- Roof Tank
- Suction Tank
- Hydropneumatic Tank
- Separation of internal zones
- Combined fire/sprinkler/domestic

YES (Needs DCV)
 Fire - YES (Needs DCV)
 Combined YES (Needs DCV)
 Noncombustible - YES (Needs DCV)
 No

YES (Needs DCV)
 Device(s) needed as required by Risk Assessment.
 Device(s) needed only on hazardous take offs).

DRAFT 2007 FAD

New York City Filtration Avoidance Determination

Prepared By

USEPA in consultation with NYSDOH

April 2007

Surface Water Treatment Rule Determination for
New York City's Catskill/Delaware Water Supply System

8.2 Cross Connection Control Program

Cross connections in a drinking water distribution system are a potential source of contamination. Cross connections can be caused by improper or direct connections, excessive back pressure on the system, back siphonage, and other reasons. It is important to eliminate any areas where such conditions exist in order to eliminate the possibility for cross connection contamination. The 2002 FAD required the submittal of a semi-annual report on implementing revised cross connection activities. The City's 2006 Long-Term Watershed Protection Program contains a detailed inspection and reporting schedule for the Cross Connection Control Program (Section 2.7.2).

The 2007 FAD requires that NYCDEP implement the Cross Connection Control Program as detailed in Section 2.7.2 of the City's 2006 Long-Term Watershed Protection Program and in accordance with the milestones contained therein. Some activities performed by the Cross Connection Control Program are on an as-needed basis; consequently, milestones for these activities are given as "anticipated frequencies", which are estimates based on current programmatic participation of the NYC community.

Activity and Reporting Requirements

Requirement	Frequency/ Due Date
Respond to cross connection control complaints	Anticipated 1-2/year
Initiate enforcement for non-compliant hazardous premises	Anticipated 2-25/year
Backflow preventer plans approved	Anticipated 400/year
Backflow preventer plans accepted with self-certification	TBD
Notices of Violation issued for failure to test annually	Anticipated 200/year
Review requests for exemption from cross connection control requirements	Anticipated 400/year
Perform full inspection of potentially hazardous premises	300 to 450 per year
Submit Annual Report on implementation of the Cross Connection Control Program and on progress in meeting all associated milestones, including a report on high hazard buildings.	Annually (January)
Submit Semi-Annual Report for the Cross Connection Control Program, which will include information on high hazard buildings.	Semi-annual (July)

Thousands of Buildings Lack Valve That Guards

Continued

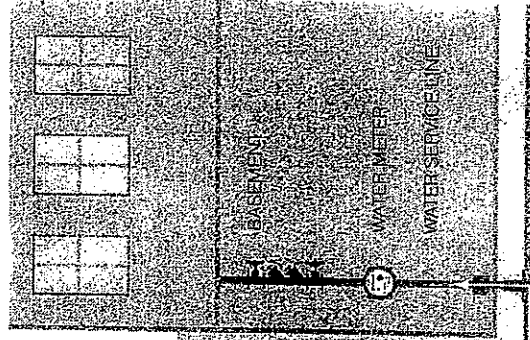
Public Water Supply, City Records Show

Blocking Contamination

The city requires commercial and apartment buildings to install a special valve to prevent contaminated water within a building's systems from being drawn back into the water mains.

BACKFLOW PREVENTER

A heavy valve that keeps water flowing into the building and prevents it from being sucked back when water pressure changes. Without this, contaminated water can eventually reach the drinking water supply.



CITY WATER MAIN

NORMAL WATER FLOW

Sources: New York City Department of Environmental Protection; Plumbing Foundation of the City of New York

water testing, underscored the potential danger. Tetrachloroethylene is known to cause liver problems and an increased risk of cancer if consumed over a long period.

The city Department of Health and Mental Hygiene did not consider the

contamination an immediate health threat because the amount of the chemical found in the water was minute, and the contamination was expected to last only a few days.

Still, officials told people who were concerned to use bottled water for

The New York Times

cooking and drinking until the problem cleared up.

Water samples this week showed no trace of tetrachloroethylene, Ms. Lloyd said. After inspecting hundreds of buildings in the area, officials are focusing on the Cambria Car Wash on Linden Boulevard, which they suspect was at least a partial source of the contamination.

Ms. Lloyd said that the car wash drew water from a contaminated well and from two connections to the city water system, one legal and the other illegal. Somehow, the tainted well water crossed over into the illegal connection, which did not have a backflow preventer, and seeped into the water mains.

The level of tetrachloroethylene in the well was considered low, however, and officials believe some other source, still unidentified, also contributed to the contamination.

Ms. Lloyd said her department was authorized to issue violations and eventually terminate water service to buildings without a backflow prevention device.

But records show that in the past 25 years, the city has shut off the water to only three commercial buildings that did not have the valve installed.

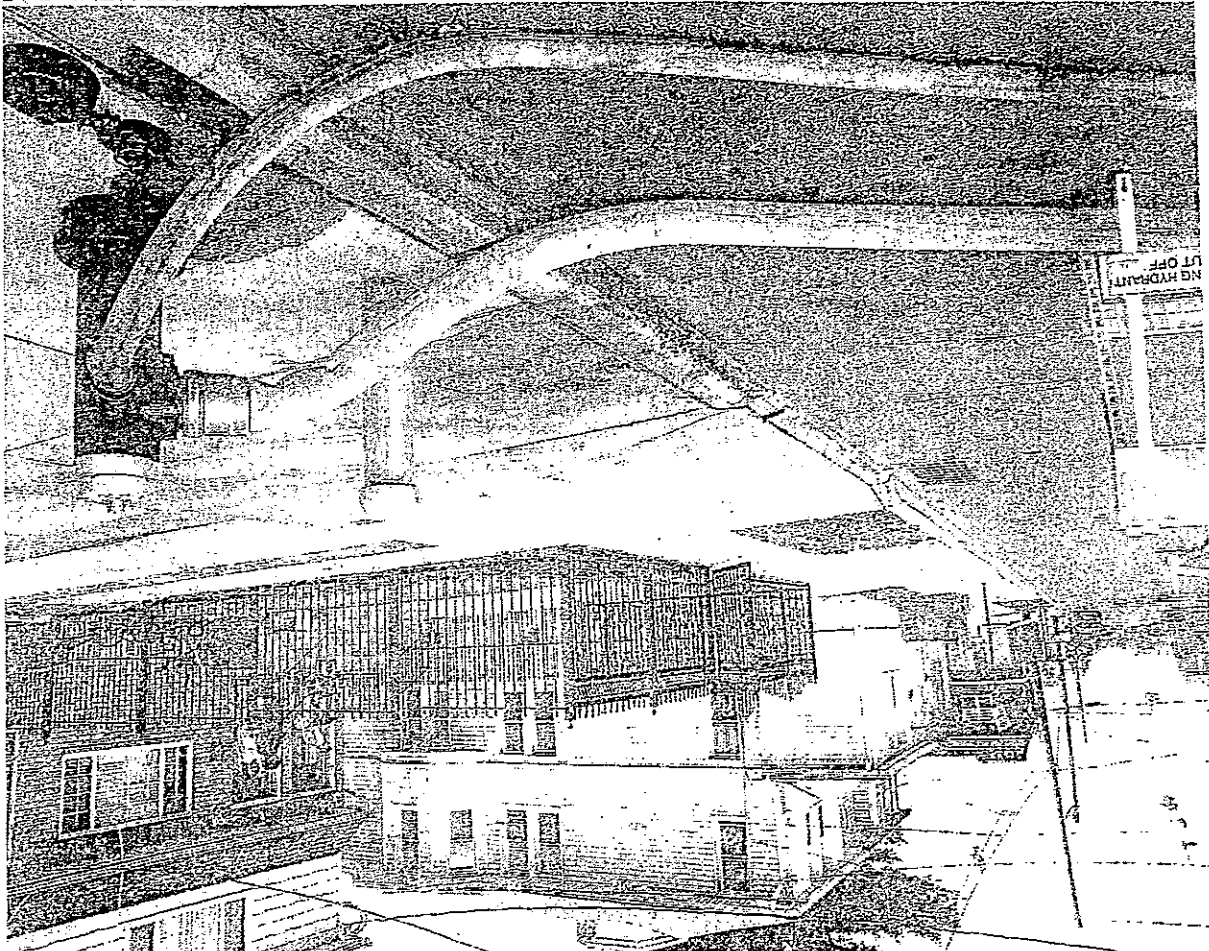
Contaminated Water in Queens Is a Repeat Performance

by ANTHONY DEPALMA

Searching for the source of a chemical used by dry cleaners and auto repair shops.

area in Queens where city officials found an industrial chemical in drinking water last week has had little contamination by the chemical for several years. The chemical — tetrachloroethylene — is commonly used by dry cleaners and auto repair shops — has been detected sporadically in the water in Cambria Heights, Hollis and St. James since at least 2003, according to the New York City Department of Environmental Protection. Annual reports of drinking water quality. In 2003, the department's department commissioner said that testing had detected continuing contamination, though at somewhat lower concentrations. Ten of 26 recent samples still contained traces of the chemical, which has a sweet odor and is also known as perchloroethylene.

