UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Poon

U.S. EPA, REGION II
2006 MAY -3 PM 1:27
WATER PROGRAMS BRANCH

APR 21 2006

OFFICE OF WATER

5/4/06

MEMORANDUM

SUBJECT: Approval of Puerto Rico's Primacy Application for the Arsenic Rule

FROM: Cynthia C. Dougherty, Director
Office of Ground Water and Drinking Water, OW (4601)

TO: Walter Mugdan, Director
Division of Environmental Planning and Protection, Region 2

Thank you for submitting Puerto Rico's primacy application for the Arsenic Rule. This memorandum constitutes concurrence from the Office of Water (OW) on Puerto Rico's primacy request. The Office of General Counsel has delegated its review and approval of all packages to the Office of Regional Counsel.

My staff reviewed the Puerto Rico primacy application from a programmatic standpoint and agrees that Puerto Rico's requirements are as stringent as federal requirements. Please proceed with the process of primacy revision for Puerto Rico.

Pending Region 2 ORC legal concurrence, OW reserves the right to review Puerto Rico's primacy revision application based on subsequent changes recommended by ORC. Otherwise, OW waives concurrence for the programmatic review of the primacy revision applications for the remainder of the Region 2 states for the Arsenic Rule. If you have any questions, you may have your staff contact Jennifer Moller at (202) 564-3891.

cc: Mark Pollins, Director, Water Enforcement Division
Steve Neugeboren, Associate General Counsel for Water
Walter Andrews, Chief, Water Programs Branch, Region 2
Mike Lowy, Water Programs Branch, Region 2
Melva Hayden, Region 2 Office of Regional Council
Jennifer Moller, Drinking Water Protection Division (MC 4606M)

Post-it® Fax Note 7671	Date Nov 29, 05	# of pages ▶ 1
To Robert Poon	From Zuleima Rodríguez	
Co./Dept. EPA Region 2	Co. PRDOH	
Phone # 1-212-637-3821	Phone # 787-777-0150	
Fax # 1-212-637-3887	Fax # 787-777-0154	

Arsenic

Detections	2001	2002
Cubuy FP– Canóvanas	26.4 ppb	
Mendoza Well – Gurabo	19.9 ppb	23.7 ppb
Hormigueros Well – Hormigueros	12.1 ppb	7.08 ppb
Cabo Rojo #8 Well – Cabo Rojo	11.2 ppb	
Mc Doughlas Well – Cabo Rojo	10.1 ppb	
Posas FP - Clales	7.0 ppb	
La Torre Well – Barranquitas	6.9 ppb	9.44 ppb
Hormigueros 2 Well – Hormigueros	5.2 ppb	
Vidal Well – Gurabo		5.41 ppb
Febus Well – Barranquitas		12.8 ppb

- CCR Notification

Robert: There were no detections above 10 or 50 ppb for FY-2004.

Detections above 5 ppb were: ① P. Cabo Rojo I – 6 ppb
② P. Cabo Rojo II – 6.4 ppb
③ P. Caluache I – 6.2 ppb

Estado Libre Asociado de Puerto Rico
Departamento de Salud
Oficina del Secretario

June 8, 2004

FEDERAL EXPRESS

Ms. Jane Kenny
Regional Administrator
US EPA Region 2
290 Broadway
New York, New York 10007-1866

Re: PRDOH Arsenic Rule Primacy Revision Application Package

Dear Ms. Kenny:

Enclosed is the Puerto Rico Department of Health's (PRDOH) Primacy Revision Application Package for approval of a program revision adopting new or revised EPA regulations pursuant Section 1413 of the Safe Drinking Water Act Amendments and 40 CFR Part 142, Subpart B.

This package covers the Arsenic Rule. The PRDOH needs full implementation and enforcement authority to proceed with actions regarding the arsenic provisions as established in this Rule.

To this effect, PRDOH requests approval of the complete and final revised Program. The Attorney General Statement submitted certifies that the laws and regulations adopted were duly implemented and are enforceable.

If you have any questions, please do not hesitate to contact Ms. Olga I Rivera, Public Water Supply Supervision Program Director at (787) 777-0150 or email: orivera@salud.gov.pr.

Sincerely,

By: Aida G de Freyre

Johnny Rullán, MD, FACPM

Enclosure: Arsenic Primacy Application Package

Cc: Bruce Kiselica, Robert Poon, EPA-NY
Carl Soderberg, EPA-CEPD
Alfredo Casta, Olga I. Rivera, PRDOH

Commonwealth of Puerto Rico

Department of Health

Public Water Supply Supervision Program

Commonwealth of Puerto Rico
Department of Health

Arsenic Rule
Primacy Revision Application Package

July 2003
Revised June 2004

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Section

ARSENIC PRIMACY REVISION CHECKLIST

I. State Primacy Revision Checklist

Required Program Elements		Revision to State Program	EPA Findings/Comments
40 CFR 142.2 and 142.10	Primary enforcement-Definition of PWS*	Not Revised	
40 CFR 142.10(a)	Regulations no less stringent	"	
40 CFR 142.10(b)(1)	Maintain inventory	"	
40 CFR 142.10(b)(2)	Sanitary survey program	"	
40 CFR 142.10(b)(3)	Laboratory certification program	"	
40 CFR 142.10(b)(4)	Laboratory capability	"	
40 CFR 142.10(b)(5)	Plan review program	"	
40 CFR 142.10(b)(6)(i)	Authority to apply regulations	"	
40 CFR 142.10(b)(6)(ii)	Authority to sue in courts of competent jurisdiction	Not Revised	
40 CFR 142.10(b)(6)(iii)	Right of entry	"	
40 CFR 142.10(b)(6)(iv)	Authority to require records	"	
40 CFR 142.10(b)(6)(v)	Authority to require public notification	"	
40 CFR 142.10(b)(6)(vi)	Authority to assess civil and criminal penalties	"	
40 CFR 142.10(b)(6)(vii)	Authority to require CWSs to provide CCRs**	"	
40 CFR 142.10(c)	Maintenance of records	"	
40 CFR 142.10(d)	Variance/exemption conditions (if applicable)***	Not Revised	
40 CFR 142.10(e)	Emergency plans	"	
40 CFR 142.10(f)	Administrative penalty authority*	"	
40 CFR 142.16(j)	Special primacy requirements, waiver criteria, monitoring plan	Yes	
40 CFR 142.16(k)	Special primacy requirements, new systems, new sources, monitoring requirements	Yes	

* New requirement from the 1996 Amendments. Regulations published in the April 28, 1998 *Federal Register*.
** New regulations published in the August 19, 1998 *Federal Register*.
*** New regulations published in the August 14, 1998 *Federal Register*.

Section

TEXT OF THE STATE REGULATION

CRESPO & RODRIGUEZ, INC.

A-6 Yale Street, Santa Ana
.io Piedras, Puerto Rico 00927

TAQUIGRAFOS DE RECORD

Tel. (787) 758-5930 / 763-8018
Fax (787) 767-8217

CERTIFICATE OF TRANSLATOR

I certify that the foregoing is a true and exact translation of the Spanish version of Article Number II - Drinking Water of the Drinking Water Section of the General Bylaws of Environmental Health, provided to Crespo & Rodríguez, Inc.

Witness my hand this 12th day of June, 2002, in San Juan, Puerto Rico.

Crespo & Rodríguez, Inc.

Luis A. Ruiz Javier
Translator

ARTICLE II: DRINKING WATER

Section 1.00 PUBLIC SYSTEMS OF DRINKING WATER

1.01 Requisites on Primary Standards.

1. All existing water systems and all those which will be established after the date of approval of these Regulations should comply with the requisites on primary contaminants.

2. The drinking water primary standards in Puerto Rico should be regulated in accordance with Title 40, Part 141 of the Federal Code Regulations, as amended.

1.02 Implementation of the Regulations on Primary Standards.

1. The implementations of the standards on drinking water primary contaminants in Puerto Rico will be subject to Title 40, Part 142 of the CFR, as amended.

1.03 Requisites on Secondary Standards.

1. The drinking water secondary contaminants will be regulated in accordance with Title 40, Part 143 of the CFR, as amended.

1.04 Revolving Fund.

1. Prior to commencement of operation, the Secretary is authorized to require that the drinking water systems, existing systems or new systems commencing to operate on or after October 1, 1999, be these comunal or noncomunal nontransient, to comply with Sections 1419 and 1420 of the Federal Safe Water Act, as amended; as well as with the provisions of Title 40 of the Federal Code Regulations aplicable to the primacy of the Drinking Water Program of the Department; and with federal regulations of the Revolving Fund Program and its Sub-programs. The Secretary is also authorized to order

discontinuance of the operation of the drinking water systems which do not comply with these requisites.

2. The water systems to be built the Revolving Fund Program should comply with Sections 1452, 1419 and 1420 of the Federal Safe Drinking Water Act, as amended; also they should comply with the federal guides or provisions of the Federal Code Regulations, as applicable, as well as with the procedures established by the Department under said program.

1.05 Variations and Exemptions.

1. The Department may grant variations and exemptions from specified provisions in accordance with Title 40, Part 1414 of the CFR as provided by the Federal Safe Drinking Water Act of December 16, 1976, as amended.

1.06 Additional Requisites.

1. The provisions of Section 1 of this Article should in no way be construed as a limitation of the authority of the Secretary to establish additional requisites or more stringent standards to those provided on Federal Drinking Water Act of 1974, as it may be amended, and Federal Code Regulations, as may be amended, with the purpose of safeguarding public health.

