



Charlie Crist  
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April 24, 2009

**WARNING LETTER WP-084-09**  
**E-Mail: [BocaCM@ci.Boca-Raton.fl.us](mailto:BocaCM@ci.Boca-Raton.fl.us)**  
**Certified Mail # 7008 2810 0000 4119 5141**  
**Return Receipt Requested**

Mr. Leif J. Ahnell, City Manager  
City of Boca Raton  
City Hall  
201 W. Palmetto Park Rd.  
Boca Raton, FL 33432

**Re: City of Boca Raton Water Distribution System (PWS #4500130)  
Compliance Issues**

Dear Mr. Ahnell:

The purpose of this letter is to advise you of possible violations of law for which you may be responsible, and to seek your cooperation in resolving the matters. Information available to the Palm Beach County Health Department (Health Department) indicates that several possible violations within the City of Boca Raton's (City) drinking water distribution system may have occurred and that some of these potential violations went unreported to the appropriate agencies. These areas of concern to the Health Department include the following:

- Distribution System Security
- Distribution System Cross-Connection Control
- Distribution System Pressure
- Distribution System Bacteriological Contamination

The associate regulations and the Health Department's findings include the following:

**Item 1 Distribution System Security**

**Rule 62-555.350, F.A.C., Operation and Maintenance of Public Water Systems.**

(10) Suppliers of water shall notify the State Warning Point (SWP), the appropriate Department of Environmental Protection (DEP) District Office or Approved County Health Department (ACHD), and water customers in accordance with the following procedures in the event of the following circumstances.

(a) Suppliers of water shall telephone the SWP at 1(800)320-0519 immediately (i.e., within two hours) after discovery of any actual or suspected sabotage or security breach, or any suspicious incident, involving a public water system.



**PALM BEACH COUNTY HEALTH DEPARTMENT**  
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### **Item 1 Distribution System Security (Continued)**

#### **Health Department Findings**

As reported to the Health Department on December 16, 2008 and documented by the City in a letter to the Boca Arbor Club dated December 22, 2008, the City was notified on November 18, 2008 of an unauthorized and unpermitted water treatment operation at the Boca Arbor Club. As documented in the letter the City visited the Boca Arbor Club and inspected the two storage buildings each housing a chemical injection system connected to the City's drinking water system. The City found the buildings unlocked and the chemical containers unlabeled at the time of the site visit. On December 16, 2008 the City contacted the Health Department and reported their findings. During the call the Health Department instructed the City to notify the State Warning Point since the unauthorized chemical injection systems represented a suspicious incident.

Information available to the Health Department indicates that the City did not notify the SWP when it discovered the suspicious incident in November 2008 nor when directed to do so by the Health Department in December 2008.

### **Item 2 Distribution System Cross-Connection Control**

#### **Rule 62-555.360, F.A.C. Cross-Connection Control for Public Water Systems.**

(5) Cross connection control programs specific to reuse systems defined in Chapter 62-610, Part III, F.A.C., shall consider the following:

- (a) Enhanced public education efforts towards prevention of cross connections.
- (b) Enhanced inspection programs for portions of the distribution system in areas of reuse for detection and elimination of cross connections.
- (c) Dual check valves shall be considered acceptable for reducing risks from back-flow only at residential properties served by reclaimed water unless:
  1. Local codes, ordinances, or regulations require greater levels of back-flow prevention.
  2. Other hazards exist on the property that requires a greater level of back-flow prevention.

#### **Health Department Findings**

Correspondence between the City and the Florida Department of Environmental Protection (FDEP) indicates that the City installed single check valves in areas where dual check valves were required. The Health Department's investigation has noted that the installations were officially reported by the City to the FDEP in August 2007 as part of the Annual Reuse Report for the period October 1, 2005 through September 30, 2006. However, a document provided to the Health Department reports that the City may have been aware of the incorrect installations as early February 2006.

Information available to the Health Department indicates that improper cross-connection devices were installed in areas served with a reuse system. Documents also indicate that the City took actions to correct the problem and that the corrective actions have been completed. In addition, it appears that the FDEP determined that the compliance issue falls under the jurisdiction of the Health Department as the delegated local program (Drinking Water).

### **Item 3 Distribution System Pressure**

#### **Rule 62-555.350 Florida Administrative Code (F.A.C.) Operation and Maintenance of Public Water Systems.**

(7) Except when a water main breaks or treatment or pumping equipment fails and except under circumstances that the supplier of water documents to be highly unusual and nonrecurring, suppliers of water shall maintain a minimum gauge pressure of 20 pounds per square inch throughout their drinking water distribution system up to each customer's point of connection to the water supplier's distribution system.

### **Item 3 Distribution System Pressure (Continued)**

#### **Palm Beach County Unified Land Development Code, Article 15 – Health Regulations, Chapter B (Environmental Control Rule II) Drinking Water Supply Systems**

Section 7.C. - In case of breakdown in purification or protective equipment, breaks in main transmission lines, loss of water pressure below 20 p.s.i., abnormal taste or odor, change in treatment, or any interruption of water service to users, or any circumstances which could affect the quality of the drinking water, it shall be the duty of the water supplier to notify the Department within one hour of the occurrence. Notification shall include the following information:

1. Description of the problem;
2. Area affected;
3. Number of connections or users affected;
4. Estimated duration of problem;
5. Method of notification to users; and
6. Such information shall also be provided in writing on the monthly operation report.