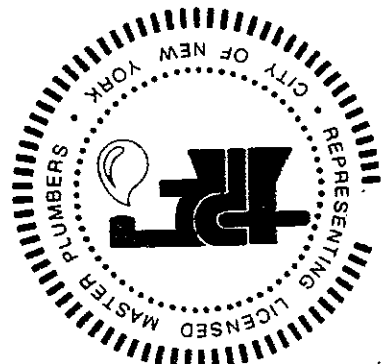
According to the federal Environmental Protection Agency, people who drink water containing tetrachloroethylene over many years can develop liver problems and may have an increased risk of cancer. In New York City, the chemical is also considered an airborne hazard because many dry cleaners are inside buildings where fumes pass through ceilings and walls. The city's Department of Health and Mental Hygiene does not consider an amount of tetrachloroethylene in the water a serious health problem. People who remain concerned have been told to use bottled water for cooking and drinking and to take other showers. The contamination was detected last week during routine water testing. The city is required to notify water users if the average level of the chemical detected in water exceeds 5 parts per billion. As testing continues this week, some readings were as high as 13 parts per billion, more than double the maximum safe level. As of late yesterday, the average level of the chemical had dropped to 1.5 parts per billion. Most of New York City gets drinking water from reservoirs 100 or more miles away and has not had a problem with the dry cleaning chemical. But a five-and-a-half-mile section



Water lines being flushed out by the Department of Environmental Protection on Springfield Boulevard in 110th Avenue in Cambria Heights, Queens. Traces of tetrachloroethylene were found there last week.

In 2005, five wells were in use, providing the neighborhood's 100,000 residents with 2.2 million gallons of water a day, about 1 percent of the total used citywide every day. The wells had to be shut in February after pumps failed. The city plans to build a treatment plant for the wells, but construction is not scheduled to begin before 2009. Officials said that despite the recurring problem, they believed that the contaminated water found this week did not come from wells. An analysis of the chemical content of water indicated that it came from the main water system, officials said. Mrs. Canry said water quality experts suspected that the current problem began with a faulty valve. In 2003, at least one sample of the well water in Queens exceeded 1.5 parts per billion. In both 2004 and 2005, tetrachloroethylene was detected in several samples and some times exceeded the safe level. But advisories were not issued in either year because the average of at least two consecutive readings fell below 1.5 parts per billion. That failed to keep a small amount of chemical discharge from backing up into the drinking water system. Inspectors had checked about 300 dry cleaners and auto repair shops by midday yesterday, but the source of contamination was not discovered. In the meantime, Ms. Canry said, hydrants in the area were being flushed and the city expected the problem to be cleared up in a few days. In 2003, at least one sample of the well water in Queens exceeded 1.5 parts per billion. In both 2004 and 2005, tetrachloroethylene was detected in several samples and some times exceeded the safe level. But advisories were not issued in either year because the average of at least two consecutive readings fell below 1.5 parts per billion.

NY Times 5/11/07



June 4, 2007

Honorable Emily Lloyd
Commissioner
Department of Environmental Protection
59-17 Junction Blvd
Flushing, New York 11373
Re: NYC Compliance with NYS Health/
Sanitary Code 5-1.31

Dear Commissioner Lloyd:

The recent cross connection incident in Queens reminded everyone of the Department of Environmental Protection's ("DEP") responsibility to enforce State Sanitary Code Section 5-1.31 which requires the owners of buildings containing high risk uses to install and annually test backflow devices to prevent the contamination of the public water supply.

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Executive Director/
Legal Counsel
STEWART D. O'BRIEN

In a May 1, 2000 Report DEP acknowledged that there were about 105,000 buildings that required the device and, of those, there were about 23,000 where the buildings contained uses sufficiently unsafe to qualify classifying them as "high hazard". The 2000 DEP Report stated that "... after 12 years compliance is at a low level", recommending that "... outstanding high hazardous buildings be targeted for compliance within the next five years" and concluded that compliance could not be achieved without increased staffing (emphasis supplied).

Meeting after meeting with your predecessors did not lead to any increase in staffing. Rather, DEP's own June 2006 report indicates that compliance in this "high hazardous" universe of buildings was below 16%. We note that DEP's April 2007 Draft Filtration Avoidance Determination states that the agency plans to initiate enforcement against ONLY "225 non compliant hazardous premises" each year (see page 75). At that rate, compliance in hazardous buildings in New York City would not be achieved for decades. On the other hand, compliance in localities outside New York City is at very high levels. Based upon this disparity of compliance we can only conclude that DEP's dismal performance is the result of a lack of commitment to enforcing this health law.

With DEP's 20 year record of failure we are asking you to formally commit to a timetable for compliance. By July 1, 2009 DEP should, at a minimum, classify all of the 25,000 high hazard buildings in New York City into 1 of 3 categories:

1. device installed/in compliance
2. determined that no device is required (e.g. misclassified)
3. device required but not installed and the City has initiated rigorous enforcement action (e.g. ECB violation/fine/water cut off, etc.)

In order to monitor DEP's commitment, we also request that the agency make these statistics part of its "Citywide Accountability Program" and issue quarterly compliance reports.

Given DEP's long history of failure and broken promises on this issue, we seek your personal commitment and await your early reply.

Sincerely,

Stewart O'Brien

Stewart O'Brien

SDO:cvm

AGENDA
June 15, 2007 Plumbing Industry Meeting

\) Meter Issues:

- 1) Sketches on Proper Placement of Meters
- 2) Promulgation of Revised Chapter 20

B) Cross Connection Control Issues:

- 1) Cross Connection Control Statistics (6-1-07 and 6-1-06): see Attached Sheet
- 2) USEPA Reporting
- 3) Calendar Year Compliance
- 4) NYC-DOHMH Oversight of DBP

C) Subsurface Plumbing Issues:

- 1) Late A.M. tap and wet connection installations
- 2) Clearance required around City mains
- 3) Faulty tapping equipment
- 4) Plumbers calls to repair yards
- 5) Proof of Receipt of Documents Submitted
- 6) Plumbers working without DBP permits
- 7) Plumbers who fail to submit plumbers certifications
- 8) Parks Department requirements for work near tree roots
- 9) Private Sewer Missing Owner Procedure

- (a) Certified check in lieu of bond can be submitted to Leftak along with Site Connection Proposal or House Connection Proposal.
- (b) Affidavit should be submitted to DEP Borough Water and Sewer Record Office.

