

RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 109]

Safe Drinking Water; Filter Backwash Recycling Rule (FBRR)

The Environmental Quality Board (Board) amends Chapter 109 (relating to safe drinking water). The final-form rulemaking in general pertains to public water systems (PWSs): using surface water or groundwater under direct influence of surface water (GUDI) sources; utilize direct or conventional filtration processes; and recycle backwash water, sludge thickener supernatant or liquid from dewatering processes.

This final-form rulemaking is intended to further protect public health by requiring PWSs, where needed, to institute changes to the return of recycle flows to a plant's treatment process that may otherwise compromise microbial control. The FBRR requires that recycled filter backwash water, sludge thickener supernatant and liquids from dewatering processes must be returned to a location so that all processes of a PWS's conventional or direct filtration including coagulation, flocculation, sedimentation (conventional filtration only) and filtration, are employed. PWSs may apply to the Department of Environmental Protection (Department) for approval to recycle at an alternate location.

This order was adopted by the Board at its meeting of December 16, 2003.

A. Effective Date

The final-form rulemaking will go into effect upon publication in the *Pennsylvania Bulletin*.

B. Contact Persons

For further information, contact Jeffrey A. Gordon, Chief, Division of Drinking Water Management, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 772-4018; or Marylou Barton, Assistant Council, Bureau of Regulatory Council, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section I of this preamble. Persons with a disability may use AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department's website: www.dep.state.pa.us.

C. Statutory Authority

The final-form rulemaking is being made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-7 and 510-20).

D. Background of the Final-Form Rulemaking

The Board promulgated the Filtration Rule in March 1989 to address the rising number of waterborne disease outbreaks in this Commonwealth. The rule required

PWSs with surface water sources to filter and disinfect the water before use by the public, cover finished water reservoirs, perform treatment performance and water quality compliance monitoring, and provide public notification of violations. The rule also established design and performance standards for the filtration and disinfection treatment techniques intended to protect against the adverse health effects of exposure to *Giardia lamblia*, viruses and legionella, as well as many other pathogenic organisms.

The Board also promulgated the Interim Enhanced Surface Water Treatment Rule (IESWTR) on July 21, 2001. This rule is intended to improve the control of microbial pathogens, specifically including the protozoan *Cryptosporidium parvum*, in drinking water. The IESWTR applies to PWSs serving 10,000 or more people and which use surface water or GUDI sources. GUDI is any water beneath the surface of the ground with the presence of insects or other microorganisms, algae, organic debris or large diameter pathogens such as *Giardia lamblia* and *Cryptosporidium*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity or pH which closely correlate to climatological or surface water conditions. Key provisions of the IESWTR include: 99% *Cryptosporidium* removal requirements for systems that filter; strengthened combined, and individual, filter effluent turbidity performance standards; disinfection benchmark provisions to assure continued levels of microbial protection while facilities take the necessary steps to comply with new disinfection byproduct standards; inclusion of *Cryptosporidium* in the definition of GUDI; and sanitary surveys for all surface water systems, regardless of size.

Water treatment plants generate various waste streams during the water production process as well as during subsequent waste handling procedures. Waste streams can be large in volume, such as spent filter backwash water, which can make up more than 3% of plant production, or very small in volume, like streams of filtrate from a filter press, which may represent less than 0.1% of plant production. The waste streams can be handled in a variety of ways. Some treatment plants recycle the wastewater to the beginning of the treatment cycle, where the water will be treated again. Other plants waste it by sending into the local wastewater treatment plant. Still other plants obtain a discharge permit and release the water to a river or stream after some additional treatment. Increasingly stringent discharge requirements, expensive chemicals and conservation efforts have forced many plants to consider or implement recycling. Recycling of water treatment plant waste streams is an acceptable practice of good water conservation management. This rule does not mandate recycling nor is it intended to discourage the recycling of waste streams.

When a facility recycles filter backwash water, it reintroduces contaminants back into treatment processes. Poor recycle practices can degrade influent water quality and impair treatment process performance. The 1996 Amendments to the Federal Safe Drinking Water Act required the United States Environmental Protection Agency (EPA) to promulgate a regulation governing the recycling of filter backwash water. The EPA promulgated the Federal FBRR on June 8, 2001. The Federal FBRR addresses filter backwash water and two additional recycle streams of concern, sludge thickener supernatant

and liquids from dewatering processes. The EPA believes that establishing a regulation will improve performance at filtration plants by reducing the opportunity for recycle practices to adversely affect plant performance in a way that would allow microbes such as *Cryptosporidium* to pass through into finished water. While the Pennsylvania Filtration Rule and the IESWTR contained treatment technique requirements designed to address microbial pathogens such as *Giardia* and *Cryptosporidium*, neither the Pennsylvania Filtration Rule nor the IESWTR addressed filter backwash recycling practices. About 120 surface water treatment plants using conventional or direct filtration practice some form of waste stream recycling in this Commonwealth.

The Department is incorporating the provisions of the Federal FBRR into the Pennsylvania Safe Drinking Water regulations to retain primacy for enforcement responsibility of safe drinking water. The amendment will provide additional protection against disease-causing organisms (pathogens) in drinking water. This action would address risks associated with certain recycle practices in the least burdensome, most effective and simplest means possible. The amendment will allow recycle practices to be conducted in a manner that does not upset the chemical treatment and coagulation process vital to the performance and contaminant removal capability of a filtration plant. The amendment will also assure that *Cryptosporidium* oocysts in recycled water, as well as source water, receive the full benefit of well-operated treatment processes to achieve at least 99% *Cryptosporidium* removal.

The rule will improve public health by increasing the level of protection from exposure to *Cryptosporidium* and other pathogens in drinking water supplies through improvements in recycling processes at water treatment plants. This will decrease the likelihood of endemic illness from *Cryptosporidium* by several thousand cases annually in the United States, thus reducing health care costs. Implementation of these provisions is expected to reduce the potential for oocysts getting into the finished water and causing cases of cryptosporidiosis. Exposure to other pathogenic protozoa, such as *Giardia*, or other emerging microbial pathogens is likely to be reduced by this rule as well.

In terms of occurrence, *Cryptosporidium* is common in the environment. Most surface water sources contain or are vulnerable to *Cryptosporidium* oocyst contamination at one time or another. Since some people are carriers, oocysts may enter the water through treated and untreated sewage outfall. Other sources of *Cryptosporidium* contamination are those animals that live in or near the water who are likely to deposit oocysts directly into the drinking water supplies. Livestock are notorious carriers of *Cryptosporidium*. Runoff from watersheds allows transport of this pathogen into water bodies used as sources for drinking water treatment plants. Complicating this matter is *Cryptosporidium*'s resistance to standard disinfection practices.

In humans, *Cryptosporidium* may cause a severe infection that can last several weeks. It may cause the death of individuals who have a weaker immune system due to age, cancer treatment, AIDS and antirejection organ replacement drugs. In 1993, *Cryptosporidium* caused over 400,000 people in Milwaukee to experience serious intestinal illness. More than 4,000 were hospitalized and at least 50 deaths were attributed to the *Cryptosporidium* outbreak. There have also been cryptosporidiosis outbreaks in Nevada, Oregon and Georgia over the past several years.

The Technical Assistance Center for Small Water Systems Advisory Board (TAC) reviewed the draft final-form rulemaking at its meeting on August 14, 2003. The TAC endorsed the changes to Chapter 109.

The Water Resources Advisory Committee (WRAC) reviewed the draft final-form rulemaking at its meeting on September 10, 2003. The WRAC endorsed the changes to Chapter 109 with a recommendation that the Department review the definition of "capital improvement" to be sure there are no legal implications.

E. Summary of Changes to the Proposed Rulemaking

§ 109.1 (relating to definitions)

Subparagraph (ii) in the definition of "recycle flows" was deleted since the term "recycle streams" is synonymous with recycle flows.

§ 109.202(h)(1) and (2) (relating to State MCLs, MRDLs and treatment technique requirements)

Paragraph (1) was reworded to clarify the exception in paragraph (2) and the term "recycled" was added to indicate the flows that should be returned through the system's existing filtration processes. Paragraph (2) requires PWSs requiring capital improvements to modify the recycle location to complete all capital improvements by June 8, 2006. A typographical error was corrected.

§ 109.202(h)(3)

This subsection was modified to remove "or expenditure" from the definition of "capital improvements."

F. Summary of Comments and Responses on the Proposed Rulemaking

The Department received comments only from the Independent Regulatory Review Commission (IRRC).

§ 109.1

IRRC suggested that subparagraph (ii) of the "recycle flows" definition be deleted to avoid confusion. The change was made as suggested since "recycle flows" is the term generally used in the final-form rulemaking.

§ 109.202

IRRC commented on a typographical error in subsection (h)(2) as printed in the *Pennsylvania Bulletin*. Subsection (h)(2) has been revised to add the word "paragraph" before the designate (1).