Section 2.00 BOTTLED WATER

2.01 Requisites for Processing and Bottling.

1. All plants engaged in bottling water for human comsumption in Puerto Rico should comply the water processing and bottling requisites provided on Title 21, Part 129 of the Federal Code Regulations, as amended.

2.02 Specific Requisites for Bottled Water.

1. Water bottled in Puerto Rico and all imported bottled water should comply with the quality standards and specific requisites for bottled water establish in Title 21, Part 165.110 of the CFR, as amended.

2.03 Labelling of Containers for Water and Water Products.

1. Water bottled in Puerto Rico and all bottled water imported from plants located outside of Puerto Rico should comply with the provisions of Title 2, Part 101 of the CFR, as amended.

2.04 Sound Manufacturing Practices.

1. The provisions for sound manufacturing practices contained in Title 21, Part 110 of the CFR will apply to the water bottling plants in Puerto Rico.

2.05 Bottling Plants Outside of Puerto Rico.

1. Water from all water bottling plants located outside of Puerto Rico, sold displayed, distributed, offered for sale or donation in Puerto Rico should comply with the water standards established in these Regulations.

2.06 Quality Control.

1. It will be the responsability of the operator to make sure that sample representative of the water bottled by the plant be analized by a certified laboratory, following the frequency and for the parameters specified on Title 21, Part 129, Section 129.80, Sub-part E of the CFR.

Section

III

ARSENIC PRIMACY REVISION CROSSWALK

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
SUBPART A—GENERAL			
§141.6 EFFECTIVE DATES			
The arsenic MCL listed in §141.62 is effective for the purpose of compliance on January 23, 2006. Requirements relating to arsenic set forth in Secs. 141.23(i)(4), 141.23(k)(3) introductory text, 141.23(k)(3)(ii), 141.51(b), 141.62(b), 141.62(b)(16), 141.62(c), 141.62(d), and 142.62(b) revisions in Appendix A of subpart O for the consumer confidence rule, and Appendices A and B of subpart Q for the public notification rule are effective for the purpose of compliance on January 23, 2006. However, the consumer confidence rule reporting requirements relating to arsenic listed in Sec. 141.154(b) and (f) are effective for the purpose of compliance on February 22, 2002.	§141.6(j)	ADOPTED BY REFERENCE	
Regulations set forth in Secs. 141.23(i)(1), 141.23(i)(2), 141.24(f)(15), 141.24(f)(22), 141.24(h)(11), 141.24(h)(20), 142.16(e), 142.16(j), and 142.16(k) are effective for the purpose of compliance on January 22, 2004. [Regulation should have included 141.29(c)(9); unintentional omission; optional.]	§141.6 (k)	ADOPTED BY REFERENCE	
SUBPART C—MONITORING AND ANALYTICAL REQUIREMENTS			
§141.23 INORGANIC CHEMICAL SAMPLING AND ANALYTICAL REQUIREMENTS			
Contaminant / MCL / Methodology / Detection Limit Arsenic / 0.01[6] / Atomic Absorption; / 0.001 Furnace Atomic Absorption; / 0.0005[7] Platform-Stabilized Temperature Atomic Absorption; / 0.001	Table to §141.23(a)(4)(i)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
Gaseous Hydride ICP-Mass Spectrometry 0.0014[8]			
[6] The value for arsenic is effective January 23, 2006. Until then, the MCL is 0.05 mg/L. [7] The MDL reported for EPA Method 200.9 (Atomic Absorption; Platform - Stabilized Temperature) was determined using a 2x concentration step during sample digestion. The MDL determined for samples analyzed using direct analyses (i.e., no sample digestion) will be higher. Using multiple depositions, EPA 200.9 is capable of obtaining an MDL of 0.0001 mg/L. [8] Using selective ion monitoring, EPA method 200.8 (ICP-MS) is capable of obtaining an MDL of 0.0001 mg/L.	Footnotes to Table in §141.23(a)(4)(i)	ADOPTED BY REFERENCE	
The frequency of monitoring for arsenic shall be in accordance with paragraph (c) of this section. [Waiver provision; optional.]	§141.23(a)(5)	ADOPTED BY REFERENCE	
The frequency of monitoring conducted to determine compliance with the maximum contaminant levels in §141.62 for arsenic shall be as follows: [Waiver provision; optional.]	§141.23(c)	ADOPTED BY REFERENCE	
All new systems or systems that use a new source of water that begin operation after January 22, 2004, must demonstrate compliance with the MCL within a period of time specified by the State. The system must also comply with the initial sampling frequencies specified by the State to ensure a system can demonstrate compliance with the MCL. Routine and increased monitoring frequencies shall be conducted in accordance with the requirements in this section.	§141.23(c)(9)	ADOPTED BY REFERENCE	
Where the results of sampling for arsenic indicate an exceedance of the maximum contaminant level, the State may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point.	§141.23(f)(1)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
For systems which are conducting monitoring at a frequency greater than annual, compliance with the maximum contaminant levels for arsenic is determined by a running annual average at any sampling point. If the average at any sampling point is greater than the MCL, then the system is out of compliance. If any one sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any sample below the method detection limit shall be calculated at zero for the purpose of determining the annual average. If a system fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.	§141.23(i)(1)	ADOPTED BY REFERENCE	
For systems which are monitoring annually, or less frequently, the system is out of compliance with the maximum contaminant level for arsenic if the level of a contaminant is greater than the MCL. If confirmation samples are required by the State, the determination of compliance will be based on the annual average of the initial MCL exceedance and any State-required confirmation samples. If a system fails to collect the required number of samples, compliance (average concentration) will be based on the total number of samples collected.	§141.23(i)(2)	ADOPTED BY REFERENCE	
Arsenic sampling results will be reported to the nearest 0.001 mg/L.	§141.23(i)(4)	ADOPTED BY REFERENCE	
Contaminant Methodology[13] EPA ASTM[3] SM[4] Arsenic[14] Inductively Coupled Plasma[15] [2]200.7 [15]3120B ICP-Mass Spectrometry [2]200.8 Atomic Adsorption; Platform [2]200.9 Atomic Adsorption; Furnace D-2972-93C 3113B Hydride Atomic Adsorption D-2972-93B 3114B	Table to §141.23(k)(1)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
[14]If ultrasonic nebulization is used in the determination of arsenic by Methods 200.7, 200.8, or SM 3120 B, the arsenic must be in the pentavalent state to provide uniform signal response. For methods 200.7 and 3120 B, both samples and standards must be diluted in the same mixed acid matrix concentration of nitric and hydrochloric acid with the addition of 100 µL of 30% hydrogen peroxide per 100 ml of solution. For direct analysis of arsenic with method 200.8 using ultrasonic nebulization, samples and standards must contain one mg/L of sodium hypochlorite.	Footnotes to Table to §141.23(k)(1)	ADOPTED BY REFERENCE	
Sample collection for arsenic under this section shall be conducted using the sample preservation, container, and maximum holding time procedures specified below:	§141.23(k)(2)	ADOPTED BY REFERENCE	
Contaminant / Preservative[1] / Container[2] / Time[3] Arsenic / Conc HNO_3 to pH<2 / P or G / 6 mo. [1] For cyanide determinations samples must be adjusted with sodium hydroxide to pH 12 at the time of collection. When chilling is indicated the sample must be shipped and stored at 4 deg. C or less. Acidification of nitrate or metals samples may be with a concentrated acid or a dilute (50% by volume) solution of the applicable concentrated acid. Acidification of samples for metals analysis is encouraged and allowed at the laboratory rather than at the time of sampling provided the shipping time and other instructions in Section 8.3 of EPA Methods 200.7 or 200.8 or 200.9 are followed. [2] P = plastic, hard or soft; G=glass, hard or soft. [3] In all cases samples should be analyzed as soon after collection as possible. Follow additional (if any) information on preservation, containers, or holding times that is specified in method.	Table to §141.23(k)(2)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
[Analysis under this section shall only be conducted by laboratories that have been certified by EPA or the State.] To receive certification to conduct analyses for arsenic, the laboratory must:	§141.23(k)(3)	ADOPTED BY REFERENCE	
[Achieve quantitative results on the analyses that are within the following acceptance limits:]	[§141.23(k)(3)(ii)]	ADOPTED BY REFERENCE	
Contaminant Acceptance Limit Arsenic..... ±30 at ≥0.003 mg/L [Some States adopt this by reference; if so, States should submit necessary paperwork.]	Table to §141.23(k)(3)(ii)	ADOPTED BY REFERENCE	
§141.24 ORGANIC CHEMICALS OTHER THAN TOTAL TRIHALOMETHANES, SAMPLING AND ANALYTICAL METHODS			
Systems monitoring annually or less frequently whose sample result exceeds the MCL must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.	§141.24(f)(15)(ii)	ADOPTED BY REFERENCE	
If a system fails to collect the required number of samples, compliance will be based on the total number of samples collected.	§141.24(f)(15)(iv)	ADOPTED BY REFERENCE	
If a sample result is less than the detection limit, zero will be used to calculate the annual average.	§141.24(f)(15)(v)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
All new systems or systems that use a new source of water that begin operation after January 22, 2004, must demonstrate compliance with the MCL within a period of time specified by the State. The system must also comply with the initial sampling frequencies specified by the State to ensure a system can demonstrate compliance with the MCL. Routine and increased monitoring frequencies shall be conducted in accordance with the requirements in this section.	§141.24(f)(22)	ADOPTED BY REFERENCE	
Systems monitoring annually or less frequently whose sample result exceeds the regulatory detection level as defined by paragraph (h)(18) of this section must begin quarterly sampling. The system will not be considered in violation of the MCL until it has completed one year of quarterly sampling.	§141.24(h)(11)(ii)	ADOPTED BY REFERENCE	
If a system fails to collect the required number of samples, compliance will be based on the total number of samples collected.	§141.24(h)(11)(iv)	ADOPTED BY REFERENCE	
All new systems or systems that use a new source of water that begin operation after January 22, 2004, must demonstrate compliance with the MCL within a period of time specified by the State. The system must also comply with the initial sampling frequencies specified by the State to ensure a system can demonstrate compliance with the MCL. Routine and increased monitoring frequencies shall be conducted in accordance with the requirements in this section.	§141.24(h)(20)	ADOPTED BY REFERENCE	
SUBPART F—MAXIMUM CONTAMINANT LEVEL GOALS			
§141.51 MAXIMUM CONTAMINANT LEVEL GOALS FOR INORGANIC CONTAMINANTS			
Contaminant MCLG (mg/L) Arsenic..... zero[1]	Table to §141.51(b)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
[1] This value for arsenic is effective January 23, 2006. Until then, there is no MCLG.	Footnote to Table to §141.51(b)	ADOPTED BY REFERENCE	
SUBPART G—NATIONAL REVISED PRIMARY DRINKING WATER REGULATIONS: MAXIMUM CONTAMINANT LEVELS			
§141.60 EFFECTIVE DATES			
The effective date for §141.62(b)(16) is January 23, 2006.	§141.60(b)(4)	ADOPTED BY REFERENCE	
§141.62 MCLS FOR INORGANIC CONTAMINANTS			
The maximum contaminant levels for inorganic contaminants specified in paragraphs (b)(2)-(6), (b)(10), and (b)(11)-(16) of this section apply to community water systems and non-transient, non-community water systems.	§141.62(b)	ADOPTED BY REFERENCE	
Contaminant MCL (mg/L) (16) Arsenic..... 0.01	Table to §141.62(b)	ADOPTED BY REFERENCE	
BAT for Inorganic Compounds Listed in Section 141.62(B) [Variances; optional.] Chemical name BAT(s) Arsenic[4]..... 1, 2, 5, 6, 7, 9, 12[5]	Table to §141.62(c)	ADOPTED BY REFERENCE	
4. BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V. [Variances; optional.] 5. To obtain high removals, iron to arsenic ratio must be at least 20:1. [Variances; optional.]	Footnotes to Table to §141.62(c)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
Key to BATs in Table [Variances; optional.] 1 = Activated Alumina 2 = Coagulation/Filtration (not BAT for systems <500 service connections) 5 = Ion Exchange 6 = Lime Softening (not BAT for systems <500 service connections) 7 = Reverse Osmosis 9 = Electrodialysis 12 = Oxidation/Filtration	Key to BATs in Table to §141.62(c)	ADOPTED BY REFERENCE	
SUBPART O—CONSUMER CONFIDENCE REPORTS			
§141.154 REQUIRED ADDITIONAL HEALTH INFORMATION			
Ending in the report due by July 1, 2001, a system which detects arsenic at levels above 0.025 mg/L, but below the 0.05 mg/L, and beginning in the report due by July 1, 2002, a system that detects arsenic above 0.005 mg/L and up to and including 0.01 mg/L:	§141.154(b)	ADOPTED BY REFERENCE	
Must include in its report a short informational statement about arsenic, using language such as: While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.	§141.154(b)(1)	ADOPTED BY REFERENCE	
Beginning in the report due by July 1, 2002, and ending January 22, 2006, a community water system that detects arsenic above 0.01 mg/L and up to and including 0.05 mg/L must include the arsenic health effects language prescribed by Appendix A to Subpart O.	§141.154(f)	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
APPENDIX A TO SUBPART O - REGULATED CONTAMINANTS			
	Table to Appendix A to Subpart O	ADOPTED BY REFERENCE	