Cross Connection Control Statistics

ATTACHMENT

Period: As of 6-1-07

a) Total Devices Installed (Initial)	→ 18,721	g) Commissioner's Orders issued (As of 6/1/07)	→ 2,147
b) Total Plans Approved	→ 19,380	h) Letters to NYC DOH in advance NOV's (As of 6/1/07)	→ 1,230
c) Test Reports Received in 2006 (Annual)	→ 9,145	i) NOV's issued for failure to install a device	→ 632
d) Annual Test NOV's issued (based on letters)	→ 1,808	j) Cease and Desist Orders issued	→ 194
e) Annual Test NOV's issued (calendar year compliance)	→ 1,448	k) Water Service Shutoffs for Non-Compliance	→ 4
f) Enforcement Letters Directing Installation (As of 6/1/07)	→ 3,890	l) Preliminary "High Hazard" Inspections	→ 11,936
		m) Full "High Hazard" Inspections	→ 8,310
		n) Total Plans Approved as of 12/31/06	→ 18,393

Period: As of 6-1-06

a) Total Devices Installed (Initial)	→ 16,163	g) Commissioner's Orders issued (As of 6/1/06)	→ 1,910
b) Total Plans Approved	→ 17,728	h) Letters to NYC DOH in advance NOV's (As of 6/1/06)	→ 1,092
c) Test Reports Received in 2006 (Annual)	→ 2,085	i) NOV's issued for failure to install a device	→ 544
d) Annual Test NOV's issued (based on letters)	→ 1,808	j) Cease and Desist Orders issued	→ 160
e) Annual Test NOV's issued (calendar year compliance)	→ 656	k) Water Service Shutoffs for Non-Compliance	→ 3
f) Enforcement Letters Directing Installation (As of 6/1/06)	→ 3,280	l) Preliminary Inspections	→ 10,696

The Metro Section

The New York Times

5/17/87

Many Buildings Lack Required Water Valve, City Records Show

By ANTHONY DEPALMA

As many as 85,000 large residential and commercial buildings in New York City lack special valves on their water connections that could prevent hazardous substances from being sucked into the public water system, according to city records.

In investigating the presence of a chemical, tetrachloroethylene, in the drinking water supply in parts of Queens last week, city officials identified a car wash as having contributed to the contamination at least partly because it did not have the valve installed on one of its water supply

lines. The amount of the contaminant was considered too low to pose a serious health problem.

The records also show that about 26,000 buildings in the city represent an especially high risk because factories, gasoline stations or businesses that handle hazardous materials housed in those buildings have not installed the device, called a backflow prevention valve.

State law has required that the device be installed on certain categories of buildings since 1981.

Critics say the city's lax enforcement of the rules on backflow valves endangers the

Lax enforcement of a law mandating a device to prevent contamination.

water system and encourages owners to ignore the law. They also say the city does little to ensure that owners have the valves tested once a year to make sure they are not clogged, as required in the state sanitary code.

Last year, only 2,085 such tests on the valves were conducted in the city, according to a 2006 report by the Department of Environmental Protection, which operates the city's water system. But fewer than 2,000 violations were issued for the thousands of property owners who failed to conduct the tests, according to the report.

City officials admit that compliance goals set by a city industry task force in 2000 have not been met. But they insist that the city's water supply is safe.

The backflow prevention valves are gen-

Continued on Page B4

Thousands of Buildings Lack Valve That Guards

Public Water Supply, City Records Show

Continued From Page B1

erally located near water meters in side commercial, industrial and large residential buildings. They are attached to water lines completely separate from wastewater lines that run to the sewers, and are designed to prevent contaminated water within a building's systems from being drawn back into the water mains.

For example, the chemically-treated water in a large boiler could flow back into the water supply if water pressure into the building suddenly dropped. The contaminated water then could travel to other buildings.

New buildings generally install the devices during construction. One and two family homes are exempt.

Stewart O'Brien, executive director of the Plumbing Foundation City of New York, an industry group, said the city's failure to rigorously enforce the rules put thousands of New Yorkers at risk.

"These valves are like sprinkler systems in buildings," Mr. O'Brien said. "If you don't have a fire, it's not an issue. In this case, nobody worries about it unless there's an incident."

Some businesses object to the high cost of installing the valves, which

can be \$8,000 to \$16,000. For their part, licensed plumbers have a financial interest in seeing the law enforced because they install the valves and perform the yearly inspections.

Emily Lloyd, commissioner of the Department of Environmental Protection, said that historically, the backflow valve program had not been as high a priority for the department for assuring water quality as its testing and monitoring program. "But testing is really the way we assure the public of water quality," she said.

Ms. Lloyd said inspectors regularly test for 280 different substances in the water and conduct more than 300,000 water analyses a year. She also said that the federal Environmental Protection Agency approved of the city's enforcement record for backflow preventers before it recently exempted the city from requirements to filter its upstate water supply for 10 more years.

Still, Ms. Lloyd said, the law requires that the drinking water system be adequately protected from backflow episodes. And following the recent contamination in Queens, she said, the department will try to increase the number of inspections it

does to determine whether buildings are properly equipped.

The Real Estate Board of New York, which represents the owners of many of the largest buildings in the city, has criticized the law requiring the devices as being cumbersome and confusing.

Marolyn Davenport, senior vice president of the board and a former member of a backflow prevention task force established by the city, said the numbers of buildings that have installed valves is probably much higher than city records suggest. But she said unclear reporting requirements might have kept many businesses from completing all the steps necessary to be in compliance with the law.

"People routinely don't get things signed off, but that doesn't mean the valve is not there," Ms. Davenport said.

The chance of contaminated water flowing back into water mains is considered relatively small, though potentially serious.

In one of the few reported cases, a school in Queens had air conditioning coolant back up into the drinking water in 1998.

But the contamination in Queens this month, detected during routine

JAMES F. GENNARO

COUNCIL MEMBER
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gennaro@council.nyc.ny.us

July 26, 2007

Emily Lloyd, Commissioner
Department of Environmental Protection
City of New York
59-17 Junction Blvd
Flushing, NY 11373-5108

Dear Commissioner Lloyd:

Thank you for taking time to speak to me recently about the installation of backflow devices in "high risk" buildings in order to prevent the contamination of public drinking water supplies. As we discussed, the recent contamination of supplies in Cambria Heights, Queens highlights the critical importance of ensuring compliance with New York State sanitary code related to the installation of these devices.

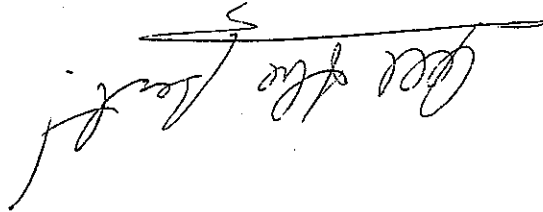
I am enclosing a letter that The Plumbing Foundation of New York, Inc. ("Foundation") sent to you on June 4th that raises specific, serious concerns about the Department of Environmental Protection's enforcement of the State code – particularly the pace and breadth of compliance assurance efforts. During our conversation, you took issue with the Foundation's characterization of your Department's activities in this area, indicating that you believe that the Foundation may not be aware of the full intensity and scope of these activities.

Based on our conversation, I believe it would be beneficial for all those with interest in the installation of backflow prevention devices to be provided with a comprehensive description of your Department's activities in this area. Specifically, I request that you provide me, as soon as practical, complete details of the DEP's efforts to ensure compliance with the State sanitary code related to the installation and testing of backflow prevention devices – as well as your response to the particular concerns raised and requests made by the Foundation in their June 4th letter.

I thank you in advance for your attention to this request.

Sincerely,

James F. Gennaro



THE COUNCIL
OF
THE CITY OF NEW YORK

CHAIR
ENVIRONMENTAL PROTECTION
COMMITTEES
FINANCE
PUBLIC SAFETY
SANITATION & SOLID WASTE MANAGEMENT
MENTAL HEALTH, MENTAL RETARDATION,
ALCOHOLISM, DRUG ABUSE &
DISABILITY SERVICES

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF WATER AND SEWER OPERATIONS

CROSS CONNECTION CONTROL PROGRAM

ANNUAL REPORT

JANUARY TO DECEMBER, 2007

JANUARY 31, 2008

Prepared in accordance with Section 8.2 of the July 2007 United States Environmental Protection Filtration
Avoidance Determination

Prepared by:

John E. Dydland
Chief, Compliance Unit
Division of Permitting & Connections
Bureau of Water and Sewer Operations

Although the number of engineers and architects that took advantage of the DEP Cross Connection Control Self Certification Program, which began on January 1, 2007, increased during this period, relatively few were received for the entire year of 2007. Only 44 self certified plans for cross connection control devices, and only 43 self certified exemption statements were received by DEP.