IRRC commented that the definition of "capital improvement" contains the vague phrases "nonrecurring, significant modification" and "nonroutine, long-term physical improvements." These criteria do not clearly indicate which projects would qualify. The final-form rulemaking should identify the specific criteria, such as a cost threshold or the time needed to complete the project, which would allow a PWS to use the later compliance date.

The Department believes that it is difficult to place a time limit or a cost on defining "capital improvement" as they can differ considerably among water systems, even for similar modifications. Costs and completion timeframes are generally unique to each water system. However, the definition of capital improvement in subsection (h)(3) was revised to delete the phrase "or expenditure" to provide clarity.

G. Benefits, Costs and Compliance

Benefits

The final-form rulemaking will benefit customers of PWSs, which utilize direct or conventional filtration, use

surface water or GUDI sources and practice recycling. Currently, there are about 120 systems in this Commonwealth serving water to about 5,178,300 people that meet these criteria.

The economic benefits of the FBRR derive from the increased level of protection to public health. The primary benefits of the final-form rulemaking come from reductions in the risk of illness from microbial pathogens in drinking water. In particular, the FBRR focuses on reducing the risk associated with disinfection resistant pathogens, such as *Cryptosporidium*.

Available literature research demonstrates that increased hydraulic loading or disruptive hydraulic currents, such as may be experienced when plants exceed operating capacity or when recycle is returned directly into the sedimentation basin, can disrupt filter and sedimentation performance. The goal of the amendments is to improve public health by increasing the level of protection from exposure to *Cryptosporidium* and other pathogens (that is, *Giardia* or other waterborne bacterial or viral pathogens) in drinking water supplies through improvements in the recycling process at water systems. Implementation of these provisions is expected to reduce the potential for oocysts getting into the finished water and causing cases of cryptosporidiosis. Exposure to other pathogenic protozoa, such as *Giardia*, or other emerging microbial pathogens is likely to be reduced by this rule as well.

In addition to preventing illnesses, the final-form rulemaking is expected to have other nonhealth related benefits. These benefits result from avoiding nonhealth related costs associated with waterborne disease outbreaks. During an outbreak, local governments and water systems must issue warnings and alerts and may need to provide an alternative source of water. Systems also face negative publicity and possible legal costs. The monetary costs associated with an outbreak can be difficult to quantify and will vary with a host of criteria. However, one study of a *Giardia* outbreak in Luzerne County estimated these nonhealth related costs to be quite significant. This study estimated losses to individuals due to actions taken to avoid the contaminated water at between \$19 million and \$49 million, in 1984 dollars (\$31 million—\$81 million in 2000 dollars). Losses due to averting actions for restaurants and bars totaled \$1 million and \$0.6 million for schools and other businesses, in 1984 dollars. The burden for government agencies was \$230,000 and the outbreak cost the water utility an estimated \$1.8 million, in 1984 dollars.

Compliance Costs

Increased costs will be borne by the regulated community for systems making capital improvements to modify recycle location. Additional training, permitting, surveillance and compliance assistance costs will also be borne by the Department.

The consumers of water supplied by about 120 affected PWSs using surface water or GUDI sources, utilize direct or conventional filtration processes and recycle backwash water, sludge thickener supernatant or liquid from dewatering processes may experience higher water use rates associated with costs for capital improvements to modify recycle locations. The actual increase in water use rates will depend on a number of factors, including population served and type of improvements done.

Compliance Assistance Plan

The Safe Drinking Water Program utilizes the Commonwealth's Pennsylvania Infrastructure Investment Au-

thority Program to offer financial assistance to eligible PWSs. This assistance is in form of a low-interest loan, with some augmenting grant funds for hardship cases. Eligibility is based upon factors such as public health impact, compliance necessity, and project/operational affordability.

Paperwork Requirements

The Department's current data forms will facilitate any additional monitoring and reporting or paperwork.

H. Sunset Review

This final-form rulemaking will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on February 21, 2003, the Department submitted a copy of the notice of proposed rulemaking, published at 33 Pa.B. 1234 (March 8, 2003), to IRRC and the Chairpersons of the Senate and House Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on February 25, 2004, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on February 26, 2004, and approved the final-form rulemaking.

J. Findings

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) The final-form rulemaking does not enlarge the purpose of the proposal published at 33 Pa.B. 1234.

(4) The final-form rulemaking is necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C.

K. Order

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 109, are amended by amending §§ 109.1, 109.202 and 109.701 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson shall submit this order and Annex A to IRRC and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This order shall take effect immediately upon publication.

KATHLEEN A. MCGINTY,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 34 Pa.B. 1525 (March 13, 2004).)

Fiscal Note: Fiscal Note 7-382 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 109. SAFE DRINKING WATER

Subchapter A. GENERAL PROVISIONS

§ 109.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

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Liquid from dewatering processes—A stream containing liquids generated from a unit used to concentrate solids for disposal.

* * * * *

Recycle—The act of returning recycle streams to a conventional or direct filtration plant's treatment process.

Recycle flows—Any water, solid or semi-solid generated by a conventional or direct filtration plant's treatment process and residual treatment processes that is returned to the plant's treatment process.

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Spent filter backwash water—A stream containing particles dislodged from filter media when the filter is backwashed to clean the filter.

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Thickener supernatant—A stream containing the decant from a clarifier, sedimentation basin, or other unit used to treat water, solids or semi-solids from the primary treatment process.

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Subchapter B. MCLs, MRDLs OR TREATMENT TECHNIQUE REQUIREMENTS

§ 109.202. State MCLs, MRDLs and treatment technique requirements.

* * * * *

(h) Recycling of waste stream.

(1) Except as provided in paragraph (2), a public water system that uses surface water source or GUDI and

provides conventional filtration or direct filtration treatment and recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes shall return these recycled flows through the processes of the system's existing conventional or direct filtration system as defined in § 109.1 (relating to definitions) or at an alternate location approved by the Department by June 8, 2004.

(2) If capital improvements are required to modify the recycle location to meet the requirement of paragraph (1), the capital improvements shall be completed by June 8, 2006.

(3) Capital improvement means a nonrecurring, significant modification for nonroutine, long-term physical improvements to any part of a public water system, including, but not limited to, construction activities, renovation activities, demolition activities, source development, treatment process modifications, storage modifications, distribution system modifications, waste-processing modifications and all associated design costs.

Subchapter G. SYSTEM MANAGEMENT RESPONSIBILITIES

§ 109.701. Reporting and recordkeeping.

* * * * *

(h) Reporting and record maintenance requirements for systems recycling their waste streams.

(1) Public water systems using surface water or GUDI sources and providing conventional filtration or direct filtration treatment and that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes shall notify the Department in writing by December 8, 2003. This notification shall include the following information:

(i) A plant schematic showing the origin of all flows that are recycled (including, but not limited to, spent filter backwash water, thickener supernatant and liquids from dewatering processes), the hydraulic conveyance used to transport them and the location where they are reintroduced back into the treatment plant.

(ii) Typical recycle flow in gallons per minute (gpm), the highest observed plant flow experienced in the previous year (gpm), design flow for the treatment plant (gpm) and Department-approved operating capacity for the plant.

(2) Record maintenance. Beginning June 8, 2004, public water systems using surface water or GUDI sources and providing conventional filtration or direct filtration and recycling spent filter backwash water, thickener supernatant, or liquids from dewatering processes shall collect and retain on file recycle flow information specified in this paragraph. This information is for the previous year of recycling and shall be available to the Department for review and evaluation at the Department's request:

(i) A copy of the recycle notification and information submitted to the Department under subsection (h).

(ii) A list of all recycle flows and the frequency with which they are returned.

(iii) Average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes.

(iv) Typical filter run length and a written summary of how filter run length is determined.

(v) The type of treatment provided for the recycle flow.

(vi) Data on the physical dimensions of the equalization or treatment units, or both, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable.

[Pa.B. Doc. No. 04-551. Filed for public inspection April 2, 2004, 9:00 a.m.]

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 109]

Safe Drinking Water; Radionuclides Rule

The Environmental Quality Board (Board) amends Chapter 109 (relating to safe drinking water). The final-form rulemaking includes requirements for uranium, which is not currently regulated, and amendments to the monitoring requirements for combined radium-226 and radium-228, gross alpha particle radioactivity, and beta particle and photon radioactivity. The final-form rulemaking also makes the radionuclides regulations more consistent with other regulations, such as amendments to monitoring frequencies and the point of compliance.

This order was adopted by the Board at its meeting of December 16, 2003.

A. Effective Date

The final-form rulemaking will go into effect upon publication in the *Pennsylvania Bulletin*.