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Inorganic contaminants:						
Arsenic (ppb)	[1]0.01	1000	[1]10	[1]0	Erosion of natural deposits; Runoff from orchards; runoff from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

1. These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.	Footnotes to Table to Appendix A	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT					FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
SUBPART Q—PUBLIC NOTIFICATION							
APPENDIX A TO SUBPART Q-NPDWR VIOLATIONS AND OTHER SITUATIONS REQUIRING PUBLIC NOTICE[1]							
	MCL/MRDL/TT violations[2]		**Monitoring & testing procedure violations**		Appendix A to Subpart Q, I.B.2	ADOPTED BY REFERENCE	
	Tier of public notice requi-red	Citation	Tier of public notice required	Citation			
B. Inorganic Chemicals (IOCs)							
2. Arsenic	2	[8]141.62(b)	3	[9]141.23 (a), (c)			
Redesignate endnotes 8 through 17 as endnotes 10 through 19 in the table and at the end of the table.					Appendix A to Subpart Q, I.B.2	ADOPTED BY REFERENCE	
8. The arsenic MCL citations are effective January 23, 2006. Until then, the citations are Sec. 141.11(b) and Sec. 141.23(n). 9. The arsenic Tier 3 violation MCL citations are effective January 23, 2006. Until then, the citations are Sec. 141.23(a), (l).					Footnotes to Appendix A, I.B.2	ADOPTED BY REFERENCE	

FEDERAL REQUIREMENT	FEDERAL CITATION	STATE CITATION (DOCUMENT TITLE, PAGE NUMBER, SECTION/PARAGRAPH)	DIFFERENT FROM FED. REQUIREMENT? EXPLAIN ON SEPARATE SHEET
APPENDIX B TO SUBPART Q-STANDARD HEALTH EFFECTS LANGUAGE FOR PUBLIC NOTIFICATION			
Contaminant Arsenic[11] MCLG[1] (mg/L) 0 MCL[2] (mg/L) 0.01 Standard health effects language for public notification: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.	Table to Appendix B to Subpart Q	ADOPTED BY REFERENCE	
1. MCLG-Maximum contaminant level goal. 2. MCL-Maximum contaminant level. 11. These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.	Footnotes to Table to Appendix B to Subpart Q	ADOPTED BY REFERENCE	

Section

IV

STATE RECORD KEEPING AND REPORTING CHECKLIST

There are no new State record keeping
or reporting requirements under the Arsenic Rule.

Section

V

ARSENIC ADDRESSED SPECIAL PRIMACY REQUIREMENTS

COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF HEALTH
PUBLIC WATER SUPPLY SUPERVISION PROGRAM

Commonwealth of Puerto Rico
Department of Health

Arsenic Rule § 146.16 Special Primacy Requirement

The following table contains the PRDOH Action/Compliance with the special primacy requirement of 40 CFR 142.16 for the implementation of the Arsenic Rule. This requirement is addressed in the same order that it occur in the rule.

Federal Requirement	Federal Citation	PRDOH Action/Compliance
If a State chooses to issue waivers from the monitoring requirements specified in 141.23, 141.24, and 141.40, the State shall describe the procedures and criteria which it will use to review waiver applications and issue waiver determinations.	§142.16 (j)1	PRDOH is not considering issuing monitoring waivers to PWS from the monitoring requirements specified in 141.23, 141.24, and 141.40. If for any circumstance PRDOH need to issue a monitoring waiver we will use the existing waiver criteria approved for primacy under the National Primary Drinking Water Regulation for the inorganic/organic contaminants (i.e., Phase II/V rules).
A monitoring plan by which the State will ensure all systems complete the required monitoring by the regulatory deadlines.	§142.16 (j)2	PRDOH will use the existing monitoring plan (schedule) we developed for implementing the Phase II/V rules (standardized monitoring framework) for IOC monitoring approved for primacy under the National Primary Drinking Water Regulation to ensure all systems complete the required monitoring by the regulatory deadlines.
States establish the initial monitoring requirements for new systems and new sources.	§142.16 (k)	PRDOH prior awarding endorsement for the development, construction and operation of a new systems/new sources requires to submit and comply with the initial monitoring requirements established in the manual "Requisitos del Departamento de Salud para Otorgar Endoso a Proyectos Relacionados con Acueductos Públicos" (Requirements of the Department of Health for Awarding Endorsement to Projects Related to Drinking Water Systems). See Section VII, Appendices. Also, PRDOH have developed initial monitoring program (schedule) for new systems/new sources based on the Phase II/V rules standardized monitoring framework. This schedule ensures that new systems/new sources comply with MCL's and monitoring requirements.

Section

VI

ATTORNEY GENERAL'S STATEMENT OF ENFORCEABILITY

The Attorney General
San Juan, Puerto Rico

August 21, 2000

Ms. Jeanne M. Fox
Regional Administrator
Environmental Protection Agency
Region II
290 Broadway
New York, New York 10007-1866

Re: Puerto Rico's Primacy Revision Application-Safe Drinking Water

Dear Ms. Fox:

According to the requirements established in Title 40 of the Code of Federal Regulation ("CFR"), §142.12, the Puerto Rico Department of Health ("PRDOH") has to obtain approval of program revisions undertaken to adopt the National Primacy Safe Drinking Water Regulations as promulgated in 40 CFR Part 141 (the "NPSDWR") in order to demonstrate its primary enforcement responsibility ("Primacy"). In its efforts to evidence its Primacy, the PRDOH has requested that we issue an opinion regarding its legal authority to adopt the amendments to the Safe Drinking Water Act ("SDWA") introduced in 1996 by Public Law 104-182 (the "SDWA Amendments"). We must also opine as to whether the PRDOH has duly incorporated the SDWA Amendments and if the adoption of said amendments has been done by adequate and enforceable means.