This small number received probably still reflects uncertainty on the part of engineers and architects regarding their liability associated with self certification of plans and exemptions for cross connection control devices.

During 2007, there were two meetings of the Cross Connection Control Task Force. On June 15, 2007, the first meeting was held between DEP and the Subsurface Plumbers Association. A meeting of the Cross Connection Control Task Force was combined with that meeting.

At this meeting, the Cross Connection Control Task Force agreed that acceleration of the DEP Cross Connection Control Program, which was proposed by DEP, is a good idea. The proposed acceleration eliminates the initial enforcement letter directing installation for those premises where a DEP inspector was able to gain entry. Elimination of this initial letter allows DEP to issue a Commissioner Order without waiting thirty (30) days to see if the property owner has initiated the process. Acceleration of the DEP Cross Connection Control Program by elimination of initial enforcement letters was implemented on June 29, 2007.

A second meeting was held on December 3, 2007. In attendance were representatives of DEP, New York City Department of Health and Mental Hygiene, Subsurface Plumbers Association, Plumbing Foundation, Master Plumbers Council, American Society of Plumbing Engineers, American Society of Sanitary Engineering, and the Real Estate Board of New York. At this meeting, the Cross Connection Control Task Force, discussed a modification to the format of the DEP Cross Connection Control Unit's form for "Backflow Preventer Test Report Review". It was agreed that this change would make the form more user friendly. The Task Force also agreed that continued acceleration of the P Cross Connection Control Program, proposed by DEP, is a worthwhile effort. This proposal reduces from sixty (60) to thirty (30) days the Commissioner Order directing the owner to install a backflow prevention device and reduces from thirty (30) to fifteen (15) days the letter to DOHMH advising that issuance of a Notice of Violation is imminent. These changes to the enforcement letters were implemented around mid-year.

During April, May and June 2007, DEP was able to resolve many inconsistencies in property ownership information. This allowed DEP to send many letters to property owners directing them to test their backflow preventers annually, and to notify them that Notices of Violation will be issued if they fail to submit future test reports annually.

During the year, there were four (4) situations which were treated as potential cross connection control complaints.

The first situation was a report of slightly elevated pH readings obtained from a DEP sampling station in Staten Island. This matter was referred to the Chief Cross Connection Control Inspector on January 12, 2007. The slightly elevated pH readings were re-evaluated in the fall of 2007. Since no active cross connection was identified during the first half of 2007, it was concluded that the elevated pH levels were caused by the shutdown of a 72 inch cement-lined trunk main in an area adjacent to the sampling station from which samples were taken.

As a result of a cross connection control survey performed in mid-January, letters were sent to two (2) property owners directing them to remove connections upstream of their backflow preventers. Letters were also sent to three (3) other property owners directing them to initiate the process leading to installation of backflow preventers.

The second situation was a report from the Department of Education on May 2, 2007, that ethylene glycol had migrated from air conditioning units to the internal building water supply system at Murray Bergtram High School, located at 411 Pearl Street, Manhattan.

✓ A DEP cross connection control inspector visited the school, and determined that the problem had been caused because of the failure of an internal backflow preventer. Samples taken from hydrants on nearby City water mains indicated that there was no contamination of the public water supply system.

As a result of this cross connection control inspection, a letter was sent to the property owner directing him to initiate the process leading to installation of backflow preventers for containment.

The third situation was a report of detection of tetrachloroethylene (aka PERC) in a water sample taken from a DEP sampling station in southeast Queens. The sample was taken on May 1, 2007, and a positive result for PERC was reported on May 4, 2007. Additional samples were confirmed for detection of PERC on May 7, 2007. In response to this finding, DEP assigned additional inspectors to perform cross connection control inspections in southeast Queens. Approximately 3740 cross connection control inspections were performed from May through mid-August, 2007. Approximately 740 letters/orders were sent to property owners as a result of these inspections, directing them to initiate the process leading to installation of backflow preventers.

Because DEP inspectors found illegal connections within a car wash located at 208-15 Linden Blvd., water service to that car wash was terminated on May 11, 2007. However, it is not clear whether or not that car wash was the source of the PERC.

After a few days of hydrant flushing, PERC was no longer detected in the public water supply system.

As a result of the PERC incident, cross connection control inspections continued for "High Hazard" and non-residential properties in southeast Queens (former Jamaica Water Supply service area) through mid-August. During this time, assistance from Bureau of Customer Services (BCS) inspectors aided in completing the task. BCS assistance continued through the end of August, with inspections of "High Hazard" properties performed citywide.

The fourth situation was a report of slightly elevated conductivity levels obtained from DEP sampling stations in Brooklyn during November. This matter was referred to the Chief Cross Connection Control inspector for investigation. A survey of the immediate area discovered a car wash at 2101 Gravesend Neck Road that was not in compliance with cross connection control requirements. These premises had an active cross connection between a private well and the domestic service line, with no backflow prevention device on either. The well was shutdown and the car wash was not permitted to operate until a backflow prevention device was installed on the domestic service line the next day.

Since two of the cross connection incidents that occurred this year involved car washes, DEP spent the latter part of the year focused on identifying and inspecting car washes in the five boroughs. By the end of this period, approximately 130 car washes had been identified and inspected within the five boroughs.

Acceleration of the Cross Connection Control Program started in May and continued through the remainder of the year. All Division of Permitting and Connections inspectors completed at least one cross connection control inspection per day in addition to their regular full time inspection tasks. This resulted in the number of cross-connection control inspections increasing from an average of eight (8) per day to twenty (20) per day. Letters and/or Orders based on these inspections were sent to property owners advising them of their obligation to comply with cross connection control requirements.

In summary, regulation of Cross Connection Control activity continues to provide adequate protection of the public water supply system.

All of the procedural changes put in place by DEP to enable the Cross Connection Control Program to function effectively remain in place. Among these are the following initiatives:

1) Permits for wet connections are issued only with a prior Cross Connection Control submission or review.

- 2) Inspection of premises to determine the degree of hazard posed by a potential cross connection event are made promptly when requested.
- 3) High hazard premises are required to properly evaluate cross connection hazards and to submit plans for installation of cross connection control containment devices.
- 4) Plans submitted are reviewed and approved by the Department of Environmental Protection, eliminating the need for applicants to submit plans to the New York State Department of Health.
- 5) Records of the installation and initial testing of cross connection control containment devices are maintained by DEP.
- 6) Records of annual testing of cross connection control containment devices are maintained by DEP.
- 7) Outreach dialogue with Professional Engineers, industry groups and plumbing industry professionals regarding the DEP cross connection control program is continuous.