B. Contact Persons

For further information, contact Jeffrey A. Gordon, Chief, Division of Drinking Water Management, P. O. Box 8467, Rachel Carson State Office Building, Harrisburg, PA 17105-8467, (717) 772-4018; or Marylou Barton, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department of Environmental Protection's (Department) website: www.dep.state.pa.us.

C. Statutory Authority

The final-form rulemaking is made under the authority of section 4 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.4), which grants the Board the authority to adopt rules and regulations governing the provision of drinking water to the public, and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-7 and 510-20).

D. Background of the Final-Form Rulemaking

In 1976, National Interim Primary Drinking Water Regulations were promulgated for combined radium-226 and radium-228, gross alpha particle radioactivity and beta particle and photon radioactivity. The 1986 reauthorization of the Safe Drinking Water Act (SDWA) required the United States Environmental Protection Agency (EPA) to promulgate maximum contaminant level goals (MCLGs) and National Primary Drinking Water Regulations for the previous radionuclides, radon and uranium.

In 1991, the EPA proposed new radionuclide regulations. These proposed regulations established MCLGs for all of the radionuclides, established maximum contaminant levels (MCLs) for uranium (20 pCi/L or 30 µg/l) and

radon (300 pCi/L) and revised the MCLs for radium-226 (20 pCi/L), radium-228 (20 pCi/L) and beta and photon radioactivity (4 mrem-effective dose equivalent). The proposal also established a standard monitoring framework, and changed the monitoring requirements for beta and photon radioactivity from large systems using surface water and serving over 100,000 people to only those systems that are vulnerable to contamination by radionuclides. The proposed regulation proved controversial, especially the radon component, and the regulation was not finalized at the time.

On April 21, 2000, the EPA published a Notice of Data Availability (NODA) on radionuclides. The NODA included updated information on the health effects of the radionuclides. Based on the updated information, the EPA reestablished the combined radium MCL at 5 pCi/L, the beta and photon radioactivity at 4 mrem and requested comments on establishing a uranium MCL of 20, 40 or 80 µg/l or pCi/L. The EPA excluded radon from the proposed radionuclides rule as required by the 1996 SDWA amendments.

The EPA finalized the radionuclides rule on December 7, 2000. The final Federal regulation applies to all community water systems, retains the MCLs for combined radium-226 and radium-228, gross alpha particle activity and beta and photon radioactivity and establishes the uranium MCL at 30 µg/l, based on kidney toxicity. The final regulation also retains the standard monitoring framework proposed in 1991, as well as beta and photon radioactivity monitoring only for systems that are designated as vulnerable to radionuclide contamination or which utilize waters contaminated by effluents from nuclear facilities. The deadline for adoption of this regulation was 2 years after Federal promulgation, or December 7, 2002. The Department has requested an extension from the EPA to allow the Commonwealth to maintain primacy for the Safe Drinking Water Program. The EPA has granted an extension until December 8, 2004.

To ensure that every customer's water in this Commonwealth meets the MCLs for radionuclides, the Department's Radionuclides Rule requires monitoring at each entry point to a community water system's distribution system. This requirement is consistent with the monitoring requirements for other, comparable drinking water contaminants. By contrast, the 1976 Rule protected only "the average customer" by requiring the collection of monitoring samples from a "free flowing tap."

The Technical Assistance Center for Small Water Systems Advisory Board (Board) reviewed the draft final-form rulemaking at their meeting on August 14, 2003. The Board endorsed the amendments to Chapter 109.

The Water Resources Advisory Committee (WRAC) reviewed the draft final-form rulemaking at their meeting on September 10, 2003. The WRAC recommended that the terms "contaminated," "nuclear facility," "vicinity" and "vulnerable" be defined in the preamble, since they are not defined in the text of the regulation.

"Contaminated systems" will be identified by the prior analytical results for gross beta particle and photon radioactivity. Systems with wide variations in the analytical results or analytical results close to the MCL will be considered a system contaminated by a radioactive source.

"Nuclear facilities" are nuclear power and nonpower plants, Department of Energy facilities, military bases utilizing nuclear materials and radiation-contaminated

sites listed on the EPA's National Priority List or the Nuclear Regulatory Commission's (NRC) Site Decommissioning Management Plan.

"Vulnerable systems" are water systems that are located in the same watershed as a nuclear facility, or located within 15 miles downstream of a nuclear facility. Additional systems may be designated as vulnerable if the watershed contains hazardous geologic conditions, such as carbonate geology, highly fractured bedrock or gravel deposits.

A system will be defined as being "in the vicinity of a nuclear facility" if there is any environmental surveillance data taken by a nuclear facility that is applicable to the system, and which may be used instead of monitoring.

In addition, these terms will be further defined in Departmental guidance.

E. Summary of Changes to the Proposed Rulemaking

§ 109.301(8)(iii) (relating to general monitoring requirements)

This subparagraph applies to consecutive water systems and clarifies that the monitoring requirements for radionuclides do not apply to consecutive systems, provided that the public water system from which the finished water is obtained monitors for compliance with the MCLs for radionuclides established by the EPA.

§ 109.301(14)(i)(A)

This subclause was clarified to indicate the initial monitoring starting date for systems serving 3,301 or more persons.

§ 109.301(14)(i)(A)(VI)—(VII) and (B)(I)—(IV)

These subclauses were clarified to indicate that radionuclides are to be monitored individually, not lumped together as a group. Clause (A)(VI) and (VII) was renumbered as (V) and (VI), respectively, at final-form rulemaking due to the deletion of subclause (I).

§ 109.301(14)(i)(B)

This clause was clarified to indicate that January 1, 2008, is the beginning date of a compliance monitoring period.

§ 109.301(14)(i)(D)

This clause was amended to reflect consistent terminology throughout the paragraph. Several terms that all have the same meaning have been replaced by the term "appropriate historical data."

§ 109.301(14)(iii)(A)

This subclause was clarified to indicate that the Department may require more frequent sampling, rather than more frequent monitoring, than specified in subparagraphs (i) and (ii).

§ 109.303(j) (relating to sampling requirements)

This subsection was deleted. It was determined that the location of performance samples is better handled through the permitting process than through the regulation.

§ 109.503(a)(1)(iii)(B)(VII) (relating to public water system construction permits)

This subclause was clarified to indicate that the new source sampling requirements also include radium-226, radium-228 and uranium.

F. Summary of Comments and Responses on the Proposed Rulemaking

The only comments submitted on the proposed rulemaking came from the EPA and the Independent Regulatory Review Commission (IRRC). The following is a summary of the comments and the Board's responses.

The EPA noted that the Department left out the sentence stating that when a community water supply (CWS) substitutes gross alpha for radium-226 or uranium, the gross alpha result will be used to determine the future monitoring frequency for radium-226 or uranium, and that this omission could leave a reader unclear about how to determine when next to sample for radium-226 or uranium. The Board disagrees that this omission could result in confusion. When the gross alpha value is substituted for the radium-226 or uranium, or both, the result becomes the result for radium-226 or uranium, or both. The future monitoring is based on the values for radium-226 and uranium, not the gross alpha value.

IRRC commented that the phrases "historical monitoring data," "monitoring data," "appropriate historical monitoring data" and "appropriate historical data" have the same meaning, and that one term should be used consistently. The Board has changed the final-form rulemaking to reflect the use of one consistent term, "appropriate historical data."

IRRC commented that the term "environmental surveillance data" needs to be clarified. The Board notes that this term is not defined in the Federal regulation, but will include samples collected by either the nuclear facility or the Department. Environmental surveillance data typically include surface water samples downstream of the facility, air samples, milk samples and sediment samples. Several of the nuclear facilities (Susquehanna, Three Mile Island and Limerick) also collect samples at nearby water treatment plants.

IRRC questioned what criteria the Department will use to determine if a community water system is in the vicinity of a nuclear facility. The Board notes that the only place in the final-form rulemaking where the term "vicinity of a nuclear facility" is used is in the utilization of environmental surveillance data. Therefore, if the environmental surveillance data is applicable to the system, it will be considered to be in the "vicinity of a nuclear facility." If the environmental surveillance data are not applicable to the system, it is not considered to be in the "vicinity."

IRRC commented that the proposed rulemaking did not contain a definition of a "nuclear facility" and questioned the rationale for defining the term in the preamble, rather than in the rulemaking. The Board notes that EPA does not include a definition of "nuclear facility" in its regulation. The definition is included in the guidance documents. The Board believes that it is in the best interest of the Commonwealth to define a term in the same manner that the EPA does. "Nuclear facilities" are defined as nuclear power and nonpower plants, Department of Energy facilities, military bases utilizing nuclear materials and radiation-contaminated sites listed on the EPA's National Priority List or the NRC's Site Decommissioning Management Plan.

The EPA commented that the proposed rulemaking did not contain provisions consistent with 40 CFR 141.66(f) (relating to maximum contaminant levels for radionuclides), which lists compliance dates. The Board notes that the compliance dates for the MCL and public notification requirements are incorporated by reference.