PRDOH's Role as Local Agency with Primacy

Puerto Rico Act No. 5 of July 21, 1977, 12 L.P.R.A. §1551, et seq., also known as the "Act to Protect the Purity of Drinking Water of Puerto Rico," (the "APPDWPR") authorized the Secretary of the PRDOH to protect the purity of the drinking water in Puerto Rico. Pursuant to the authority delegated in the APPDWPR, the Secretary of the PRDOH should issue appropriate regulations fixing the maximum contaminant levels for drinking water according to the criteria established by the Administrator of the Environmental Protection Agency. Puerto Rico Act No. 193, approved by the Puerto Rico Legislature on December 26, 1997, reasserted the PRDOH's primary responsibility for protecting the purity of drinking water and public health, in general, in this jurisdiction.

Regulation No. 50 adopted by the PRDOH on June 20, 1983, also known as "Regulation to Protect the Purity of the Drinking Water of Puerto Rico," ("Regulation 50") and its subsequent amendments were adopted to comply with the delegated power and responsibilities of the PRDOH under the APPDWPR and for the PRDOH to adequately function as the state agency with Primacy. On February 4, 2000, in an effort to update and clarify its role as the agency with

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Primacy in this jurisdiction, the PRDOH adopted Regulation No. 6090, also known as the "General Regulation of Environmental Health," ("PRDOH Regulation No. 6090") and derogated Regulation No. 50. For the sake of evidencing its unequivocal intent to comply with all SDWA requirements and with the SDWA Amendments, in particular, in Article II §1.02 of PRDOH Regulation No. 6090 the PRDOH adopted the totality of 40 CFR Part 141, as amended from time to time, by reference.

Requirements for a Showing of Primacy

We proceed to analyze the requirements established in the NPSDWR for a showing of Primacy and the local statutes and regulations that serve to grant Primacy to the PRDOH.

1. Under 40 CFR §142.10 (a), in order to establish its primary responsibility for public water systems, the PRDOH must adopt drinking water regulations no less stringent than those imposed by the NPSDWR.

   In compliance with this requirement, the PRDOH Regulation No. 6090 establishes in its Article II §1.02 that primary standards for drinking water will be fixed and regulated according to 40 CFR Part 141, as amended. Article II §1.06 (1) of PRDOH Regulation No. 6090 goes even farther than the requirement established in 40 CFR § 142.10 in as much as, in order to protect public health, it grants to the Secretary of the PRDOH the authority to impose more stringent standards on drinking water safety than those established on the SDWA and the CFR.

2. In 40 CFR § 142.10 (b)(2) it is required that the PRDOH systematically perform sanitary surveys of public water systems, prioritizing on water systems violating primary drinking water regulations.

   PRDOH Regulation No. 6090 adopted in its Article II §1.02, by reference, all requirements contained in 40 CFR Part 141, as it may be amended from time to time.

3. According to 40 CFR §142.10 (b)(6)(i), the PRDOH must have authority to apply its primary drinking water regulations to all public water systems in Puerto Rico. The PRDOH must also have statutory or regulatory enforcement authority adequate to assure compliance with locally adopted primary drinking water regulations, as necessary.

   Section 3 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the PRDOH to enforce drinking water regulations applicable to all water systems for human consumption.

   In Chapter II, Article II §1.04 of the PRDOH Regulation No. 6090, the PRDOH is authorized (a) to require that all water systems in Puerto Rico comply with NPSDWR requirements regarding safe drinking water, and (b) to immediately close any facility violating said requirements.

4. 40 CFR §142.10 (b)(6)(ii) requires that the PRDOH be able to sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of the State's primary drinking water regulations.

Section 5 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the Secretary of the PRDOH to take any actions deemed necessary to protect a water system and its users' health. These actions include, but are not limited to, the commencement of a civil suit and the request of a permanent or temporary injunction.

5. Under 40 CFR §142.10 (b)(6)(iii), the PRDOH must have right of entry and inspection of public water systems, including the right to take water samples, whether or not it has evidence of violations of an applicable legal requirement.

Section 3 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the Secretary of the PRDOH to conduct inspections and perform monitoring on water systems for human consumption.

Chapter I, Article IX § 2 of the PRDOH Regulation No. 6090 authorizes the inspection by the PRDOH of any drinking water system without previous notice.

Chapter I, Article IX § 5 of the PRDOH Regulation No. 6090 authorizes the Secretary of the PRDOH to take and analyze samples on water systems or any of its components to determine water quality and purity.

6. 40 CFR §142.10 (b)(6)(iv) requires that the PRDOH require suppliers of water to keep appropriate records and make appropriate reports to the State.

Article II §1.02 of the PRDOH Regulation No. 6090 adopted the 40 CFR Part 141, as amended, by reference.

Chapter I, Article IX § 5 of the PRDOH Regulation No. 6090 authorizes the Secretary of the PRDOH to require and examine any record from facilities or systems under its jurisdiction, as deemed necessary.

7. In order to comply with the requirements of 40 CFR §142.10 (b)(6)(v), the PRDOH must be authorized to require public water systems to give public notice according to requirements established in 40 CFR §§ 141.32 and 142.16 (a), respectively.

Section 7 of the APPDWPR, 12 L.P.R.A. §1551, et seq., requires a water system that is, in any way, in noncompliance with drinking water standards to immediately notify the nature and extent of the situation and its possible adverse health effects the local health office, the Secretary of the PRDOH and the media in the area served by the system. If the Secretary of the PRDOH so requires, said notice must be published in a daily newspaper of general circulation while the violation or variance exists, and must be included in water bills issued to system users. Article II §1.02 of the PRDPH Regulation No. 6090 adopted, by reference, the 40 CFR Part 141, as amended.

8. 40 CFR §142.10 (b)(6)(vi) requires that the PRDOH have authority to assess civil or criminal penalties for violation of the local primary drinking water regulations and public notification requirements, including the authority to assess daily penalties or multiple penalties when a violation continues.

Section 9 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the Secretary of the PRDOH to impose civil penalties not greater than five thousand dollars ($5,000.00) per day per violation of the APPDWPR, of regulations adopted by the PRDOH regarding drinking water, or of any administrative order issued relating to this matter.

Chapter III of the PRDOH Regulation No. 6090 authorizes the imposition of criminal penalties not greater than five thousand dollars ($5,000.00) per day per violation of Section I of Regulation No. 6090.

Violation of public notice requirements would constitute a violation of both of the APPDWPR and PRDOH Regulation No. 6090.

9. Pursuant to the requirements in 40 CFR §142.10 (b)(6)(vii), the PRDOH must be authorized to require consumer confidence reports to all community water systems. Said reports must be prepared according to 40 CFR Part 141, subpart 0.

Article II §1.02 of the PRDOH Regulation No. 6090 adopted, by reference, 40 CFR Part 141, as amended from time to time.

10. Under 40 CFR §142.10 (d)(1), if the PRDOH allows small system variances pursuant to Section 1415(e) of the SDWA, it must provide procedures no less stringent than the SDWA and Subpart K of this part.

Section 4 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the Secretary of the PRDOH to grant variances and exemptions to drinking water regulations, provided they are authorized under conditions not less rigorous than variances or exemptions allowed under federal law.

11. As required pursuant to 40 CFR §142.10 (d)(2), if the PRDOH permits other type of variances, or exemptions, or both, from local primary drinking water regulations, it shall do so under conditions and in a manner no less stringent than the requirements of §§ 1415 and 1416 of the SDWA. In granting these variances, the State must adopt EPA Administrator's findings of best available technology, treatment techniques, or other means available as specified in Subpart G of this part.

Article II §1.02 of the PRDOH Regulation No. 6090 adopted 40 CFR Part 141, as amended, by reference, and Article II §1.05 of said regulation authorizes variances and exemptions only according to 40 CFR Part 141.4.

12. 40 CFR § 142.10(e) requires the adoption and implementation of an adequate plan for the provision of safe drinking water under emergency circumstances including, but not limited to, earthquakes, floods, hurricanes, and other natural disasters.

Section 6 of the APPDWPR, 12 L.P.R.A. §1551, et seq., directs the Secretary of the PRDOH to promulgate a plan to supply drinking water in emergency circumstances, and authorizes the Secretary of the PRDOH to take any measures deemed necessary to supply it. The plan has been adopted and is periodically revised to reflect any relevant change of

circumstances in the island or its infrastructure, and changes regarding agency officials to be contacted.

13. 40 CFR §142.10 (f)(1) requires that the PRDOH have authority for assessing administrative penalties of at least $1,000 per day, per violation, for public water systems serving a population of more than 10,000 individuals. For public water systems serving a population of 10,000 or fewer individuals the penalties to be imposed by the PRDOH must be adequate to ensure compliance with local regulations. As long as these criteria are met, the maximum administrative penalty per violation to be assessed on a public water system may be determined by the PRDOH.

Section 9 of the APPDWPR, 12 L.P.R.A. §1551, et seq., authorizes the Secretary of the PRDOH to impose civil penalties not greater than five thousand dollars ($5,000.00) per day, per violation of the APPDWPR, of regulations adopted by the PRDOH regarding drinking water, or of any administrative order issued relating to this matter.