#### **Palm Beach County Unified Land Development Code, Article 15 – Health Regulations, Chapter B (Environmental Control Rule II) Drinking Water Supply Systems**

Section 7.D. - If any of the conditions listed in Art. 15.B.7.C. above, or in the Department of Health's "Guidelines for the Issuance of Precautionary Boil Water Notices" as adopted in Rule 62-555.335, F.A.C. should occur, the water supplier is required to obtain two consecutive days of satisfactory bacteriological sample results from the affected area. Notification of the interruption of water service and/or the necessity to boil water shall be given immediately to the users either by written notice (ex. door hangers, flyers, and locally posted signs), a reverse 911 calling system through the media of newspaper, radio, or television, or a combination of these methods as needed to properly contact the service population. The notice to boil water shall remain in effect until at least one day of satisfactory bacteriological sample results have been obtained from the affected area and after consultation and approval of the Health Department. If only one day of precautionary boil water is utilized, then sufficient evidence must be provided to the Department to confirm that no contamination has occurred, ex. extensive bacteriological test data, system pressure data, detailed explanation of repair process to confirm lack of potential for contamination, etc. If unsatisfactory bacteriological levels are detected following the one day initial sampling, or if the system cannot adequately justify to the Department that no contamination has occurred, then the water system shall provide a minimum of two consecutive days of satisfactory sample results prior to rescinding the boil notice. Samples shall be taken 24 hours apart. The Department shall notify the water supplier when the boil water notice may be rescinded. [ORD. 2005 – 003]

#### **Health Department Findings**

On February 20, 2009 the Health Department issued a letter to the City requesting copies of the pressure records for 15 specific time periods. The request was in response to information provided to the Health Department on October 22, 2008 in the form of a complaint letter. The complaint letter included 32 graphs that were reportedly obtained from the City's data management system. The graphs identified specific time periods when the pressure within the distribution system was recorded at levels below the minimum required pressure of 20 pounds per square inch.

On March 9, 2009 the Health Department met with City staff and collected a portion of the requested information. The information provided by the City was compared to the 32 graphs. Based on the comparison the Health Department verified that the data provided with the complaint letter was actual data collected by the City. On March 26, 2009 the Health Department completed its review and validation of the pressure sensor data and concluded that there appears to be unreported periods of time when the water pressure was below 20 pounds per square inch in the Hidden Valley Area of the City. In addition, the information provided to the Health Department indicates that the pressure sensor locations and configurations were selected by the City and were being operated and maintained by the City including repairs and replacements to the pressure sensors when needed.

On March 27, 2009 the Health Department met with the City's Utility Director and discussed the findings. During the meeting it was reported that the pressure sensors were part of an engineering

study to support an overall assessment of the distribution system and not intended for compliance purposes. In addition the Utility Director reported that the pressure data was not representative of the system pressure because of the sensor locations and configuration.

#### **4. Distribution System Bacteriological Contamination**

##### **Rule 62-550.518, F.A.C., Microbiological Monitoring Requirements.**

(9) Invalidation of Total Coliform Samples. A total-coliform-positive sample invalidated under this subsection does not count toward meeting the minimum monitoring requirements of this section. Department invalidation of a total-coliform-positive sample invalidates subsequent fecal-coliform or E.-coli-positive results on the same sample.

(a) The Department shall invalidate a total-coliform-positive sample only if any of the following conditions are met:

1. The laboratory establishes that improper sample analysis caused the total coliform-positive result.
2. The Department, on the basis of the results of the repeat distribution system samples collected as required by subsection (7) of this section, determines that the total-coliform-positive sample resulted from a non-distribution system plumbing problem. The Department shall not invalidate a sample on the basis of repeat samples unless all repeat samples collected at the same tap as the original total-coliform-positive sample are also total-coliform-positive and all repeat samples collected within five service connections of the original tap are total-coliform-negative. The Department shall not invalidate a total-coliform-positive sample on the basis of repeat samples if all the repeat samples are total-coliform-negative or if the public water system has only one service connection.
3. The Department has received in writing substantial grounds to conclude that a total-coliform-positive result is due to a circumstance or condition that does not reflect raw water quality or water quality in the distribution system. In this case, the system shall still collect all repeat distribution system samples required under subsection (7) of this section and use them to determine compliance with the maximum contaminant level for total coliforms in subsection 62-550.310(5), F.A.C. The written documentation shall describe the specific cause of the total-coliform-positive sample and what action the system has taken, or will take, to correct this problem. The Department shall not invalidate a total-coliform-positive sample solely on the grounds that all repeat samples are total-coliform-negative.

(b) Unless total coliforms are detected, a laboratory shall invalidate a total coliform sample if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique); produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test; or, exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system shall report to the Department in accordance with subsection 62-550.730(1), F.A.C., and collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem. The system shall continue to resample every 24 hours and have the samples analyzed until it obtains a valid result. The Department shall expand the 24-hour requirement on a case-by-case basis if the system has a logistical problem that is beyond its control in collecting the repeat samples within 24 hours. If an extension is granted, the Department shall specify how much time the system has to collect the repeat samples.