The monitoring requirement will become effective immediately upon publication in the *Pennsylvania Bulletin*.

The EPA commented that the proposed rulemaking did not contain provisions in the new regulations consistent with 40 CFR 141.66(g), which lists best available technologies (BAT). The Board has never listed BAT in its regulations. BAT is used for obtaining variances and exemptions. The Board requires the use of "the best treatment technology that the Department, in concurrence with the Administrator, finds are generally available to reduce the level of the contaminant." BAT is also considered in the Department's permitting program, which the EPA does not have.

IRRC requested clarification on § 109.301(14)(iii)(A) concerning the requirement of more frequent monitoring. The Board has identified conditions where more frequent monitoring may be required. These conditions are listed in § 109.302 (relating to special monitoring requirements).

IRRC requested clarification on § 109.303(j) concerning performance monitoring. The Board has deleted this section, since it was determined that it would be best to address this issue on a case-by-case basis in the permitting process, rather than in regulation.

G. *Benefits, Costs and Compliance*

Benefits

The purpose of the radionuclide regulation is to minimize the public risk of consuming drinking water containing unsafe levels of naturally occurring and manmade radionuclides.

The current regulations do not provide protection from kidney damage due to the presence of high levels of uranium in drinking water. The new uranium MCL will reduce the exposure of 620,000 persons in the United States to this contaminant, will protect CWS customers from exposure to uranium at levels that may cause kidney damage and will reduce the risk of cancer caused by exposure to uranium. An estimated 0.8 cancer case are expected to be avoided annually in the United States due to the MCL, resulting in estimated benefits of \$3 million per year. (The monetary benefits from reduced kidney damage cannot be quantified because of limitation in existing health effects models at levels near the MCL.) Reducing the presence of uranium in drinking water will also remove other contaminants, providing additional benefits to CWS customers.

The current regulations do not require the analysis of radium-228 unless the gross alpha particle activity is greater than 5 pCi/L. However, since radium-228 is a beta emitter, linking the sampling to results of alpha particle activity is not protective of health. The new rule sets separate monitoring requirements for radium-228, which are expected to reduce the exposure of 420,000 persons in the United States and result in the avoidance of 0.4 cancer case per year, with estimated monetized health effects benefits of \$2 million annually. Water mitigation for radium also tends to reduce iron and manganese levels and hardness, which also has significant associated benefits.

In addition to providing increased public protection, the final-form rulemaking allows for reduced monitoring frequencies in systems where the concentration of radionuclides is low. The reduced monitoring will result in lower costs for compliance with the final-form rulemaking.

Compliance Costs

The compliance cost depends on the number of entry points to the distribution system for a CWS and whether the MCL is exceeded. CWSs have been monitoring for gross alpha and radium since the late 1970s. Since 1986, CWSs in this Commonwealth have also been monitoring for radium-226 and radium-228 when the gross alpha exceeds 5 pCi/L. CWSs in this Commonwealth that have exceeded the combined radium MCL have either provided treatment or abandoned the source. The Department will also use the option that allows the grandfathering of previous compliance monitoring results to reduce the initial compliance monitoring for gross alpha and combined radium, as well as uranium, if applicable. There should be minimal additional monitoring costs associated with the combined radium MCL, except possibly for CWSs that have more than a single entry point to the distribution system.

The only new MCL is for uranium, which the Department has incorporated by reference in § 109.202(a)(2) (relating to State MCLs, MRDLs and treatment technique requirements). The EPA has estimated that the cost for the analysis of total uranium is approximately \$48 per sample (by laser phosphorimetry, 1999 dollars). The cost to individual CWSs will depend on the number of entry points. The larger systems will have more entry points than a smaller system. The cost estimate for uranium testing has been estimated to be \$37—\$512 per year per system.

The EPA has not done a cost analysis for the uranium MCL of 30 µg/l. It has, however, done cost analyses for MCLs of 20 µg/l and 40 µg/l. Based on these analyses, it is estimated that Nationwide between 430 and 970 CWSs will require treatment to meet the uranium MCL with a total estimated annual cost of \$68 million to \$157 million.

Compliance Assistance Plan

The Safe Drinking Water Program utilizes the Commonwealth's Pennsylvania Infrastructure Investment Authority Program to offer financial assistance to eligible public water systems. This assistance is in the form of a low-interest loan, with some augmenting grant funds for hardship cases. Eligibility is based upon factors such as public health impact, compliance necessity and project/operational affordability.

The Safe Drinking Water Program has established a network of regional and central office training staff that is responsive to identifiable training needs. The target audience in need of training may be either the program staff or the regulated community. Training is anticipated for water systems in Fall 2004.

In addition to this network of training staff, the Bureau of Water Supply and Wastewater Management has a division dedicated to providing both training and outreach support services to public water system operators. The Department's website also contains the Drinking Water and Wastewater Operator Information Center website, which provides a bulletin board of timely, useful information for treatment plant operators.

Paperwork Requirements

Community water systems are already required to monitor for radionuclides. Systems may use existing forms for compliance with this final-form rulemaking. It is anticipated that the majority of systems will be able to monitor on 6-year and 9-year frequencies, rather than the 4-year frequency that is required under the existing

regulations. This reduced monitoring frequency will reduce the paperwork and recordkeeping requirements.

H. *Sunset Review*

This final-form rulemaking will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the final-form rulemaking effectively fulfills the goals for which it was intended.

I. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on February 21, 2003, the Department submitted a copy of the notice of proposed rulemaking, published at 33 Pa.B. 1239 (March 8, 2003), to IRRC and the Chairpersons of the Senate and House Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on February 25, 2004, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on February 26, 2004, and approved the final-form rulemaking.

J. *Findings*

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law, and all comments were considered.

(3) The final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 33 Pa.B. 1239.

(4) The final-form rulemaking is necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C.

K. *Order*

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 109, are amended by amending §§ 109.301, 109.303 and 109.503 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson shall submit this order and Annex A to IRRC and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(e) This order shall take effect immediately upon publication.

KATHLEEN A. MCGINTY,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 34 Pa.B. 1525 (March 13, 2004).)

Fiscal Note: Fiscal Note 7-381 remains valid for the final adoption of the subject regulations.

Annex A

**TITLE 25. ENVIRONMENTAL PROTECTION
PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE II. WATER RESOURCES

CHAPTER 109. SAFE DRINKING WATER

Subchapter C. MONITORING REQUIREMENTS

§ 109.301. General monitoring requirements.

The monitoring requirements established by the EPA under the National Primary Drinking Water Regulations, 40 CFR Part 141 (relating to national primary drinking water regulations), as of December 8, 1984, are incorporated by reference. Public water suppliers shall monitor for compliance with MCLs and MRDLs in accordance with the requirements established in the National Primary Drinking Water Regulations, except as otherwise established by this chapter unless increased monitoring is required by the Department under § 109.302 (relating to special monitoring requirements). Alternative monitoring requirements may be established by the Department and may be implemented in lieu of monitoring requirements for a particular National Primary Drinking Water Regulation if the alternative monitoring requirements are in conformance with the Federal act and regulations. The monitoring requirements shall be applied as follows:

* * * * *

(8) Monitoring requirements for public water systems that obtain finished water from another public water system.

* * * * *

(iii) Consecutive water suppliers are exempt from conducting monitoring for the MCLs for VOCs, SOCs, IOCs and radionuclides if the public water system from which the finished water is obtained complies with paragraphs (5)—(7) and (14), except that asbestos monitoring is required in accordance with subparagraph (ii)(B).

* * * * *

(14) *Monitoring requirements for radionuclides.* Community water systems shall monitor for compliance with the MCLs for radionuclides established by the EPA under 40 CFR 141.66(b), (c), (d) and (e) (relating to maximum contaminant levels for radionuclides). The monitoring shall be conducted according to the requirements established by EPA under 40 CFR 141.25 and 141.26 (relating to analytical methods for radioactivity; and compliance requirements for radionuclides in community water systems) which are incorporated by reference, except as modified by this chapter. Initial or first-year monitoring mentioned in this paragraph refers to monitoring conducted on or after January 1, 2005.

(i) *Monitoring requirements for gross alpha particle activity, radium-226, radium-228 and uranium.*

(A) *Initial monitoring schedule.* The initial monitoring shall consist of four consecutive quarterly samples for each radionuclide at each entry point in accordance with the following monitoring schedule except for systems that are granted reduced initial monitoring in accordance with subclause (V).

(I) Systems serving more than 3,301 persons shall begin monitoring during the quarter beginning January 1, 2005.

(II) Systems serving 500 to 3,300 persons shall begin monitoring during the quarter beginning January 1, 2006.

(III) Systems serving fewer than 500 persons shall begin monitoring during the quarter beginning January 1, 2007.