Chapter III of the PRDOH Regulation No. 6090 authorizes the imposition of criminal penalties not greater than five thousand dollars ($5,000.00) per day per violation of regulations contained on Section I of PRDOH Regulation No. 6090.

Administrative Order No. 2000-27500 issued on August 18, 2000, by the Secretary of the PRDOH specifically requires that any penalty imposed on public water systems serving a population of more than 10,000 individuals must be of at least $1,000 per day per violation, and for public water systems serving a population of 10,000 or less individuals, penalties assessed must adequately deter future violations of applicable regulations.

14. The state agency must administer a Public Water Supply Supervision Program ("PWSS") pursuant to Section 1413 of the SDWA.

The PRDOH administers its PWSS pursuant to Section 1413 of the SDWA and the primary enforcement authority delegated to the PRDOH by the Administrator of the EPA, through communication dated March 1, 1980.

The preceding analysis of the authorities and functions delegated to the PRDOH in the previously reviewed statutes and regulations reveals, in our opinion, that the PRDOH is fully authorized by the APPDWPR to adopt and enforce the SDWA Amendments, that the referenced amendments have been lawfully adopted by the PRDOH and are enforceable through legally adequate means.

Respectfully,

Edda Serrano Blasini
Deputy Attorney General

COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF JUSTICE
PO BOX 00192, SAN JUAN, PUERTO RICO 00902-0192

ADDRESS ALL COMMUNICATIONS TO THE SECRETARY

June 5, 2002

Hon. Johnny Rullán
Secretary
Department of Health
PO Box 70184
San Juan, Puerto Rico 00936-0184

Opinion No. 227-02-A
Translated

Dear Secretary Rullán:

This letter is in response to your request for an opinion as to the legal basis upon which the Department of Health of the Commonwealth of Puerto Rico (Department) may adopt, by reference, the amendments to the regulations administered by the Environmental Protection Agency (EPA).

On March 5, 2002, the Department of Health enacted Regulation No. 6090, *General Regulation for Environmental Health* (General Regulation), pursuant to the provisions of Act No. 5 of July 21, 1977, as amended, *Act to Protect the Pureness of Drinking Water of Puerto Rico*, 12 PR Laws Ann. §§ 1551 *et seq* (Act No. 5). The General Regulation established the standards to be met with regards to the drinking water in Puerto Rico. Towards that end, it provides for the adoption, by reference, of the amendments that may be approved to sections 141 to 143 of Title 40 of the Code of Federal Regulations (CFR) and the *Safe Drinking Water Act* (SDWA) without complying with the requirements established by Act No. 170 of August 12, 1988, as amended, *Uniform Administrative Procedure Act of the*

Commonealth of Puerto Rico, 3 PR Laws Ann. §§ 2101 *et seq* (Administrative Act).

You indicate that the EPA questions the validity of adopting amendments by reference, without complying with the procedure of the Administrative Act. On August 21, 2000, then Acting Secretary of Justice, Edda Serrano Blasini, Esq., issued an opinion addressed to Mrs. Jeanne M. Fox, an oficial of the EPA, expressing that the Department had complied with the requirements established by the *National Primacy Safe Drinking Water Regulation*, as stated in section 141 of the CFR. The opinion certified that such rules were validly adopted and incorporated into Puerto Rico's legal system. However, the opinion did not state the basis in law and jurisprudence that allowed the Department to adopt federal regulations by reference. This letter intends to fulfill such omission.

Act No. 5 was approved in order to regulate compliance with the standards for the purity of the drinking water, as well as the level of tolerance of contaminants. By virtue of section 3 of Act No. 5, the Secretary of Health (Secretary) is conferred the authority to enact and enforce the rules necessary to ensure the safety of drinking water in Puerto Rico, in accordance to the criteria established by the EPA. This includes the adoption of procedures for monitoring and inspection.

The regulations issued by the Secretary under Act No. 5 are aplicable to all the systems that offer water for human consumption in Puerto Rico. Section 4 of Act No. 5 provides that the Secretary can establish variations and waivers to the approved regulations. This includes the power to adopt the conditions he deems necessary and desirable, as long as such conditions are not less strict than the ones established by the federal regulations under the SDWA.

In its provisions regarding the safety of drinking water, the General Regulation establishes that the adoption of primary and secondary contaminant standards of drinking water, as well as the operation of the water systems, are to be ruled by the aplicable federal regulations in the CFR and the SDWA, as they may be amended.

The constitutionality of the delegation of power to a public agency by the Legislative Branch is determined by the boundaries prescribed with the delegation in question. In addition, the scope of the power granted to an agency must be examined in light of the methods of control present in the statutes aplicable to the specific agency. D. Fernández, Derecho Administrativo y Ley Uniforme de Procedimientos Administrativos, Forum, 2da Ed, 2001. Therefore, the analysis regarding the validity of the power an administrative action must begin with the boundaries limiting the power and the statutory context in which they appear.

The doctrine which prescribes the proper delegation of power is jurisprudential and is based on broad and general principles. Due to the complexity of the current social and economic problems faced by modern legislation, the doctrine in this field establishes that the delegation of power to administrative agencies is more efficient when done in terms of broad and general standards. Hilton Hotels v. Junta de Salario Mínimo, 74 DPR 670, 698 (1953). See also, American Power & Light v. Security Exchange Comission, 329 US 90 (1946).

The validity of an administrative agency's power to adopt regulations must be examined in accordance to the following standard: (1) the administrative action is authorized by law; (2) the administrative agency is invested with the power to issue regulations; (3) the regulations enacted fall within the boundaries of the delegated powers; (4) the rules were enacted in compliance with the procedural norms established by the organic act, and any other applicable statute, (5) the rules are not arbitrary or capricious. M & B.S., Inc. v. Departamento de Agricultura, 118 DPR 319 (1987). Consequently, the legislative delegation can be wide and flexible, as long as the regulations issued remain in harmony with the statutory provisions under which they are enacted. Ex Parte Irizarry, 66 DPR 672 (1946). Otherwise, the regulation faces a potential risk of ilegal. Franco Dominicci v. Departamento de Educación, Opinion and Judgment of June 30, 1999, 99 JTS 108.

As stated above, Act No. 5 authorizes the Secretary to enact such regulations as he finds necessary, within the parameters for drinking water established by the EPA, as long as they are not less rigorous than the federal regulations. The General Regulation explicitly contains said statutory

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limitation. The main guiding principle for the administrative action is precisely the federal rules, specificly sections 141 to 143 of the CFR. Therefore, the Regulation meets the standard mentioned above. The Secretary posseses legal power to enact those provisions as he deems necessary, without any additional requirement besides the delegation already given by the Legislative Branch.

Further, the adoption by reference of any amendment that may be enacted to the CFR and to the SDWA, implies that changes of a substantive nature will take place in the local regulation with every amendment to the federal rules. However, any intended amendment or modification to the local regulation must be done in compliance with the provisions of the Administrative Act in order to be valid.

The Administrative Act was approved with the purpose, among others, of creating a uniform body of minimum rules with which the agencies subject to said statute must comply whenever they intend to propose and adopt regulations. Said statute establishes the proceedings to be followed to implant regulations.

However, the *General Provisions* contained in the corresponding sub-chapter, 3 PR Laws Ann. § 2103, exempts the agencies from complying with the requirements of the Administrative Act whenever they determine it is necessary in order to avoid the denial of funds or sevices by the federal government of the United States of America. Said section acknowledges the discretionary power of the agencies to shape and conform their administrative procedures to those required by the aplicable federal laws, without complying neither with the provisions of the Administrative Act or the *Administrative Procedure Act*, 5 USC §§ 551 *et seq.* This waiver from said statutes is complete, except for the requirements concerning the publication of the rules.

In accordance to the aforementioned jurisprudence, it is clearly evident that the Legislative Branch has empowered the Secretary to enact and enforce the regulations he deems necessary to monitor and supervise the drinking waters in Puerto Rico, according to the standards established by the Administrator of the EPA. As part of the duties imposed by Act No. 5, the

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Secretary manages the Revolving Fund for Potable Waters in Puerto Rico, which receives grants assigned by the EPA and the federal government.

In adopting the amendments by reference, is not under the obligation to hold public hearings prior to the enactment of said rules, nor comply with any other provision of the Administrative Act. However, he shall comply with the requisite of disclosure and publication established in the Administrative Act, whenever the amendments to the federal regulations substantially affect the General Regulation.

Hoping that the aspects discussed above will be helpful, I remain,

Cordially yours,

Anabelle Rodríguez
Secretary of Justice

Section

VII

APPENDICES

- "Requisitos del Departamento de Salud para Otorgar Endoso a Proyectos Relacionados con Acueductos Públicos" (Requirements of the Department of Health for Awarding Endorsement to Projects Related to Drinking Water Systems).

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

GENERALES

1. Someter una (1) copia completa (revisada y firmada) del set de planos de construcción.

2. Someter dos (2) copias de la memoria descriptiva del proyecto.

3. Evidenciar que el sistema de agua que suplirá a el proyecto tiene el caudal suficiente para brindarle un adecuado y contínuo servicio a los usuarios, tomando en consideración que esto no representa sobrecargas al sistema existente (someter "Preliminary Engineering Report" ó estudio realizado sobre el particular).

4. Someter evidencia de que el **Dueño o Encargado** tiene la capacidad administrativa para operar y mantener un sistema de agua público tal como lo requiere las Enmiendas a la Ley de Agua Potable Segura del 1996.