Cross Connection Control Annual Report 2007

Month	Inspections			Installation Enforcement				Annual Test Enforcement				Remediation and Voluntary Compliance			
	Total	Needs Device	Does Not Need Device	Letters Directing Installation	COMM Orders	Letters Advising NYCDOH of Pending NOV	NOV's Issued for Failure to Install	Cease and Desist Orders Issued	Faps Shut	Letters Directing Annual Test	NOV's Issued for Failure to Test	Plans Approved	Devices Installed and Tested	Devices Tested Annually	Letters Requesting Installation Status
January	136	50	86	39	0	1	14	0	0	0	60	202	288	475	0
January (HH)	136	50	86	24	0	0	10	0	0	-	-	35	14	76	-
February	179	73	106	5	41	13	14	3	0	0	38	231	265	333	0
February (HH)	179	73	106	2	31	5	9	1	0	-	-	14	12	83	-
March	153	63	90	69	23	17	0	2	0	0	60	205	294	385	0
March (HH)	152	63	89	36	13	14	0	0	0	-	-	29	14	74	-
April	239	77	162	35	0	2	2	0	0	0	58	165	200	305	0
April (HH)	239	77	162	30	0	1	1	0	0	-	-	17	8	66	-
May	2,060	621	1,439	261	10	12	6	14	0	0	44	171	190	381	0
May (HH)	532	244	288	67	6	7	3	6	0	-	-	36	7	39	-
June	746	264	482	496	58	0	0	0	0	112	15	144	231	264	0
June (HH)	678	253	425	268	21	0	0	0	0	-	-	37	14	55	-
July	610	90	520	181	490	60	0	0	0	80	-	169	159	504	0
July (HH)	333	68	265	181	418	39	0	0	0	-	-	23	22	125	-
August	586	218	368	74	479	93	0	7	0	34	-	276	80	539	0
August (HH)	432	188	244	74	467	93	0	3	0	-	-	51	17	142	-
September	390	161	229	0	69	70	48	0	0	0	45	113	44	621	0
September (HH)	238	108	130	0	69	70	44	0	0	-	-	33	11	108	-
October	604	274	330	14	136	98	57	3	0	0	90	217	130	705	181
October (HH)	554	249	305	14	129	90	48	0	0	-	-	46	11	129	-
November	541	198	343	5	100	99	13	3	0	0	64	208	221	565	196
November (HH)	456	150	306	5	70	99	13	0	0	-	-	51	13	99	-
December	308	137	171	9	171	0	34	0	0	0	58	100	214	582	129
December (HH)	303	137	166	7	94	0	23	0	0	-	-	27	22	152	-
Total	6,552	2,226	4,326	1,188	1,577	465	188	32	0	226	532	2,201	2,316	5,659	506
High Hazard Total	4,232	1,660	2,572	708	1,318	418	151	10	0	-	-	399	165	1,148	-

Based on date initial test report was received by DEP.
Some of these were installed and tested prior to 1/1/07.

Cross Connection Control FAD Milestone

Annual Period	Response to Complaints	Full "High Hazard" Inspections	Enforcement Initiated for "High Hazard" Premises	Backflow Preventer Plans Approved	Backflow Preventer Plans Accepted with Self Certification	Exemption Requests Processed	Notices of Violation Issued for Failure to Test Annually
Jan. - Dec. 2007	4	4232	1122	2120	44	1290	532
Jan. - Dec. 2008							
Jan. - Dec. 2009							
Jan. - Dec. 2010							
Jan. - Dec. 2011							
Jan. - Dec. 2012							
Jan. - Dec. 2013							
Jan. - Dec. 2014							
Jan. - Dec. 2015							
Jan. - Dec. 2016							
Jan. - Dec. 2017							

My name is Thomas Maniuszko. I am president of the New York State Plumbing, Heating Cooling Contractors Association and President of the Nassau County Plumbing, Heating, and Cooling Contractors Association. I have been a Trustee and Chairman of the Quality Service Contractors (QSC) of the National Association of Plumbing, Heating, and Cooling Contractors for 6 years. I have been a NYC Master Plumber since 1976 and a license master plumber of several towns in Nassau County.

The backflow prevention rule was established by the State of New York in 1981 (see section 5-1.31 of the State DOH/Sanitary Code). New York City is the most densely populated area of the State and therefore exposes the greatest number of people to injury/death if a cross connection incident occurs. While New York City is at the greatest risk, it is the worst when it comes to protecting the health of people because no one in City government

Unfortunately, New York City does not protect its citizens to that degree. Out of the thousands of high hazard commercial buildings without a backflow device, do you know how many had their water services cut off in 2007?...None!! High Hazard buildings exist for years without any enforcement actions by DEP, not even a violation. Indeed, DEP does not even appear to have a compliance timetable established. New York City residents deserve better.

STATEMENT OF ARTHUR KLOCK

My name is Arthur Klock, and I am the Training Director for the Plumbers Local Union No. 1 Trade Education Fund. This jointly administered Labor and Management Fund operates a 40,000 square foot Training Center located in Queens. In that facility we run a New York State Department of Health regulated training program to certify Backflow Prevention Device testers. In fact, it is the most active certifying program of this type in New York State, and it is open to any individual who needs this New York State Department of Health certification. Students in this program study the causes and effects of backflow in the water supply system, and learn the skills necessary to keep the equipment which prevents backflow in good working order.

I am here today because I want to raise awareness of the fact that the public health risks associated with backflow are increasing due to new systems being installed throughout the city, while at the same time, our Department of Environmental Protection is doing less to prevent opportunities for contamination.

Water is one of those commodities we just can't do without. Unfortunately, most of us tend to take our water for granted -- at least until recently. The Green Movement has grabbed hold in New York City and throughout the world. A large part of the Green Movement is about sustainability and conservation of resources. Potable drinking water is a prime resource. U.S. public water supply and treatment facilities consume about 56 billion kilowatt hours (kWh) per year -- enough electricity to power more than 5 million homes; and the cost associated with production, treatment, and distribution of potable water is rising. The Department of Environmental Protection recently raised its water rates significantly.

That is why, unquestionably, reusing treated wastewater is a great idea. Several large residential and commercial buildings in New York City have recently installed such reclaimed water systems in accordance with the Green Buildings initiative. Nonetheless, water reuse will have a significant impact on our backflow prevention program when public health concerns are considered. The potential for hazardous cross-connections can be expected to increase where reclaimed water systems and potable systems are close together.

Potential for Backflow

The greatest threat posed by reuse of wastewater is the potential for cross-connections between reused and potable water systems. Of course, there are rules that prohibit cross-connections. All the national plumbing codes prohibit cross-connections in plumbing systems. However, history shows that creating an environmental law or code does not necessarily ensure safety or compliance. There have been documented instances of this in the past.

In Arizona, a cross-connection between the potable water system and a reclaimed water system at a private campground resulted in diarrheal illness in approximately 1,850 persons. (*Reference 1*)

The United States Environmental Protection Agency reported that backflows were the cause of over 60,000 reported cases of illness from 1920-1980. (*Reference 2*)

In May of 2007 the NYC DEP potable water supply in southeastern Queens was contaminated with Tetrachloroethylene (PERC). The DEP Deputy Commissioner, Ms. Anne Canty was quoted at that time as stating that water quality experts suspected the problem began with a faulty valve that failed to keep a chemical discharge from "backing up into the drinking water system". (*Reference 3*)

Backflow Prevention Liability

The best defense against liability from hazardous backflows is a good backflow prevention program. In fact, an acceptable program, prosecuted diligently and effectively, is the only legal defense according to a court precedent set in California. (*Reference 4*)

Our New York City Department of Environmental Protection has shown through its own calculations that installation, testing and maintenance of these safety devices has been declining over the last few years. In light of these figures, a more aggressive and effective enforcement of the requirements would seem the best course of action; however, the DEP has no plans to prosecute its backflow prevention program in the diligent manner required. In fact, statistics show that they have allowed the current situation to deteriorate by their lax enforcement policies and by chronically under-funding the backflow prevention program.

Hazard Level of Reclaimed Water

Just what is the hazard level of reclaimed water? Frequently we hear that reclaimed water is "just about as pure as drinking water". There are different treatment levels for reclaimed water depending upon the intended use. Reclaimed water systems in Green Buildings supply the new landscaped roofing systems, lawn irrigation systems, and most notably, toilets in all private and public restrooms. For this reason, this type of reclaimed water receives a fairly high degree of treatment, including biological digesters, high-level disinfection, and filtration.

It should be noted however, that high level treatment still allows for up to 25% of test samples to contain no more than 25 fecal coliforms per 100 ml sample, while standards for drinking water are much stricter. Clearly, even reclaimed water that receives high level disinfection could pose an acute health risk if drinking water standards were applied. This doesn't even take into consideration the long list of chemical contaminants likely present in reclaimed water systems. These may include: heavy metals, nitrogen, pathogens, viruses, pollutants, phosphorus, volatile organics, and prescription medications thrown down the toilet or sink.