(IV) Systems that add new entry points associated with new sources shall begin initial quarterly monitoring during the first quarter the entry point begins serving the public. Quarterly monitoring shall continue until reduced monitoring is granted in accordance with clause (B) or subclause (V).

(V) If the first 2 quarterly samples for a radionuclide at an entry point have results below the detection limit, as defined in 40 CFR 141.25(c)(1), the final two quarterly samples for that radionuclide at that entry point are waived.

(VI) For entry points at which the monitoring result for a radionuclide at an entry point is above the MCL, the system shall collect and analyze quarterly samples for that radionuclide at that entry point until the system has results from 4 consecutive quarters for that radionuclide at that entry point that are at or below the MCL.

(B) *Repeat monitoring.* Beginning with the January 1, 2008, compliance period, systems shall take one sample for each radionuclide at each entry point in each 3-year compliance period, unless the system qualifies for reduced monitoring as follows:

(I) For entry points where the average of the initial monitoring results for a radionuclide is at or above the detection limit as defined in 40 CFR 141.25(c)(1), but at or below one-half of the MCL for that radionuclide, the repeat monitoring is reduced to one sample for that radionuclide at that entry point every 6 years.

(II) For entry points where the average of the initial monitoring results for a radionuclide is below the detection limit as defined in 40 CFR 141.25(c)(1), the repeat monitoring is reduced to one sample for that radionuclide at that entry point every 9 years.

(III) If a system has a monitoring result that exceeds the MCL for a radionuclide, the system shall collect and analyze quarterly samples for that radionuclide at that entry point beginning the next calendar quarter following the exceedance until the system has results from 4 consecutive quarters for that radionuclide at that entry point that are below the MCL.

(IV) Systems shall use the results of the samples collected during the repeat monitoring period to determine the monitoring frequency for subsequent monitoring periods.

(V) Reduced monitoring does not apply to those systems where treatment has been installed for radionuclide removal to comply with an MCL listed under 40 CFR 141.66. Compliance monitoring for radionuclides where treatment has been installed to comply with an MCL

shall be conducted at least annually, and performance monitoring for the specific radionuclides for which treatment is provided shall be conducted quarterly.

(C) *Gross alpha substitution.* A gross alpha particle activity measurement may be substituted for the required radium-226 measurement provided that the measured gross alpha particle activity does not exceed 5 pCi/L. A gross alpha particle activity measurement may be substituted for the required uranium measurement provided that the measured gross alpha particle activity does not exceed 15 pCi/L. The gross alpha measurement shall have a confidence interval of 95% (1.65σ , where σ is the standard deviation of the net counting rate of the sample) for radium-226 and uranium. If the gross alpha particle activity result is less than the detection limit as defined in 40 CFR 141.25(c)(1), one-half of the detection limit will be used to determine compliance and the future monitoring frequency.

(D) *Grandfathering.* The Department will allow appropriate historical data collected at an entry point to satisfy the initial monitoring requirements required under clause (A) for that entry point in the following situations:

(I) A system having only one entry point may use the monitoring data from the compliance monitoring period between June 2000 and December 8, 2003.

(II) A system with multiple entry points and having appropriate historical data for each entry point may use the monitoring data from the compliance monitoring period between June 2000 and December 8, 2003.

(III) A system with multiple entry points and having appropriate historical data for a representative point in the distribution system may use the monitoring data from the compliance monitoring period between June 2000 and December 8, 2003, provided that the Department finds that the appropriate historical data satisfactorily demonstrate that each entry point is expected to be in compliance based upon the appropriate historical data and reasonable assumptions about the variability of radionuclide levels between entry points. The system shall supply sufficient information to allow the Department to make a written finding indicating how the data conform to these requirements.

(ii) *Monitoring requirements for beta-particle and photon radioactivity.*

(A) Systems designated by the Department as vulnerable to beta-particle or photon radioactivity, or both, shall sample for beta particle and photon radioactivity. Systems shall collect quarterly samples for beta emitters and annual samples for tritium and strontium-90 at each entry point, beginning within 1 quarter after being notified by the Department.

(I) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at an entry point has a running annual average (computed quarterly) less than or equal to 50 pCi/L (screening level), the frequency of monitoring at that entry point shall be repeated every 3 years. Systems shall collect all samples required in clause (A) during the reduced monitoring period.

(II) For systems in the vicinity of a nuclear facility, the system may utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry points, when the Department determines that the data is applicable to the system. If there is a release from a nuclear facility, systems that are using

surveillance data shall begin monitoring at the community water system's entry points in accordance with clause (A).

(B) Systems designated by the Department as utilizing waters contaminated by effluents from nuclear facilities shall sample for beta particle and photon radioactivity. Systems shall monitor quarterly for beta emitters and iodine-131, and annually for tritium and strontium-90 at each entry point, beginning within 1 quarter after being notified by the Department. Monitoring shall be conducted as follows:

(I) Monitoring for gross beta particle activity shall be based on the average of an analysis of 3 monthly samples.

(II) For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. More frequent monitoring, as determined by the Department, shall be conducted when iodine-131 is identified in the finished water.

(III) Monitoring for strontium-90 and tritium shall be conducted by means of the analysis of 4 quarterly samples.

(IV) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at an entry point has a running annual average (computed quarterly) less than or equal to 15 pCi/L (screening level), the frequency of monitoring at that entry point shall be reduced to four consecutive quarterly samples taken once every 3 years. Systems shall collect all samples required in clause (B) during the reduced monitoring period.

(V) For systems in the vicinity of a nuclear facility, the system may utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry points, when the Department determines that the data is applicable to the system. If there is a release from a nuclear facility, systems that are using surveillance data shall begin monitoring at the system's entry points in accordance with clause (B).

(C) Systems designated by the Department to monitor for beta particle and photon radioactivity may not apply to the State for a waiver from the monitoring frequencies specified in clause (A) or (B).

(D) Systems may analyze for naturally occurring potassium-40 beta particle activity from the same or equivalent sample used for the gross beta particle activity analysis. The potassium-40 beta particle activity shall be calculated by multiplying elemental potassium concentrations (in mg/L) by a factor of 0.82.

(E) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity exceeds the screening level, an analysis of the sample shall be performed to identify the major radioactive constituents present in the sample. The results of the individual constituent analysis shall be reported in pCi/L, and the appropriate doses must be calculated and summed to determine compliance with the MCL, using the formula in 40 CFR 141.66(d)(2). Doses shall also be calculated and combined for measured levels of tritium and strontium to determine compliance.

(F) Systems shall monitor monthly at the entry points that exceed the MCL beginning the month after the exceedance occurs. Systems shall continue monthly monitoring until the system has established, by a rolling average of three monthly samples, that the MCL is being met. Systems that establish that the MCL is being met shall return to quarterly monitoring until they meet the requirements set forth in subclause (A)(I) or (B)(IV).

(iii) *General monitoring and compliance requirements.*

(A) The Department may require more frequent sampling than specified in subparagraphs (i) and (ii), or may require confirmation samples. The results of the initial and confirmation samples will be averaged for use in compliance determinations.

(B) Each system shall monitor at the time designated by the Department during each compliance period.

(C) Compliance with the MCLs will be determined based on the analytical results obtained at each entry point. If one entry point is in violation of an MCL, the system is in violation of the MCL.

(I) For systems monitoring more than once per year, compliance with the MCL is determined by a running annual average at each entry point. If the running annual average at an entry point is greater than the MCL, the system is in violation of the MCL. If a sample result will cause the running annual average to exceed the MCL at an entry point, the system is in violation of the MCL immediately.

(II) Systems shall include all samples taken and analyzed under this section in determining compliance, even if that number is greater than the minimum required.

(III) If a system does not collect all required samples when compliance is based on a running annual average of quarterly samples, compliance will be based on the running average of the samples collected.

(IV) If a sample result is less than the detection limit, zero will be used to calculate the annual average, unless a gross alpha particle activity is being used in lieu of radium-226 or uranium, or both. If the gross alpha particle activity result is less than detection, one-half of the detection limit will be used to calculate the annual average.

(D) The Department may delete results of obvious sampling or analytic errors.

§ 109.303. Sampling requirements.

* * * * *

(h) Samples taken to determine compliance with combined radium-226 and radium-228, gross alpha particle activity, or uranium under 40 CFR 141.66 (b), (c) and (e) (relating to maximum containment levels for radionuclides) may be composited from a single entry point if the analysis is done within a year of the date of the collection of the first sample. The Department will treat analytical results from the composited sample as the average analytical result to determine compliance with the MCLs and the future monitoring frequency.

(1) If the analytical result from the composited sample is greater than one-half the MCL, the Department may direct the system to take additional quarterly samples before allowing the system to sample under a reduced monitoring schedule.