#### **Health Department Findings**

On March 25, 2009 the City contacted the Health Department in response to the investigation of the low pressure incidents within the distribution system (Item 3). During the phone call the City reported that the bacteriological data submitted to the Health Department for the distribution system routinely had total-coliform positive test results in the 2 to 3 percent range. Rule 62-550.310(5)(a)1, F.A.C. establishes a maximum contaminant level (MCL) for total-coliform positive test results of no more than 5 percent of the required samples each month. Review of the bacteriological data submitted by the City indicates total-coliform positive test results of less than 2 percent for the first three months of 2009. The information submitted indicates compliance with the total coliform MCL. In order to evaluate compliance with the regulation and the requirements for invalidating samples the Health Department will review the field and laboratory data associated with the bacteriological sampling to ensure that all samples collected were analyzed and reported as required.

### **Official Records Request**

In accordance with Rule 62-550.730(1)(i), F.A.C. the Health Department requests the City to provide copies of the following records and documents within the time specified:

#### **Item 1 Distribution System Security**

Within ten (10) days of receipt of this letter provide documentation that the City notified the State Warning Point within 2 hours of the completion of the City's inspection of the storage buildings at the Boca Arbor Club on November 18, 2008.

#### **Item 2 Distribution System Cross-Connection Control**

Within thirty (30) days of receipt of this letter provide copies of the following records and documents:

1. For each facility where a single check valve was installed that required replacement:
  - a. Type of Facility (Residential / Commercial / Industrial)
  - b. Physical Address
  - c. Date the single check valve was installed.
  - d. Date the single check valve was replaced with a dual check valve.
  - e. Completed Work Orders associated with the installation and replacement of each single check valve.
2. All communications and documents related to the identification of the single check valve installation, corrective actions taken, and notifications to the FDEP and the Health Department between the period July 1, 2006 and November 30, 2007.

#### **Item 3 Distribution System Pressure**

Within thirty (30) days of receipt of this letter provide copies of the following records and documents:

1. Listing of all pressure sensors locations (Past & Current) within the distribution system.
2. The dates each sensor was placed into service and taken out of service.
3. Electronic copies (ASCII, Microsoft Excel or Microsoft Access format) of all pressure readings collected for the distribution system (Lift Stations & Pump Stations) and point of entry for the period beginning March 27, 2005 through March 27, 2009. This information was verbally requested by the Health Department on March 27, 2009.
4. Copies of purchase orders, work orders, maintenance and calibration logs for the pressure sensors and backflow prevention devices connected to the pressure sensors located at the lift stations, the pump stations and the point of entry to the distribution system, as applicable.

The Health Department also requests that the City install pressure gauges at Lift Station 84 at the previous locations of the pressure sensors. Once the gauges are installed it is requested that the City notify the Health Department so that a series of tests can be performed to evaluate pressure drops and scenarios.

#### **Item 4 Distribution System Bacteriological Contamination**

Within sixty (60) days of receipt of this letter provide copies of the following records and documents:

1. Copies of all field records, chain-of-custody records, log books and electronic data (ASCII, Microsoft Excel or Microsoft Access format) associated with the collection of the bacteriological samples for the period July 1, 2006 through November 30, 2007.
2. Copies of all laboratory records, log books and electronic data (ASCII, Microsoft Excel or Microsoft Access format) associated with the analysis of the bacteriological samples for the period July 1, 2006 through November 30, 2007.
3. Copies of all communications related to the invalidation of any bacteriological samples for the period July 1, 2006 through November 30, 2007.

April 24, 2009


Please be advised this Warning Letter is part of an agency investigation preliminary to agency action in accordance with the **Environmental Litigation Reform Act (ELRA) Sections 403.121 and 120.57 (4), Florida Statutes and the Palm Beach County Unified Land Development Code, Article 15 – Health Regulations, Chapter B (Environmental Control Rule II) Drinking Water Supply Systems.**

You are requested to provide all documents requested within this Warning Letter to Ms. Pam Lape of this office within the timeframes specified. After the Health Department has received the requested information and completed its review, Ms. Lape will contact your office to arrange a meeting to discuss our findings and conclusions. The Health Department is interested in reviewing any additional facts you may have that will assist in determining whether any violations have occurred. During the scheduled meeting you may bring anyone with you that you feel may help resolve this matter. In the interim, it is requested that City staff allow the Health Department to review the data and not attempt to interfere or influence the outcome of this investigation.

Please contact Darrel Graziani at (561) 355-3070 ext. 1151 if you have any questions.

Thank you for your cooperation in the resolution of this matter.

Sincerely,

  
John O'Malley, P.G., R.S., Director  
Division of Environmental Health and Engineering  
Palm Beach County Health Department

cc: V. Coleman, Esq., PBCHD, via e-mail [Victoria\\_Coleman@doh.state.fl.us](mailto:Victoria_Coleman@doh.state.fl.us)  
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