COBROS POR SEVICIOS LEY 101

Conforme a la ley #101 del 26 de marzo de 1999, los sevicios de la Secretaría Auxiliar para Salud Ambiental será facturados a partir del 1ro de julio de 1999.

La ley autoriza el cobro y facturación por el Departamento, de las siguientes tarifas:

a. Endoso de construcción ..... $ 50.00
b. Certificaciones/endosos ..... $ 25.00

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

POZOS DE AGUA POTABLE

1. Someter resultados de análisis recientes, efectuados por un Laboratorio Certificado, para lo siguiente: Químico (orgánico/inorgánico), bacteriología, físico y VOC's para el pozo propuesto (véase Reglamentación vigente, Pág.15).

2. Someter copia del permiso del Departamento de Recursos Naturales donde aprueben el uso y extracción de agua.

3. Someter documentos que demuestren la persona natural o jurídica encargada en el mantenimiento y funcionamiento del sistema de acueductos, que será responsable también de cumplir con la reglamentación primaria para agua potable.

4. Mostrar y evidenciar que el pozo propuesto estará en una zona libre de fuentes potenciales de contaminación (someter encuesta sanitaria reciente).

5. Demostrar que el pozo propuesto, no afectará el rendimiento en bombeo y calidad del agua de pozos adyacentes.

6. Se debe evitar el localizar parte o toda la nueva o ampliada facilidad en un área que esté sujeta a:

   a. un riesgo significativo de temblores de tierra, fuego u otros desastres que puedan causar una rotura del sistema de agua público.

   b. inundaciones, excepto que la estructura esté ubicada sobre el nivel de inundaciones previsto para un término de cien (100) años, o se provea una bomba de tipo sumerjible.

7. Someter en adición a los planos de construcción, información técnica tal cómo:

   a. perfil litológico
   b. radio de influencia
   c. profundidad (camisilla del pozo)
   d. nivel freático y de bombeo
   e. curva de rendimiento
   f. dirección de flujo del acuífero
   g. etc.

8. Someter detalles de la conexión del pozo o pozos con la red de distribución.

9. Se requiere que se le provea al pozo lo siguiente:

   a. verja de alambre eslabonado
   b. rotulación especificando prohibida la entrada a personas ajenas y para la identificación de las facilidades
   c. estructura para almacenaje de productos químicos y equipo de desinfección (incluyendo detalles de la instalación)

d. tanque para preparar la solución de cloro, con doble cámara; superior e inferior
e. batidor eléctrico en la cámara inferior del tanque de solución
f. detalles del tipo de bomba instalada
g. impermeabilización (base y camisilla selladas con hormigón)
h. válvula aliviadora de presión ("air relief") o ventosa
i. válvula tipo "back - pressure & check valve" la cual impide retroflujo y regula el flujo de agua
j. medidores de presión antes y después de la reguladora
k. medidor de flujo (debe ser instalado antes de la aplicación del desinfectante)
l. sistema de encendido y apagado automático de la bomba del pozo, simultáneamente con el clorador
ll. desagüe en la línea de suplido a la salida del pozo
m. grifo sin rosca antes y después del punto de aplicación del desinfectante (diez (10) pies mínimos después del punto de aplicación)
n. sistema de electrodos el cual permita el cese de bombeo cuando el nivel en el acuífero sea muy bajo
ñ. válvula selenoide en la línea que suple aceite desde la reserva a la empaquetadora, conectada al sistema de encendido automático del motor
o. iluminación exterior (sobre el área del pozo)
p. pavimentación con hormigón al área del arreglo de tubería (muñeco)
q. la incorporación de la línea que suple agua al tanque de solución debe ser hecha después del punto de aplicación del desinfectante
r. etc.

11. En pozos que utilizarán cloro gas como desinfectante se requiere además:

a. escala (balanza de cilindros)
b. clorador (controla el nivel para dosificación)
c. sistema de "switchover" (alterna el uso de cilindros)
d. sistema de alarma en caso de escape de cloro
e. válvula selenoide para detener la dosificación de cloro gas cuando se detenga el bombeo
f. botiquín de emergencia
g. plan de contingencia (escrito) donde se tomen las medidas correctivas en caso de un escape de cloro, tanto en el área del pozo como en la oficina del encargado de mantenimiento del mismo.
h. cadenas para amarar los cilindros de cloro
i. extractor de gases
j. puerta antipanica
k. rotulación del cuarto
l. "Emergency Kit" para los cilindros de cloro
m. "Shower & Eye /Face Wash"

12. Si se determina que el pozo esta influenciado por agua supercicial, se requiere el uso de filtración u que se provea lo siguiente:

a. Las especificaciones del sistema de filtración.
b. Manual de Operación
c. Cumplir con CT.

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

INSTALACION DE TUBERIAS

1. El Departamento de Salud requiere las siguientes notas en los Planos de los Proyectos que requieran la instalación de tubería ya sea soterrada o expuesta.

    a. se instalará la tubería de Agua Potable 18" (.46 mts) mínimo sobre la tubería de alcantarillado Pluvial o Sanitario cuando éstas se crucen. De no ser posible, se le proveerá cimentación en hormigón al tubo de Agua Potable.

    b. no se permitirá el cruce o contacto de tubería de Agua Potable con un registro Sanitario o Pluvial.

    c. se mantendrá separada la tubería de Agua Potable a no menos de 10 pies (3.05 mts) de la tubería de alcantarillado Sanitario o Pluvial cuando éstas discurran paralelas. Podrá ser menor la distancia si la tubería de Agua Potable se instala 0.46 mts (mínimo) por encima de la tubería sanitaria y/o pluvial o se le provea la debida protección de hormigón.

    d. se prohibe el uso del plomo en tubería de agua potable, uniones, anillas en los tanques, expansiones, etc.

    e. toda instalación de tubería deberá ser realizada por un maestro u oficial plomero con licencia correspondiente.

2. Deben existir drenajes y ventosas en puntos a lo largo del tramo o red de instalación, de manera de poder drenar las líneas en cualquier tramo y proveer escape de aire de surgir la necesidad.

3. Se requiere proveer detalles ampliados de drenajes y ventosas a instalarse.

4. Se requiere una conexión múltiple en aquellos lugares donde exista o surja un punto muerto "Dead End" y especificar detalle en el plano (Ref. Normas de Acued. 2.07.05-c).

5. Eliminar toda conexión cruzada ("Cross Conection") que se detecte.

6. Se debe incorporar una nota aclaratoria en los planos donde especifique toda desconexión física de líneas existentes propuestas a abandonarse, con la tubería nueva o línea matríz.

7. Se requiere que dueno o encargado someta documentación que pruebe la realización de pruebas de presión y desinfección a las líneas instaladas.

8. Se requiere un detalle ampliado en aquellos puntos donde exista una intersección (cruze o contacto) con la línea propuesta a instalarse.

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

ESTACION DE BOMBAS

1. El requisito primordial en cuanto a bombas se refiere, es que no se sobrecargue el sistema ya que:

   a. tiende a producir más agua potable en menos tiempo, afectando así el proceso de purificación, ó

   b. aumenta las presiones en las líneas de suplido, creando roturas.

2. Proveer sistema telemétrico el cual permita el apagado de bombas automático, cuando tanques se llenen o surja alguna falla en el sistema.

3. Se requiere que se le provea a la estación de bomas lo siguiente:

   a. válvula aliviadora de presión (air relief)
   b. reguladora de presión
   c. medidores de presión antes y después de la válvula reguladora
   d. gráfico de presión (ofrece promedio del consumo por hora)
   e. grifo sin rosca para la toma de muestras
   f. etc.

4. La base de la bomba debe de estar sellada totalmente en el punto de unión con la camisilla y no se permite abertura.

5. Proveer "trolley" para facilitar el levantamiento de las bombas.

6. Prooveer iluminación sobre el área de la estación de bombeo.

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

TANQUES DE RESERVA

1. El perímetro del tanque debe estar cercado (verja de alambre eslabonado) y en los planos debe haber detalles sobre el particular.

2. Se requiere rotulación para la identificación de las facilidades y para especificar la prohibición de la entrada a personas ajenas.

3. Se requiere cimentación con hormigón (acera) alrededor del tanque si la capacidad del mismo excede los 3,500 gals.

4. Se requiere el uso de ventiladores y que se le provea malla o rejilla protectora de material no corrosivo.

5. Se requiere levantar 1" (pulg.) mínimo sobre el nivel de piso el tubo guía de la válvula de boya y proveerle malla protectora protectora de material no corrosivo (se debe incluír detalles en los planos sobre el particular).

6. La caseta de la válvula de boya debe de estar protejida contra vandalismo, y debe tener un tornillo tipo argolla en la parte interior del techo para levantamiento de la válvula.

7. La escotilla de acceso al tanque debe estar a dos (2") pulgadas mínimo sobre el nivel de piso y debe ser de material no corrosivo y se debe proveer detalles en los planos sobre el particular.

8. Se requiere barra y candado en la escotilla de acceso al tanque.

9. La escalera interior del tanque debe de ser de material no corrosivo.

10. Las expanciones que sujetarán abrazaderas (steel strap) en el interior del tanque no pueden ser de Plomo.

11. El fondo del tanque debe tener sumidero (sump) y pendiente (slope) en dirección de éste.

12. El desagüe tiene que estar a nivel del fondo del sumidero.

13. Se requiere junta de goma u otro material entre el piso del tanque y las paredes para evitar la fuga de agua hacia el exterior.