(2) Samples obtained from an entry point that contains water treated to specifically meet an MCL for a radionuclide contaminant listed under 40 CFR 141.66 (b), (c) or (e) may not be composited.

(i) Samples taken to determine compliance with beta particle and photon radioactivity under 40 CFR 141.66(d) may be composited as follows:

(1) Monitoring for gross beta-particle activity may be based on the analysis of a composite of 3 monthly samples.

(2) Monitoring for strontium-90 and tritium may be based on the analysis of a composite of 4 consecutive quarterly samples.

Subchapter E. PERMIT REQUIREMENTS

§ 109.503. Public water system construction permits.

(a) *Permit application requirements.* An application for a public water system construction permit shall be submitted in writing on forms provided by the Department and shall be accompanied by plans, specifications, engineer's report, water quality analyses and other data, information or documentation reasonably necessary to enable the Department to determine compliance with the act and this chapter. The Department will make available to the applicant the Public Water Supply Manual, available from the Bureau of Water Supply and Community Health, Post Office Box 8467, Harrisburg, Pennsylvania 17105 which contains acceptable design standards and technical guidance. Water quality analyses shall be conducted by a laboratory certified under this chapter.

(1) *General requirements.* An application shall include:

* * * * *

(ii) *Information describing new sources.* The Department may accept approval of an out-of-State source by the agency having jurisdiction over drinking water in that state if the supplier submits adequate proof of the approval and the agency's standards are at least as stringent as this chapter. Information describing sources shall include:

* * * * *

(B) An evaluation of the quality of the raw water from each new source. This subparagraph does not apply when the new source is finished water obtained from an existing permitted community water system unless the Department provides written notice that an evaluation is required. The evaluation shall include analysis of the following:

* * * * *

(VII) Gross Alpha (α), radium-226, radium-228, uranium and Gross Beta (β).

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Title 49—PROFESSIONAL AND VOCATIONAL STANDARDS

STATE BOARD OF ACCOUNTANCY

[49 PA. CODE CH. 11]

CPA Examination

The State Board of Accountancy (Board) amends §§ 11.4, 11.16 and 11.18 (relating to fees; examination completion requirement; and character references for

examination) and deletes §§ 11.11—11.15, 11.17 and 11.19 to read as set forth in Annex A.

Statutory Authority

Section 3(a)(12) of the CPA Law (act) (63 P. S. § 9.3(a)(12)) authorizes the Board to promulgate regulations necessary to carry out the provisions of the act.

Omission of Proposed Rulemaking

Under authority of section 204 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. § 1204), known as the Commonwealth Documents Law (CDL), the Board has omitted procedures for proposed rulemaking set forth in sections 201 and 202 of the CDL (45 P. S. §§ 1201 and 1202). Proposed rulemaking has been omitted because: (1) examination candidates affected by the final-omitted rulemaking have been given actual notice of the Board's intention to adopt the amendments prior to the publication of this final-omitted rulemaking; and (2) public comment is unnecessary in that the final-omitted rulemaking adopts National standards regarding new completion requirements for the uniform certified public accountant (CPA) examination and deletes or clarifies other regulations relating to agency procedures and examination administration.

Overview of CPA Examination

Section 3.1(b) of the act (63 P. S. § 9.3a(b)) provides, consistent with earlier statutory provisions, that the CPA examination must be a written examination covering four broad subject areas, that the examination must be held at least twice each year and simultaneously in at least two counties in this Commonwealth and that the Board may use the uniform CPA examination adopted by the American Institute of Certified Public Accountants (AICPA).

All states have adopted the AICPA examination as the required examination for certification as a CPA. Through 2003, the examination was a four-part, paper-and-pencil examination that was administered over a 2-day period during May and November of each year. States had differing requirements regarding how many times an examination candidate could take the examination to achieve a passing score on all parts of the examination and the circumstances under which a candidate could receive "conditional credit" for passing one or more parts of the examination.

Effective April 5, 2004, the AICPA examination will be a four-part, computer-based examination with reorganized subject matter that will be administered at least 5 days a week during an examination window that consists of the first 2 months of each quarter of every year beginning April 5, 2004. All states are adopting uniform completion standards, jointly developed by the AICPA and the National Association of State Boards of Accountancy (NASBA), that require an examination candidate to pass all parts of the examination during a rolling 18-month period beginning on the date the candidate first passes one part of the examination. All states are also adopting special completion requirements for an examination candidate who, as of the launch date of the computer-based examination, retained conditional credit for passing parts of the paper-and-pencil examination. In addition, all states are eliminating or revising examination administration regulations that conflict with the more flexible arrangements permitted under the computer-based format.

The Board's test administration contractor, CPA Examination Services (CPAES), a unit of the NASBA, has

provided information about the new computer-based examination, including completion requirements, to all initial candidates for the computer-based examination as well as to all candidates with conditional credit from the paper-and-pencil examination for whom there is current address information.

Description of Final-Omitted Rulemaking

§ 11.4

Section 11.4 lists examination fees, license renewal fees and fees charged for Board services. The final-omitted rulemaking deletes the references to examination fees. Examination fees for the licensing boards within the Bureau of Professional and Occupational Affairs are established by contract between the Commonwealth and the independent testing organizations that process examination applications; develop, administer and grade the examinations; and report examination scores. The AICPA develops and grades the CPA examination. The NASBA reports examination scores and maintains a National examination database. CPAES processes examination applications. Effective April 5, 2004, Prometric, a division of the Thomson Corporation, will administer the examination at its computer-based test centers throughout the United States. The Board has no role in establishing or collecting any of the fees charged by the AICPA, the NASBA, CPAES and Prometric.

Upon implementation of the computer-based examination, the fees for taking all or individual parts of the examination will increase, with the fee for the complete (four-part) examination rising from \$135 to \$470. The fee for taking each part of the examination separately will range from \$100.50 to \$134.50, depending on the part taken. The fees for taking one part, two parts or three parts of the paper-and-pencil examination were \$67.50, \$90 and \$112.50, respectively. The application processing fee charged by CPAES for the computer-based examination will be \$75, which is \$30 more than the application processing fee charged for the paper-and-pencil examination. An examination candidate may obtain information about all examination-related fees directly from CPAES or through links on the Board's website.

§ 11.11

Section 11.11 provided that an application for examination must be submitted in a manner prescribed by the Board. The final-omitted rulemaking deletes this section. An examination candidate submits the examination application directly to CPAES, which reviews the application for conformity with examination eligibility requirements in the act and the Board's regulations. The application form and instructions are customized by CPAES to reflect the Commonwealth's eligibility requirements.

§ 11.12

Section 11.12 provided that the examination was administered in at least two counties in this Commonwealth as directed by the Board, and that current examination locations were shown on the examination application. The final-omitted rulemaking deletes this section. Section 3.1(b) of the act requires that the examination be administered in at least two counties. It is not necessary or practical for examination locations to be listed on the examination application. An examination candidate will be able to take the computer-based examination at any of the approximately 300 Prometric test centers throughout the United States, including 10 locations in this Commonwealth. A candidate will be able to obtain test center information directly from Prometric.

§ 11.13

Section 11.13 provided that the examination was administered in May and November, and that the examination dates were shown on the examination application. The final-omitted rulemaking deletes this section. The paper-and-pencil examination was administered over a 2-day period in May and November of each year. The computer-based examination will be administered at least 5 days a week during the first 2 months of each 3-month examination window that begins April 5, 2004. An examination candidate will be able to obtain information about examination dates directly from CPAES and Prometric.

§ 11.14

Section 11.14(a) required that an application from a new examination candidate must be received by February 15 for the May examination and by August 15 for the November examination. Section 11.14(b) required that an application from a reexamination candidate must be received by March 1 for the May examination and by September 1 for the November examination. Section 11.4(c) provided that the date of receipt would be determined by the postmark date.

The final-omitted rulemaking deletes this section. There is no need for application deadlines with the new computer-based examination. CPAES will accept an examination application at any time. An eligible candidate will receive a "notice to schedule" from CPAES. A candidate uses the "notice" to schedule an appointment with Prometric to take the examination at one of its test centers. Depending upon the availability of the date, time and location selected, a candidate will be able to schedule an appointment with as little as 6 days' notice to Prometric.

§ 11.15

Section 11.15 provided that an examination candidate in this Commonwealth with a permanent or temporary location in another state could have taken the examination in the other state if the state's accountancy licensing board allows it. The candidate had to obtain permission from the other state's accountancy licensing board before submitting an examination application and must indicate on the application the out-of-State location where the examination will be administered.