In the DEP's public water distribution system, monitoring is done at representative points. However, for reuse water in Green Buildings monitoring samples are taken after treatment and prior to discharge to the reuse system. Since there is no required maintenance of a chlorine residual within the reclaimed water distribution system, regrowth of microorganisms is possible. These systems could potentially develop much higher levels of activity than would be seen in a potable water distribution system. The amount of disinfectant maintained in the DEP's public water distribution system is provided mainly to prevent regrowth and is probably not sufficient to effectively deal with contaminants which could be added through cross-connection with a reuse system.

Is Reclaimed Water a Health Hazard?

Cross-connections will occur no matter how diligently we try to prevent them and, backflow preventers remain the best defense against backflow. DEP regulations currently allow air gaps; reduced pressure zone assemblies (RPZs) and double check valve assemblies (DCVAs). The American Water Works Association is the best source of guidance for matching the backflow preventer to the application or the hazard conditions at the site. The AWWA identifies reclaimed water as a health hazard and recommends the use of a reduced pressure zone (RPZ) backflow preventer for buildings served by reclaimed water systems.

Approved backflow prevention assemblies should be tested at least annually, as outlined by AWWA, and all manufacturers' literature.

The annual failure rates of approved assemblies varies from 10% to 40% and the AWWA and the manufacturers of these valves recommend testing at least every year to be sure of proper function. Based on the failure rates of approved assemblies, it should be assumed that valves in most backflow prevention assemblies will fail sometime before 5 years. Under these circumstances, just installing these devices and then failing to enforce the requirements for testing or replacing them, gives the public a false sense of security. It also leaves the purveyor of water (the City of New York) open to tremendous legal exposure if a catastrophic backflow event should occur.

Summation

Reclaiming wastewater is a great idea; however, there are risks associated with its use. These risks increase significantly if we fail to recognize and acknowledge them. The potential for cross-connections and backflows will increase as reclaimed water lines are installed near potable water lines. The best defense against backflows is a well developed backflow prevention program. Preventing cross-connections, via plan and site review of new construction, and surveying and retrofitting of existing facilities, should be a major focus of that program. Selection of the appropriate backflow preventer should also be made with care; the decision made should be defensible in court. This is also true for the maintenance and repair program.

While reclaimed water does receive a fairly high degree of treatment, it is important to bear in mind, that it is not drinking water quality, and if ingested, represents a recognized health hazard. Wastewater reclamation programs should "assure health protection without unnecessarily discouraging wastewater reclamation": (*Reference 5*) Unquestionably, this valuable resource should and must be utilized; however, the emphasis should be placed on doing so in a safe manner.

References

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4. American Water Works Association. (1974) Cross-Connection and Backflow Prevention, (2nd ed.). New York, NY. Author. P.50.
5. Crook, J., (1990, July) Water reuse in California. Journal AWWA.

Testimony of Emily Lloyd
Commissioner
New York City Department of Environmental Protection
(DEP)
before the Council of the City of New York
Committee on Environmental Protection
concerning Prevention of Backflow of Contaminants into the City's Potable
Water Supply
City Hall, June 11, 2008

Good afternoon, Chairman Gennaro and Members of the Committee. I am
Emily Lloyd, Commissioner of the Department of Environmental Protection.
With me today are Deputy Commissioner James Roberts of the Bureau of
Water and Sewer Operations, and Steven Schindler, Director of Water
Quality in the Bureau of Water Supply.

Thank you for the opportunity to testify on the status of DEP's work on
backflow prevention. Protecting New York City's public water supply is of
paramount importance. Backflow prevention is one aspect of affording this
protection, and I am pleased to report that DEP has made considerable
progress in its monitoring and inspection activities over the last year.

Backflow prevention devices, also known as cross connection controls,
function by containing potential contamination within the premises of the
user. The possibility of contamination is caused by various kinds of
plumbing configurations or equipment that use water under pressure. If the
water pressure in the internal system in a car wash, for example, is greater
than the pressure in the public water supply system, chemicals such as
detergents or solvents in the water being used can be forced back into the

public supply unless a backflow prevention device is in place to keep that from happening.

The New York State Sanitary Code (Code) mandates that public water suppliers require certain users to install cross connection controls. The Code requires the submission of plans to DEP for the installation of the devices, as well as annual testing and reporting once the devices have been installed.

In addition to the requirements of the Code, DEP reports on its cross-connection activities as part of the Filtration Avoidance Determination (FAD) for the Catskill / Delaware part of our water supply; and the 2007 FAD specifies the milestones that DEP is required to meet as it implements its Cross Connection Control Program.

The 2007 FAD deliverable for cross connections states that DEP is anticipated to issue 200 notices of violation (NOVs) for failure to test a cross connection control annually; the annual total of NOVs issued in 2007 was 532. The FAD deliverable for full inspections anticipates DEP conducting between 300 and 450 full inspections of potentially hazardous premises. In 2007 DEP performed 4,232 inspections. DEP is in full compliance with the requirements, exceeding each deliverable.

During the first four months of this year, compliance numbers for DEP's cross connection program are continuing to improve City-wide. Nearly 2,400 inspections have been performed from January through April 2008, representing a more than 10% increase for Calendar Year 2008 as compared with 2007. Similarly, there has been a 17% increase in the number of

devices installed, a 47% increase in annual test reports submitted, a 14% increase in engineering plans approved, and a 33% increase in notices of violation issued.

The importance of the cross connection control program was re-emphasized by the detection of minute quantities of tetrachloroethylene (PERC) in samples collected on May 1, 2007 from the distribution system in Southeastern Queens. Following that discovery, DEP conducted an intensified investigation that included daily monitoring and cross connection control inspections in the affected area. The inspections focused on commercial properties, including dry cleaners, car washes and vehicle repair shops. These types of businesses are of particular interest because they potentially use chemicals and pressurized equipment.

Nearly 4,350 inspections were performed in Southeastern Queens from May through October, including 2,700 commercial facilities, as well as 1,650 non-commercial properties. Because DEP found illegal connections at a car wash on Linden Boulevard, water service there was terminated on May 11, 2007; however, it is not clear whether the car wash was the source of the PERC.

As a result of these recent inspections, approximately 740 properties were directed to install backflow prevention devices. Failure to promptly install the device was followed by a Commissioner's Order, and then followed with notification to the NYC Department of Health and Mental Hygiene and an NOV. City-wide, over 250 car washes have been inspected since October 2007, representing all known facilities as derived from multiple database

sources. Additional inspections have targeted dry cleaners in the Bronx and Staten Island.

Although cross connection controls are an important part of protecting the public water supply system, DEP's extensive water quality testing and monitoring program is the front-line defense in ensuring the quality of water in the distribution system. For example, it was a routine DEP test that revealed the presence of PERC in minute but detectable amounts in the distribution system in Southeast Queens and which resulted in the intense, targeted actions just mentioned.

Another significant development in the last year and one that will have far-reaching implications is a review of how we prioritize and target properties for inspection. This effort has been spearheaded by Deputy Commissioner Jim Roberts and informed both by the PERC incident and a thorough review of the existing cross connection program and approach.

Moving forward, as the enforcement caseload increases, we will enhance our compliance efforts by combining enforcement with extensive, targeted public outreach and education. Our experience indicates that many building owners are willing to install a backflow prevention device once DEP has made it clear that they are required to do so. Although a successful cross connection control program requires an investment by property owners, we believe they are willing to absorb these costs once they are properly informed about the requirement and its application to their specific property. DEP has the support of the plumbing industry in its efforts to identify users who ignore the requirement to install them. Finally, the self-certification

program, introduced in January 2007 and approved by DOH, simplifies and expedites compliance, and we hope to see the level of participation rise. Until recently, before installation of all backflow prevention devices, a property owner submitted a plan for installation. That plan had to be reviewed and approved by DEP staff. For the installation of the simplest devices, plan review and approval is unnecessary in terms of public health and burdensome to the applicant. DEP will continue to require plan review and approval for the more sophisticated devices that are required at the more hazardous properties. We will also conduct post-installation audits of self-certified installations.