14. La salida de agua hacia la distribución debe de estar a 4" (pulg.) mínimo sobre el nivel del fondo del piso del tanque y fuera del área del sumidero.

15. El arreglo de tubería propuesto será de tal manera que no exista unión entre tubería sanitaria ó desagüe con tubería de Agua Potable.

16. Se requiere el uso de válvula de chapaleta (flap valve) al final del tubo de desagüe.

17. Tuberías propuestas a abandonarse deben ser selladas incorporando un tapón y sello de hormigón (cap & concrete block).

18. No se permite el uso del plomo para soldar niples a las anillas encrustadas en el tanque.

19. No se permite el uso de válvulas de cierre en el tubo de aliviadero (overflow).

20. No se permite el uso de válvulas de cierre en el tubo de desagüe después de la conexión con el tubo de aliviadero.

21. No se permite abertura en ninguna de las paredes del tanque incluyendo el techo (según aplique) expuesta a contaminación externa.

22. Se requiere que el tanque tenga un sistema mecánico o eléctrico que controle (regule) la entrada de agua hacia el tanque (válvula de boya, sistema telemétrico, "tank trol").

23. Se requiere eliminar toda conexión cruzada existente o a instalarse en el tanque, mediante la instalación de un "check valve" u otro aditamento aceptable.

24. Se requiere eliminar toda conexión que se pueda identificar como "by pass" ya que esto se presta para que agua que no ha recibido el tratamiento completo vaya al consumidor.

25. Se requiere instalar la tubería de desagüe debajo de la tubería de agua potable en aquellos lugares en que ambas se cruzan, de lo contrario proveer la debida protección de hormigón a la tubería de agua potable.

26. Se requiere instalar grifos sin rosca para la toma de muestras de agua.

27. Es deseable que el tanque tenga doble cámara de manera de ofrecer mantenimiento adecuado sin que los usuarios sean afectados.

28. Se requiere proveer limpieza y desinfección interior previo a su uso y operación.

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

PLANTAS DE FILTRACION

1. Evidenciar que la toma de agua o cuerpo de agua seleccionado como fuente de abasto estará en una zona libre de fuentes potenciales de contaminación (someter encuesta sanitaria reciente).

2. Someter copia del permiso del Departamento de Recursos Naturales donde aprueben el uso y extracción de agua de la fuente de abasto propuesta.

3. Someter resultados de análisis recientes, efectuados por un Laboratorio Certificado, para lo siguiente: Químico (orgánico/inorgánico), bacteriología, físico y VOC's para la fuente de abasto propuesta (véase Pág. 15).

4. Si la planta a instalarse es compacta, favor de someter información y/o especificaciones para conocer su operación y mantenimiento, que por lo general no se evidencia en los planos.

5. Se debe evitar el localizar parte o toda la nueva o ampliada facilidad en un área que esté sujeta a:

   a. un riesgo significativo de temblores de tierra, fuego u otros desastres que puedan causar una rotura del sistema de agua público.

   b. inundaciones, excepto que la estructura esté ubicada sobre el nivel de inundaciones previsto para un término de cien (100) años, o se provea una bomba de tipo sumerjible.

6. La persona natural o jurídica encargada de la administración y mantenimiento del proyecto debe asegurarse que el diseño y construcción de las facilidades nuevas sean capaces de cumplir con la reglamentación primaria para agua potable, establecida por el Reglamento No. 50 del Secretario del Departamento de Salud.

7. Incluír las siguientes notas en el set de planos:

   a. se prohibe el uso del plomo en tuberías de agua potable, uniones, juntas, expansiones, etc.

   b. se requiere rotular las facilidades y áreas de tratamiento de la planta, equipos, dosificadores, cloradores, etc.

   c. se requiere codificar con colores las tuberías y líneas de aplicación de químicos en el "field" de acuerdo al Código Internacional (además, favor de incluír leyenda al respecto (véase hoja No. 14).

8. Proveer a las facilidades en la planta de filtración de;

   a. sistema de comunicación
   b. equipo de pruebas y reactivos
   c. equipo de seguridad (máscara de polvo, guantes, etc.)
   d. "Emergency Kit"
   e. "Shower & eye/face wash"
   f. "dust collector"

   Favor someter evidencia (literatura, submittal, etc.) en el cumplimiento de éste "item" y proveer nota en los planos de lo requerido.

9. Eliminar toda conexión que se pueda identificar como "by pass" ya que esto se presta para que agua que no ha recibido el tratamiento completo vaya al consumidor.

10. Se requiere que el cuarto del operador sea independiente del cuarto utilizado para almacén de productos químicos (cloro, cal, alúmina, etc.).

11. Se requiere que el cuarto del operador esté ubicado en un área de fácil acceso o salida en caso de un escape de cloro.

12. Se requiere un diagrama del proceso de tratamiento donde se incluya lo siguiente;

    a. todas las líneas de aplicación de químicos
    b. líneas de suplido a las diferentes dosificadoras
    c. líneas para "back flushing water"
    d. posición de los "backflow-preventer"
    e. válvulas selenoides para el sistema de cloración
    f. sistema de "switchover"
    g. válvulas & "flush drain" a las diferentes líneas de aplicación de químicos
    h. posición del mezclador (line mixter) favor de someter detalles al respecto
    i. ilustrar grifos para la toma de muestras
    j. leyenda de las líneas de aplicación de químicos
    k. posición de la torre de aereación
    l. etc.

13. Proveer equipo de medición continuo para turbidez a la salida de los filtros. Este debe registrar las lecturas graficamente.

14. Se requiere diagrama del medio filtrante (filtros) donde se especifiquen las diferentes capas de material filtrante y el espesor de éstas.

15. Se requiere diagrama de la distribución de agua (water supply) de las facilidades.

16. Se requiere diagrama de la distribución del sistema sanitario de las facilidades.

17. Se requiere una vista de planta (top view) del cuarto de controles donde se ilustre claramente;

    a. sistemas de cloración (balanza, "switchover", cloradores, válvulas selenoides, extractor, cadenas para amarrar cilindros, etc.)

b. dosificadoras & líneas de inyección: la línea de inyección de cal debe ser 2 pulg. diam. (mín.) y debe tener sistema para drenaje y "flushing". Si la línea es expuesta: proveer uniones universales cada 10 ó 20 pies para facilitar la limpieza de la misma

c. dispositivo (sistema) automático para detener la dosificación al detenerse la operación de la planta

d. "backflow preventer" en las líneas de agua potable que alimentan las distintas dosificadoras y cloradores

e. alarma de cloro

f. rotámetros

g. facilidades de laboratorio

h. facilidades sanitarias

i. "shower & eye/face wash"

j. etc.

18. Se requiere un detalle isométrico ampliado de los diferentes dosificadores a utilizarse en el proceso de tratamiento donde incluya;

    a. localización exacta
    b. válvulas
    c. drenajes
    d. líneas de aplicación
    e. "back flushing"
    f. etc.

19. Se requiere detalle ampliado del tanque de coagulante donde se indique;

    a. punto de aplicación
    b. tuberías de entrada y salida
    c. rotámetro
    d. escala para determinar nivel
    e. tanque pequeño para aplicar por gravedad (si aplica)
    f. etc.

20. Se requiere someter en adición todas las secciones y/o vistas de planta (top view) que sean necesarias para determinar el buen funcionamiento del sistema de acueductos.

21. Se requiere instalar grifos sin rosca para la toma de muestras al finalizar los diferentes procesos y a la entrada de agua cruda.

22. Se requiere la instalación de un medidor de flujo para Agua Potable y uno para agua de recirculación.

23. Se requiere proveer iluminación exterior a cada módulo de la planta de filtración (filtros, tanques de sedimentación, planta compacta, etc.) e incluír detalles en las hojas eléctricas del plano.

24. Proveer equipo de medición continuo para cloro residual a la salida del tanque de distribución. Este debe registrar las lecturas graficamente.

25. Toda pintura y/o "coating" utilizado para pintar o sellar interiormente (tanques, líneas, dosificadoras, silos, etc.) debe estar aprobada por NSF (National Sanitation Foundation) y deberán someter especificaciones de dicha pintura y/o "Coating" a nuestro Departamento de Salud.

26. Proveer alfombra dieléctrica en el cuarto de controles eléctricos.

27. En adición a los grifos en el "field" para la toma de muestras, el laboratorio tendrá una línea representativa de cada uno de los diferentes procesos de tratamiento para realizar sus pruebas concernientes a la calidad de agua (agua cruda, decantada, filtrada, etc.).

28. Se requiere Planta Auxiliar de Energía Eléctrica con capacidad suficiente para operar los equipos de dosificación y bombas de suplido de agua filtrada y debe estar ubicada la misma fuera del área utilizada para dosificación, laboratorio y cuarto del operador.

29. Se requiere que la Planta de Filtros cumpla con los requisitos de este Departamento para el tiempo de contacto mínimo requerido "C.T. Value ».

REQUISITOS DEL DEPARTAMENTO DE SALUD PARA OTORGAR ENDOSOS A PROYECTOS RELACIONADOS CON ACUEDUCTOS PUBLICOS

SISTEMA DE RECIRCULADO (SISTEMA DE TRATAMIENTO DE CIENOS)

1. Se requiere un diagrama del proceso de recirculación donde se incluya lo siguiente;

    a. la red de recirculación (incluyendo tratamiento ofrecido)

    b. válvulas

    c. "fittings"

    d. mecanismo (sistema) para disponer el agua clarificada fuera de la planta de filtración en caso de no poder realizar la recirculación

    e. grifos para la toma de muestras

    f. medidor de flujo en la línea de agua clarificada que se recircula al proceso de la planta de filtración

    g. aplicación de cloro al tanque espesador("thickener"). Sistema de aplicación de cloro independiente al sistema de cloro pre y post

    h. etc.