The final-omitted rulemaking deletes this section. An examination candidate in this Commonwealth who satisfies examination eligibility requirements will be able to take the computer-based examination at any Prometric test center in the United States without seeking prior approval of the accountancy licensing board of the state where the test center is located. Section 3.1(a)(1) of the act requires that an examination candidate in this Commonwealth must have a connection to this Commonwealth at the time the examination is initially taken. The connection is established through maintaining a residence in this Commonwealth, being a graduate of, or being currently enrolled in, a college or university in this Commonwealth or being employed in this Commonwealth under the supervision of a licensed CPA.

§ 11.16

Section 11.16(a) sets forth the examination completion requirements for a candidate who initially took the examination on or after November 1, 1990. A candidate must initially sit for all parts of the examination and must pass at least two parts to receive credit. A candidate who does not pass at least two parts must retake the entire examination. A candidate who passes at least two

parts may sit for one or both of the remaining parts at the candidate's discretion. A candidate who does not pass all parts within 5 years (that is, ten examination opportunities under the paper-and-pencil examination) must re-apply as a new candidate and retake the entire examination.

Section 11.16(b) sets forth the examination completion requirements for a candidate who initially took the examination before November 1, 1990. A candidate must initially sit for all parts of the examination and must continue to sit for all parts not passed. A candidate will receive credit for each part of the examination passed provided the candidate scored at least 20% on the parts not passed. A candidate is not subject to a deadline for passing all parts of the examination. The Board imposed stricter completion requirements in November 1990, to make the Commonwealth's requirements more comparable with those of other states.

Section 11.16(c) provided that a candidate who passed the accounting practice part of the examination before May 1994 will receive credit for passing two parts of the examination. This section reflects a restructuring, in May 1994, of the examination format from a five-part examination, including two parts on accounting practice, to a four-part examination, including one part on accounting practice.

The final-omitted rulemaking amends § 11.16 in its entirety by establishing new completion requirements for the computer-based examination based on model regulations developed by the AICPA and the NASBA.

Amended § 11.16(a) provides that a four-part, computer-based examination will replace the four-part, paper-and-pencil examination effective April 5, 2004. The examination will be administered during an examination window that consists of the first 2 months of each quarter of every year beginning April 5, 2004. An examination candidate may take the four parts of the examination individually or in combination and in any order. A candidate may take each unpassed part once during each examination window. A candidate will receive conditional credit for passing each part of the examination, without regard to the scores on the parts not passed.

Amended § 11.16(b) provides that an examination candidate without conditional credit from the paper-and-pencil examination must pass all four parts of the examination during a rolling 18-month period (comprising six examination windows) that begins from the date the candidate first passes one part of the examination. If a candidate does not pass all parts within the 18-month period, conditional credit for any part passed outside the 18-month period will expire and that part must be retaken. There is no deadline or time period within which a candidate must first pass a part of the examination.

Amended § 11.16(c) establishes the completion requirements for an examination candidate who initially took the examination in November 1999 or thereafter and who, as of April 5, 2004, had received conditional credit for passing at least two parts of the examination. Because of the 5-year completion requirement (comprising ten examination opportunities) for candidates who initially took the examination on or after November 1, 1990, there are currently no candidates with conditional credit who initially took the examination between November 1990 and May 1999. A candidate must pass the remaining parts of the examination within a 5-year period from the date of initial examination. Consistent with the model regulations developed by the AICPA and the NASBA, a candi-

date will have the same number of opportunities to complete the computer-based examination as would have been available under the paper-and-pencil examination. For example, a candidate who initially took the examination in November 2000 would have had seven examination opportunities before implementation of the computer-based examination (that is, November 2000, May 2001, November 2001, May 2002, November 2002, May 2003 and November 2003) and, therefore, will have three examination opportunities, or windows, remaining as of April 5, 2004.

The following chart illustrates the relevant completion requirements based on when a candidate initially took the examination:

| <i>Initial Examination Date</i> | <i>Available Examination Windows</i> | <i>Examination Completion Date</i> |
|---------------------------------|--------------------------------------|------------------------------------|
| November 3-4, 1999 | 1 | November 4, 2004 |
| May 3-4, 2000 | 2 | May 4, 2005 |
| November 1-2, 2000 | 3 | November 2, 2005 |
| May 2-3, 2001 | 4 | May 3, 2006 |
| November 7-8, 2001 | 5 | November 8, 2006 |
| May 8-9, 2002 | 6 | May 9, 2007 |
| November 6-7, 2002 | 7 | November 7, 2007 |
| May 7-8, 2003 | 8 | May 8, 2008 |
| November 5-6, 2003 | 9 | November 6, 2008 |

A candidate will be permitted to take a part of the examination during any examination window between April 5, 2004, and the appropriate examination deadline. If a candidate does not pass the remaining parts of the examination by the appropriate completion deadline, or after exhausting the remaining examination opportunities, whichever occurs first, conditional credit for parts of the examination passed before April 5, 2004, will expire, and a candidate will be subject to the regular completion requirements in § 11.16(b). In that case, a candidate will retain conditional credit for any part of the examination passed on or after April 5, 2004, that is timely to the regular completion requirements.

Section 11.16(d) establishes the completion requirement for an examination candidate who initially took the examination before November 1, 1990, and who, as of April 5, 2004, had received conditional credit for passing at least one part of the examination. During the last few administrations of the paper-and-pencil examination, there were only a small number of candidates with conditional credit who initially took the examination before November 1, 1990. Under the current regulation, these candidates are under no deadline to complete the remaining parts of the examination. The model regulations developed by the AICPA and the NASBA do not contemplate that a conditioned candidate should have an unlimited amount of time to pass the remaining parts of the examination. A completion deadline contributes to the validity of the examination as a useful measurement of technical knowledge and skill because it requires a candidate to demonstrate more or less contemporaneous mastery of the complex subject areas related to the practice of public accounting.

Section 11.16(d) requires a candidate who initially sat for the examination before November 1, 1990, to pass the remaining parts of the examination during an 18-month period that begins on the date when the candidate next sits for the examination on or after April 5, 2004. If a

candidate does not pass the remaining parts of the examination within the 18-month period, conditional credit for parts of the examination passed before April 5, 2004, will expire, and a candidate will be subject to the regular completion requirements in § 11.16(b). In that case, a candidate will retain conditional credit for any part of the examination passed on or after April 5, 2004, that is timely to the regular completion requirements.

The completion standard in § 11.16(d) allows a candidate with no prior completion deadline continued flexibility in determining when to resume the examination process, while requiring the candidate, upon retaking the examination, to pass the remaining parts within the same time frame as that required of a candidate who was not previously conditioned.

Section 11.16(e) provides that a candidate will retain conditional credit as of April 5, 2004, based on the following equivalency, as determined by the AICPA and the NASBA, between the four parts of the paper-and-pencil examination and the four parts of the computer-based examination:

| | |
|--|------------------------------------|
| <i>Paper and Pencil Examination</i> | <i>Computer-Based Examination</i> |
| Auditing (AUD) | Auditing and Attestation |
| Financial Accounting and Reporting (FARE) (previously Accounting Theory) | Financial Accounting and Reporting |
| Accounting and Reporting (ARE) (previously Accounting Practice) | Regulation |
| Business Law and Professional Responsibilities (LPR) (previously Business Law) | Business Environment and Concepts |

The current completion requirements lack a provision allowing the Board to extend the term of conditional credit in cases of individual hardship. Section 11.16(f) provides, consistent with the model regulations developed by the AICPA and the NASBA, that the Board may extend the term of a candidate's conditional credit upon the candidate's showing that the conditional credit expired by reason of circumstances beyond the candidate's control.

§ 11.17

Section 11.17 provided that an examination candidate must submit the application required by § 11.11, together with the examination fee, to the Board's designee. The final-omitted rulemaking deletes this section. An examination candidate may obtain detailed information about the application procedures and examination fees directly from CPAES or through links on the Board's website.

§ 11.18

Section 11.18 requires a candidate for initial examination to submit character references from three nonrelatives, including a CPA, who are residents of this Commonwealth and who have been acquainted with the candidate for at least 3 years. A candidate must submit a statement of reference form that is completed by each character reference and must have each character reference sign the examination application in a space designated for that purpose. The requirements may be waived for good cause.

The Board requires an examination candidate to submit character references because section 3.1(a)(3) of the act requires a candidate to be of good moral character. The

character references are presumptive evidence of good moral character (although the presumption may be rebutted by evidence such as a candidate's criminal record). In recent years, the Board has not required an examination candidate to submit the separate statement of reference form with the examination application because it is redundant of the character references' signatures on the application and thus creates unnecessary paperwork. Accordingly, the final-omitted rulemaking amends § 11.18 to delete the requirement of a separate statement of reference form. The final-omitted rulemaking also clarifies that an examination candidate may submit as character references on the examination application individuals who, for good cause shown by the candidate, do not satisfy all the requirements in the regulation.

§ 11.19

Section 11.19 provided that, effective with the May 1980 examination, an examination candidate received scores for each part of the examination by mail, that the scores of all candidates were mailed on the same day and that no prior disclosure of the scores was made to any candidate.