After last year's PERC incident we reviewed the October 1998 internal DEP report on cross connections. This report and a follow-up report from May 1999 have often been used as the basis for two conclusions: First, that some 98,710 buildings in New York City are required to install a backflow prevention device (BPD). And second, of those approximately 99,000 buildings, some 22,765 met a standard for "high hazard" -- indicating high priority for risk. In reality, this report was a survey of building use classifications that were likely to pose cross connection concerns. Its conclusions with respect to the numbers of devices needed were only estimates based on a couple of key assumptions. Because this report is the starting point for what we know about how many cross connection devices are needed, it is useful to discuss it in more detail this morning.

The heart of the 1998 report is a table that lists the number of properties in all 176 of the Department of Finance use groups. The problem is that the need for a BPD is dictated by the activity occurring at the property, not the

building use classification. Given the number of premises in each use group, the report estimated the number of buildings at each property – there can be multiple – and then further estimated the percentage of buildings in the use group that might require a backflow prevention device.

For example, category “C-7” covers walk-up apartments with more than six units plus a store. The 1998 and 1999 reports list 6,859 properties recorded by Finance as meeting the C-7 criteria. The report assumes there is only a single building at each of the properties in the C-7 use group. The report then assumes that 20% of the C-7 properties meet the requirements for installation of a BPD, and that 80% do not meet the requirements.

In some cases – such as the use groups within category I, which includes hospitals – the report estimates that 90-100% of the properties require a BPD. In other cases, such as the use groups covering one-, two- and three-family homes, the report estimates that only 1% of the properties are required to have a BPD. The conclusion of this analysis is that there are approximately 100,000 buildings in New York City that are required to have a backflow prevention device.

To estimate the number of buildings that posed a higher risk of contamination to the water supply system, the follow-up internal report from May 1999 tabulated the number of buildings assumed to need a BPD within a smaller universe of 36 use groups that have collectively been called the “high hazard properties”. Those 36 use groups were chosen because they were assumed to pose a higher risk than other use groups: factories, garages, stores, hospitals, schools and outdoor recreational facilities. The total

number of buildings within these 36 use groups that are assumed to need a BPD was 22,765 based on the methodology described above: the total number of properties in the use group times the estimated number of buildings per property, times the percentage of buildings in that use group that DEP assumed would need a BPD.

What DEP did not have available in 1998 or 1999 is inspection-based information on all of the properties of concern. But we have begun to fill that gap in our knowledge by getting inspectors into the field and doing the labor-intensive job of going to properties that we have identified on paper. For example, in the 2007 FAD Annual Report, of 4,232 potentially high hazard properties that were inspected, 2,572 – fully 60% – did not need a BPD. The report also shows that of the total 6,552 inspections in calendar year 2007, 4,326 – 66% – of the premises did not need a device.

As I mentioned earlier, DEP has been committing significant resources to the fieldwork necessary to actually determine the level of compliance with backflow prevention requirements. Through continuing fieldwork and through use of a consulting firm to provide the most reliable information available on properties of concern, we are compiling more detailed and current information about the number of buildings in New York City that require backflow prevention devices. Generally speaking, residential properties are not the subject of scrutiny except where they operate a boiler that uses treated water. Our approach is to target our inspection resources most efficiently by identifying the types of commercial and residential properties that are most likely to pose a risk. We are planning to retain a consulting engineering firm to perform over the course of a year inspections

of approximately 13,000 properties identified by address and block and lot numbers. At the completion of this contract we will have inspected all of the approximately 22,000 properties originally designated as potentially high hazard.

We are also exploring ways of leveraging advances in technology in the context of the Agency's overall Strategic Plan for information technology with our upgrade of our current work-order management system, including hand-held inspection devices, and seeking ways to bolster compliance by simplifying the process, such as internet filing.

As we develop a more accurate assessment of the universe of premises of greatest concern, DEP is also working to foster quicker compliance with backflow prevention requirements through procedural improvements. We eliminated a post-inspection advisory letter, which did not prove to be an effective compliance tool. Now, upon our inspector determining that a BPD is needed, DEP issues a Commissioner's Order directing the property owner to install a device. We recently posted the application for exemption, which is much more user friendly, on our website. We are engaged in a revamping of the current guidelines in an effort to make the process more user friendly.

DEP created the Cross Connection Control Task Force in 2001. Members of the task force included the Department of Health & Mental Hygiene's Bureau of Public Health Engineering (PHE), the Buildings Department, the Plumbing Foundation, the Engineer's Society, and the Real Estate Board. The task force helped launch the initial approach and policy regarding the cross connection program. PHE reviews the Cross Connection Program's

reports in light of FAD compliance, monitors the program's progress and conducts its own inspections of some potentially high hazard facilities. DEP also shares inspection information with DOHMH, which permits groundwater wells; the wells are of particular concern with regard to cross connections. Greater cooperation and coordination with DOHMH have been beneficial to protecting public health.

It is important to note that since 1987, all new buildings are either required to have backflow prevention devices or to be found exempt in order to qualify for a certificate of occupancy.

DEP has committed significant effort and resources to obtain more information about properties of concern and to obtain compliance with cross connection control regulations. We are well on the way to carrying through the improvements in the structure and procedures of the Cross Connection Control Program. We are creating an accurate and complete database of properties requiring BPDs; we are showing continued improvement in performance statistics, including inspections, NOVs issued, and plan submissions and approvals; we will be bidding the contract to complete inspections of remaining properties on the original list; we are revamping our technology and procedures to make compliance more user friendly and efficient; we have instituted self certification to foster voluntary compliance; and we will be focusing more on public outreach and education to balance compliance and enforcement.

Thank you for the opportunity to testify. I will be glad to answer any questions.

DCE Commissioner Identifies 22,765 High Risk Buildings in Report to City Council 7/13/99

The task faced by DEP, at this point, is to inventory the building types or uses that lack BPD's, prioritize them by the degree of risk they pose, and fashion a strategy to get an appropriate BPD installed to confront each risk.

The following list comprises higher-risk building types that we believe should have a BPD, even if they do not all present an equal degree of risk.

TOTAL.....22,765

DEP Report to City Council
 July 13, 1999
 Prepared by: Department of Environmental Protection, Office of the Commissioner
 New York City
 City Council of New York City

Building Type	Count
Residential	1772
Commercial	246
Industrial	243

...the Department of Environmental Protection (DEP) has been assigned the task of identifying high-risk buildings...

Building Type	Count
Residential	1772
Commercial	246
Industrial	243

...the Department of Environmental Protection (DEP) has been assigned the task of identifying high-risk buildings...

Building Type	Count
Residential	1772
Commercial	246
Industrial	243

...the Department of Environmental Protection (DEP) has been assigned the task of identifying high-risk buildings...

100% Compliance for 22,765 High Hazard Buildings by May 2005

Consistent with those guidelines, in an October 22, 1998 report, DEP estimated that approximately 105,000 buildings in New York City may require some sort of protective device.

To: Joel A. Michie Sr., PE.
Commissioner

From: Anthony S. Cosentino, PE.
Chief Engineer

Subject: Cross Connection Control Task Force

Date: May 1, 2000

[illegible][illegible]

Universe of Buildings that Must Comply

[illegible][illegible]

Achieving Compliance

DEP Report 10.5% Compliance in High Hazard Buildings – April 2005

Plumbing Task Force April 15, 2005 Meeting AGENDA

- a) Cross Connection Control Statistics (4-1-05):
 - f) Commissioner's Orders issued (As of 6/1/04) 1,081
 - e) Letters to NYC DOH in advance NOV's (As of 6/1/04) 1,375
 - d) NOV's issued for failure to install a device 369
 - c) Case and Desist Orders issued 75
 - b) Water Service Shifts for Non-Compliance 2
 - a) Blue Preliminary Inspection Reports 1,083
- 2) Presentation by Dan Misa: Application Process.
- 3) Calendar Year Compliance.
- 4) Compliance by Premises (based on F-2, F-4, G-3, G-4, and I-7) Total Premises = 3136

A) Enforcement Action Initiated	221	7.1%
Plans Submitted	137	4.4%
Plans Approved	106	3.4%
Devices Installed	106	3.4%
Device Not Needed	106	3.4%
Compliance Initiated	160	5.1%
D) Premises to be Inspected	2618	83.5%

Compliance Requirements for lots which have more than one (1) service line:
Can DEP accept immediate installation of devices on hazardous service lines, along with a timetable for installation of devices on non-hazardous service lines?