2. Se requiere una vista de planta (top view) del cuarto de controles donde se ilustre claramente;

    a. sistemas de cloración independiente (balanza, "switchover", cloradores, válvulas selenoides, extractor, cadenas para amarrar cilindros, etc.)

    b. dispositivo (sistema) automático para detener la dosificación al detenerse la recirculación

    c. "backflow preventer" en las líneas de agua potable que alimentan las distintas dosificadoras y cloradores

    d. alarma de cloro

    e. rotámetros

    f. etc.

3. Se requiere la instalación de un medidor de flujo para agua de recirculación.

4. En plantas de filtración las cuales proyectan incorporar la recirculación del agua de lavado (water sludge) se requiere;

   a. toda agua a recircularse al proceso de purificación de la planta de filtración proveniente del lavado de filtros y de lavado del tanque de decantación deberá ser tratados en su totalidad y a su ves será incorporada antes de todo proceso de tratamiento y a su ves será incorporada antes de todo proceso de tratamiento (aereación, coagulación, decantación, filtracíon y desinfección)

   b. ilustrar en los planos la forma de disponer de los lodos generados (proceso)

   c. el caudal de recirculación no debe exceder el veinte porciento (20%) de la capacidad de diseño de la planta

   d. se proveerá un plan de contigecia

   e. cumplir con Orden Administrativa 1990-IV-A-90

CODIGO INTERNACIONAL DE COLORES PARA CODIFICACION DE TUBERIAS DE AGUA

1) Agua Cruda - Verde Olivo

2) Agua Sedimentada o Clarificada - Azul claro

3) Agua Tratada o Potable - Azul oscuro

4) Alúmina – Anaranjado

5) Carbón – Negro

6) Caustica – Amarillo con franja verde

7) Cloro (Gas o Líquido) - Amarillo claro

8) Fluoruro – Azul Claro con franja roja (**Amarillo claro con franjas rojas**)

9) Cal - Verde claro

10) Ozono – Amarillo con franja anaranjada

11) Polímero – Anaranjado con franja verde

12) Sada ash – Verde claro con franja anaranjadas

13) Acido Sulfurico – Amarillo con franja roja

14) Dioxodo sulfurico – Verde Claro con franja amarilla

15) Agua de Lavado - Marrón claro

16) Lodos – Marrón oscuro

17) Tubería Sanitaria - Gris oscuro

18) Aire Comprimido - Verde oscuro

12) Gas - Rojo

13) Otras Tuberías - Gris claro

DRINKING WATER
REQUIRED PARAMETERS

Bacteriology

Total Coliforms
Fecal Coliforms

Volatile Organic Chemicals

Vinyl Chloride
Benzene
Carbon Tetrachloride
1,2 Dichloroethane
Trichloroethylene
p - Dichlorobenzene
1,1 - Dichloroethylene
1,1,1 - Trichloroethane
cis - 1,2 - Dichloroethylene*
1,2 - Dichloropropane*
Ethylbenzene*
Monochlorobenzene*
o - Dichlorobenzene*
Styrene*
Tetrachloroethylene*
Toluene*
trans - 1, 2 - Dichloroethylene*
Xylenes (Total)*
Dichloromethane*
1,2,4 - Trichlorobenzene*
1,1,2 - Trichloroethane*
m - Dichlorobenzene
Chloroform
Bromodichloromethane
Chlorodibromomethane
Bromoform
Dibromomethane
1,1 - Dichloropropene
1,1 - Dichloroethane
1,1,2,2 - Tetrachloroethane
1,3 - Dichloropropane
Chloromethane
Bromomethane
1,2,3 - Trichloropropane
1,1,1,2 - Tetrachloroethane
Chloroethane
2,2 - Dichloropropane
o - Chlorotoluene

Volatile Organic Chemicals

p - Chlorotoluene
Bromobenzene
1,3 - Dichloropropene

Inorganic Chemicals

Aluminum**
Antimony*
Arsenic
Asbestos*
Barium*
Beryllium*
Cadmium*
Chromium*
Cyanide*
Copper
Fluoride
Iron**
Lead
Manganese**
Mercury*
Nickel*
Nitrate*
Nitrite*
Selenium*
Silver**
Sodium
Sulfate*
Thallium*
Zinc**

Hierbicides/Pesticides

Alachlor*
Atrazine*
Carbofuran*
Chlordane*
Dibromochloropropane*
2,4 - D*
Ethylene Dibromide*
Heptachlor*
Heptachlor Epoxide*

Hierbicides/Pesticides

Lindane*
Methoxychlor*
Polychlorinated biphenyls*
Toxaphene*
2,4,5, - TP*
Pentachlorophenol*
Benzo (a) pyrene*
Dalapon*
Di (2-ethylhexyl) adipate*
Di (2-ethylhexyl) phthalate*
Dinoseb*
Diquat*
Endothall*
Endrin*
Glyphosate*
Hexachlorobenzene*
Hexachlorocyclopentadiene*
Oxamyl (Vydate)*
Picloram*
Simazine*
2,3,7,8 TCDD (Dioxin)*
Aldrin
Butachlor
Carbaryl
Dicamba
Dieldrin
3 - Hydroxycarbofuran
Metolachlor
Metribuzin
Aldicarb*
Aldicarb Sulfone*
Aldicarb Sulfoxide*
Methomyl
Propachlor

Radionuclides

Radium 226
Radium 228
Gross Alfa
GrossBetta
Uranio

Physical Parameters

Total Hardness, $CaCO_3$
Chloride**
Turbidity
Total Residues at 103EC
Color**
Total Alkalinity at pH
Hardness of Calcium, $CaCO_3$
Filtrate Residues 180EC
pH**
pH of Saturation
Langelier Index

* Regulated Contaminants on Phase II and Phase V Rule
** Secondary Contaminants

LABORATORIOS Y PARAMETROS CERTIFICADOS

1. Clendo Industrial Laboratory, Inc.
   Ms. Lizzette Rivera
   PO Box 549
   Bayamón, Puerto Rico 00960
   Tel. (787)2779-8486 o 398-9095; Fax (787)779-8497

   Certificado solamente para: **Bacteriología**

2. Environmental Quality Laboratories (E.Q. Lab.)
   Lcdo. Ismael Martínez
   1397 Feria St., Box 8723
   Santurce, Puerto Rico
   Tel. (787)725-5333 ó (787)725-3708 Fax (787)722-0380

   Certificado solamente para: **Bacteriología y Químicos**

3. Acualab de Puerto Rico
   Lic. Luis R. Lebrón Arroyo
   State Road #924 Km. 2.8
   Barrio Collores
   PO Box 625
   Humacao, Puerto Rico, 00792
   Tel. (787)852-5957; Fax (787)850-4840

   Certificado solamente para: **Bacteriología**

4. Laboratorio Clínico Analítico, Inc.
   Lcda. Alma Carrasquillo
   3rd. Floor El Señorial Building
   309-310 Office
   #10 Salud Street
   Ponce, Puerto Rico 00731
   Tel. (787)842-5327 Fax (787)842-5327

   Certificado solamente para: **Bacteriología**

5. STL Savannah Laboratories
   Mr. Jack Tuscall
   5102 Laroche Ave.
   Savannah, GA 31404
   Tel. (912) 354-7458 Fax (912) 351-3673

   Certificado solamente para: **Químicos (Reciprocidad)**

6. ELAB, Inc.
   Mr. Henry N. Ashby
   P.O. Box 468
   8 East Tower Circle
   Ormond Beach, Florida 32175-0468
   Tel. (386)672-5668 Fax (904)673-4001
   Sra Neadeen Gonzalez
   787-787-0866 / 790-3505 Bayamón

   Certificado solamente para: **Químicos (Reciprocidad)**

7. Beckton Enviromental Laboratories, Inc.
   Sr. Rafael Infante
   Director de Laboratorio
   192 Villa Street
   Ponce, Puerto Rico 00731
   Tel. (787)841-7373 Fax (787)841-7313

   Certificado solamente para: **Metales y Físicos**

8. Precision Environmental Laboratory
   Mr. Michael A. Spitzer
   Laboratory Director
   10200 USA Today Way
   Miramar, FL 33025
   1-800-522-8550 Ext-110-103
   Tel. (954)431-4550 Fax (954)431-1959

   Certificado solamente para: **Químicos (Reciprocidad)**

9. Environmental Health Laboratories, Inc.
   Mr. Dale Piechocki
   Laboratory Director
   110 S. Hill Street
   South Bend, Indiana 46617
   Tel. (219)233-4777 o 1(800)332-4345: Fax (219)233-8207

   Certificado solamente para: **Químicos (Reciprocidad)**

10. Test America, Inc.
    Mr. Mark Rusler
    Laboratoty Director
    4310 Anderson Road
    Orlando, FL 32812
    Tel. (407) 851-2560 ; Fax (407) 856-0886

    Certificado solamente para: **Químicos (Reciprocidad)**

11. Instituto de Laboratorios
    Departamento de Salud
    Centro Médico
    Bo. Monacillos
    Río Piedras, Puerto Rico
    Tel. (787)274-7713

    Certificado solamente para: **Químicos y Bacteriológico**

(Revisado Marzo, 2004)