The final-omitted rulemaking deletes this section. The examination is graded by the AICPA, examination scores are processed by the NASBA and mailed to examination candidates by CPAES. A candidate is apprised during the application process of the procedures for the reporting of examination scores. Under the computer-based examination, all candidates will initially receive their scores at the end of each 3-month examination window. It is anticipated candidates will eventually receive their scores within 2 weeks of the date they took the examination.

Effective Date

The final-omitted rulemaking will take effect upon publication in the *Pennsylvania Bulletin* and will be applicable during all relevant time frames associated with implementation of the computer-based CPA examination on April 5, 2004.

Fiscal Impact and Paperwork Requirements

The final-omitted rulemaking will not have a fiscal impact on, or create additional paperwork for, the regulated community, the general public or the Commonwealth and its political subdivisions.

Regulatory Review

Under section 5.1(a) of the Regulatory Review Act (71 P. S. § 745.5a(a)), on February 17, 2004, the Board submitted a copy of the final-omitted rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate Consumer Protection and Professional Licensure Committee and the House Professional Licensure Committee. A copy of this material is available to the public upon request.

On March 4, 2004, under authority of section 5.1(g)(1) of the Regulatory Review Act, the Board tolled the review period to clarify one of the amendments, and submitted revised amendments on that date to IRRC, the Committees and the Office of Attorney General.

Under section 5.1(g)(3) and (j.2) of the Regulatory Review Act, on March 16, 2004, the revised final-omitted rulemaking was approved by the House Committee and deemed approved by the Senate Committee. Under section 5.1(e) of the Regulatory Review Act, IRRC met on March 25, 2004, and approved the final-omitted rulemaking.

Additional Information

For additional information, submit inquiries to Dorna J. Thorpe, Administrator, State Board of Accountancy, P. O. Box 2649, Harrisburg, PA 17105-2649, (717) 783-1404, ST-ACCOUNTANCY@state.pa.us.

Findings

The Board finds that:

(1) Public notice of the Board's intention to amend its regulations under the procedures in sections 201 and 202 of the CDL has been omitted under section 204 of the CDL because examination candidates affected by the amendments adopted by this order have been given actual notice of the Board's intention to adopt the amendments prior to publication of this order and because public comment is unnecessary in that the amendments adopted by this order implement National standards regarding completion of the uniform CPA examination and delete or clarify other regulations relating to agency procedures and examination administration.

(2) The amendment of the Board's regulations in the manner provided in this order is necessary and appropriate for the administration of the act.

Order

The Board, acting under the act, orders that:

(a) The regulations of the Board, 49 Pa. Code Chapter 11, are amended by amending §§ 11.4, 11.16 and 11.18 and by deleting §§ 11.11—11.15, 11.17 and 11.19 to read as set forth in Annex A.

(b) The Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for approval as to legality as required by law.

(c) The Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(d) This order shall take effect upon publication in the Pennsylvania Bulletin.

FRANCIS J. LISON, CPA, Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 34 Pa.B. 1865 (April 3, 2004).)

Fiscal Note: Fiscal Note 16A-5510 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 49. PROFESSIONAL AND VOCATIONAL STANDARDS

PART I. DEPARTMENT OF STATE

Subpart A. PROFESSIONAL AND OCCUPATIONAL AFFAIRS

CHAPTER 11. STATE BOARD OF ACCOUNTANCY GENERAL PROVISIONS

§ 11.4. Fees.

Following is the schedule of fees charged by the Board:

Table with 2 columns: Fee description and Amount. Rows include Certification and initial licensure of certified public accountant (\$65), Initial licensure of public accounting firm (\$45), and Temporary practice permit (\$25).

Table with 2 columns: Fee description and Amount. Rows include Biennial renewal of license of certified public accountant (\$45), Reinstatement of inactive or expired license (\$35), Certification of scores (\$25), Verification of certification, registration or licensure (\$15), Initial approval of program sponsor or reapproval of previously approved program sponsor when application is submitted after April 30, 2001 (\$145), Reapproval of previously approved program sponsor when application is submitted by April 30, 2001 (\$120), and Biennial renewal of approval of program sponsor beginning January 1, 2004 (\$120).

EXAMINATIONS

§ 11.11. (Reserved).

§ 11.12. (Reserved).

§ 11.13. (Reserved).

§ 11.14. (Reserved).

§ 11.15. (Reserved).

§ 11.16. Examination completion requirement.

(a) Effective April 5, 2004, the four-part, paper-and-pencil CPA examination will be replaced with a four-part, computer-based CPA examination. The examination will be administered during an examination window that consists of the first 2 months of each quarter of every year beginning April 5, 2004. An examination candidate may take the four parts of the examination individually or in combination, and in any order. A candidate may take each unpassed part of the examination once during each examination window. A candidate will receive conditional credit for passing each part of the examination, without regard to the scores on the parts not passed.

(b) Except as provided in subsections (c) and (d), an examination candidate shall pass all parts of the examination during a rolling 18-month period that begins on the date the candidate first passes one part of the examination. If the candidate does not pass all parts of the examination within the 18-month period, conditional credit for any part passed outside the 18-month period will expire, and the candidate shall retake that part of the examination.

(c) An examination candidate who, as of April 5, 2004, had received conditional credit for passing at least two parts of the examination since November 1999 shall pass the remaining parts of the examination within 5 years from the date the candidate initially took the examination.

(1) The candidate shall be permitted to take the remaining parts of the examination during the following number of examination windows, depending on when the candidate initially took the examination:

Table with 3 columns: Initial Examination Date, Available Examination Windows, and Examination Completion Date. Rows show windows for candidates who took the exam in November 1999, May 2000, and November 2000.

| <i>Initial Examination Date</i> | <i>Available Examination Windows</i> | <i>Examination Completion Date</i> |
|---------------------------------|--------------------------------------|------------------------------------|
| May 2-3, 2001 | 4 | May 3, 2006 |
| November 7-8, 2001 | 5 | November 8, 2006 |
| May 8-9, 2002 | 6 | May 9, 2007 |
| November 6-7, 2002 | 7 | November 7, 2007 |
| May 7-8, 2003 | 8 | May 8, 2008 |
| November 5-6, 2003 | 9 | November 6, 2008 |

(2) The candidate may take a part of the examination during any examination window between April 5, 2004, and the appropriate completion deadline.

(3) If the candidate does not pass the remaining parts of the examination by the appropriate completion deadline, or after exhausting the remaining examination opportunities, whichever occurs first, conditional credit for the parts of the examination passed before April 5, 2004, will expire, and the candidate shall thereafter be subject to the requirements of subsection (b). In that case, the candidate will retain conditional credit for any part of the examination passed after April 5, 2004, that is timely to the requirements of subsection (b).

(d) An examination candidate who initially took the examination prior to November 1990 and who, as of April 5, 2004, had received conditional credit for passing at least one part of the examination shall pass the remaining parts of the examination within 18 months from the date the candidate next takes the examination on or after April 5, 2004. If the candidate does not pass the remaining parts of the examination within the 18-month period, conditional credit for the parts of the examination passed before April 5, 2004, will expire, and the candidate shall thereafter be subject to the requirements of subsection (b). In that case, the candidate will retain conditional credit for any part of the examination passed after April 5, 2004, that is timely to the requirements of subsection (b).

(e) For purposes of subsections (c) and (d), an examination candidate with conditional credit under the paper-

and-pencil examination will receive conditional credit under the computer-based examination based on the following equivalency between the four parts of the two examinations:

| <i>Paper and Pencil Examination</i> | <i>Computer-Based Examination</i> |
|--|------------------------------------|
| Auditing (AUD) | Auditing and Attestation |
| Financial Accounting and Reporting (FARE) (formerly Accounting Theory) | Financial Accounting and Reporting |
| Accounting and Reporting (ARE) (formerly Accounting Practice) | Regulation |
| Business Law and Professional Responsibilities (LPR) (formerly Business Law) | Business Environment and Concepts |

(f) Notwithstanding the requirements of subsections (a)—(c), the Board may extend the term of a candidate's conditional credit upon the candidate's showing that the conditional credit expired by reason of circumstances beyond the candidate's control.

§ 11.17. (Reserved).

§ 11.18. Character references for examination.

An initial candidate for the CPA examination shall have three individuals, including one certified public accountant, sign the examination application as character references. The individuals selected as character references shall be residents of this Commonwealth who have known the candidate for at least 3 years and who are not related to the candidate. The candidate may submit with the examination application other individuals as character references if the candidate, for good cause shown, is unable to obtain the signatures of individuals who satisfy the requirements of this section.

§ 11.19. (Reserved).

[Pa.B. Doc. No. 04-553. Filed for public inspection April 2, 2004, 9:00 a.m.]