What should DEP's policy be regarding:

A) Release of Approved Plans?

B) Release of Approval Numbers?

Multiple Fire Protection Services:

Does a building have fire protection devices if it has separate (not interconnected) domestic, sprinkler and standpipe services lines?

Should a PE or RA be required to mention in the initial report on Form GEN-215B (Test Report)?

Exemptions for small swimming pools

DOB Sewer Connection Inspections

Tapping crews may refuse to install a new tap (for tap and plug jobs) unless the old tap has been destroyed.

Tap Location Permit by Electrical Indicator (M-scope) will not apply to jobs where a 3-day notice has been issued or where the service line is leaking.

Sewer connection linings.

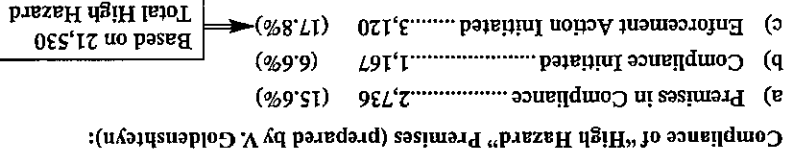
Suction tank Requirement when Fire/Sprinkler Pumps Exceed 400 gpm.

Metering Issues

Complex Plumbing (Deviates Slightly from NYSDOH Yellow Book):
Situations/Equipment which may be considered complex plumbing:

- i) Pumped Supply
 - ii) Roof Tank
 - iii) Suction Tank
 - iv) Hydropneumatic Tank
 - v) Separation of internal zones
 - vi) Combined fire/sprinkler/domestic
- Device(s) needed as required by Risk Assessment
- YES (Needs DCV) No
- YES (Needs DCV) No
- YES (Needs DCV) No
- Device(s) needed only on hazardous take offs.

in High Hazard Buildings –

[illegible][illegible]

Cross Connection Control Program
Initiate enforcement for non-compliant
hazardous premises.....Anticipated 225/year

Question	Answer
1. What is the purpose of the research?	The purpose of the research is to investigate the effectiveness of the proposed system in improving the accuracy of the classification results.
2. What are the research objectives?	The research objectives are to: (1) compare the performance of the proposed system with existing methods, (2) analyze the impact of different parameters on the system's performance, and (3) evaluate the system's robustness to noise and outliers.
3. What is the research methodology?	The research methodology involves a combination of theoretical analysis and experimental evaluation. Theoretical analysis includes deriving the mathematical formulation of the proposed system and analyzing its properties. Experimental evaluation involves implementing the system and comparing its performance with existing methods using a standard dataset.
4. What are the results of the research?	The results of the research show that the proposed system achieves a higher accuracy than existing methods, especially in the presence of noise and outliers. The system's performance is also relatively stable across different parameter settings.
5. What are the conclusions of the research?	The conclusions of the research are that the proposed system is an effective method for improving the accuracy of the classification results, and that its performance is robust to noise and outliers.

Surface Water Treatment Rule Determination for
New York City's Catskill/Delaware Water Supply System

Prepared By
USEPA in consultation with NYSDOH
April 2007

DRAFT 2007 FAD

**New York City
Filtration Avoidance
Determination**
Prepared By
USEPA in conjunction with NYSDOH
April 2007

DEP Commissioner States That Backflow Program Had "...not been as high a priority for the Department..." May 2007

The New York Times
THOUSANDS OF BUILDINGS LACK REQUIRED
WATER VALVE, NEW YORK RECORDS SHOW

MAY 19, 2007

By ANTHONY D'PALMA

As many as 85,000 large residential and commercial buildings in New York City lack special valves on their water connections that could prevent dangerous

substances from being sucked into the public water system, according to city records.

In investigating the presence of a defective retrobackflow-prevention, in the drinking water supply in parts of Queens last week, city officials identified a car wash as

having contributed to the contamination at least partly because it did not have the valve installed on one of its water supply lines. The amount of the contamination

was considered too low to pose a serious health problem. The records also show that about 25,000 buildings in the city represent an especially high risk because

factories, gas-filling stations or businesses that handle hazardous materials housed in those buildings have not installed the device, called a backflow prevention

valve.

State law has required that the device be installed on certain categories of buildings since 1981. Critics say the city's lax enforcement of the rules on backflow

valves endangers the water system and encourages owners to ignore the law. They also say the city does little to ensure that owners have the valves tested once a

year to make sure they are not clogged, as required in the law's safety code.

Last year, only 7,085 tests on the valves were conducted in the city, according to a 2006 report by the Department of Environmental Protection, which

operates the city's water system. But fewer than 2,000 violations were fined for the thousands of property owners who failed to conduct the tests, according to

the report. City officials added that compliance goals set by a city industry task force in 2006 have not been met. But they insist that the city's water supply is

safe.

The backflow-prevention valves are generally located near water meters inside commercial, industrial and large residential buildings. They are attached to water

drawn back into the water main.

For example, the chemically treated water in a large boiler room flows back into the water supply if water pressure from the building suddenly drops. The

contaminated water then could travel to other buildings. New buildings generally install the device during construction. One and two family houses are excepted.

Stewart O'Brien, executive director of the Plumbing Foundation City of New York, an industry group, said the city's failure to rigorously enforce the rules put

thousands of New Yorkers at risk. "These valves are the spiderweb system in buildings," Mr. O'Brien said. "If you don't have a fire, it's not as huge. In this

case, nobody worries about it unless there's an incident."

Emily Lloyd, commissioner of the
Department of Environmental Protection,
said that historically, the backflow valve
program had not been as high a priority
for the department for assuring water
quality as its testing and monitoring
program.

Chairman Gennaro Requests Information on Backflow Program From DEP July 2007 – No Response

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ENVIRONMENTAL PROTECTION
COMMITTEES
FINANCE
PUBLIC SAFETY
SANITATION & SOLID WASTE MANAGEMENT
MENTAL HEALTH, MENTAL RETARDATION,
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July 26, 2007

Emily Lloyd, Commissioner
Department of Environmental Protection
City of New York
59-17 Junction Blvd
Flushing, NY 11373-5108

Dear Commissioner Lloyd:

Thank you for taking time to speak to me recently about the installation of backflow devices in "high risk" buildings in order to prevent the contamination of public drinking water supplies. As we discussed, the recent contamination of supplies in Cambria Heights, Queens highlights the critical importance of ensuring compliance with New York State sanitary code related to the installation of these devices.

I am enclosing a letter that The Plumbing Foundation of New York, Inc. ("Foundation") sent to you on June 4th that raises specific, serious concerns about the Department of Environmental Protection's enforcement of the State code – particularly the pace and breadth of compliance assurance efforts. During our conversation, you took issue with the Foundation's characterization of your Department's activities in this area, indicating that you believe that the Foundation may not be aware of the full intensity and scope of these activities.

Based on our conversation, I believe it would be beneficial for all those with interest in the installation of backflow prevention devices to be provided with a comprehensive description of your Department's activities in this area. Specifically, I request that you provide me, as soon as practical, complete details of the DEP's efforts to ensure compliance with the State sanitary code related to the installation and testing of backflow prevention devices – as well as your response to the particular concerns raised and requests made by the Foundation in their June 4th letter.

I thank you in advance for your attention to this request.

Sincerely,

James F. Gennaro

James F. Gennaro

Hazard Buildings – 1/31/08

Failure to Install in High

Only 151 Violations Issued to

Installation Enforcement

Cross Connection Control Annual Report 2007

100-443887-100

DOI: 10.1002/for

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JANUARY 31, 2008

JANUARY TO DECEMBER, 2007

ANNUAL REPORT

CROSS CONNECTION CONTROL PROGRAM

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER AND SEWER OPERATIONS

Prepared in accordance with Section 8.1 of the July 2003 London Green Frameworks Planning Protocol
Appendix 1 (Designation)

Prepared by:
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