Testimony by:

PENNSYLVANIA AMERICAN WATER

Before The House Consumer Affairs Committee

Presented by:

Kathy L. Pape
President and CEO
Pennsylvania American Water

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Good morning, I'm Kathy Pape, President and CEO of Pennsylvania American Water. I'd like to thank Chairman Godshall and the Committee for inviting me to brief you on the water event that occurred this past May.

First, on behalf of the employees of Pennsylvania American Water, I want to express our sincere thanks to this community for its patience and cooperation during the event, which included a precautionary boil water advisory. The community's support meant a great deal to our team as we worked around the clock to resolve the issue and restore normal service to our customers.

My remarks will cover what happened and the root causes of the event, how we communicated with our customers, regulators, state and municipal leaders and other stakeholders during the event, and then what short-term measures and long-range improvements we are making to prevent this incident from happening again.

Let me start by making one very important point: The water quality leaving our Norristown Water Treatment Plant was NEVER compromised at any time during the event. The issues we faced at the plant with high turbidity (cloudiness) in our source water slowed down the treatment process, which meant the plant's production could not keep pace with customer demand. But at no time did the plant distribute any "contaminated" water to customers, so this fact needs to be very clear.

Event Background and Timeframe

Our Norristown Water Treatment Plant provides an average delivery of 10.5 million gallons per day (MGD) to supply water service for approximately 31,000 local customers. The incident that began the evening of Monday, May 19, 2014, was preceded by a series of significant weather events that churned up excessive turbidity levels in the plant's source of supply, the Schuylkill River.

- On April 30 through May 1, the first storm event dropped approximately 7 inches of rain in the watershed. In fact, the heavy rains temporarily flooded the area around our Norristown treatment plant, shutting off all vehicle access to the facility.
- On May 1, the Schuylkill River crested at Norristown at 20.83 feet, which is fourth highest crest on record following: 1) Hurricane Agnes; 2) Hurricane Floyd; and 3) Chesapeake-Potomac Hurricane of 1933.
- A second storm occurred on May 10-11, producing approximately 0.6 inches of rain.
- Third storm event on May 16, totaled approximately 1.7 inches of rain.

This series of heavy rainfalls created high turbidity in the raw water supply. Starting the evening of May 19, our plant staff, supervisors and senior Pennsylvania American Water managers worked non-stop to troubleshoot and resolve the issues until normal service was restored and the boil water advisory was lifted on May 23.

The treatment plant actually shut down automatically for short durations, because the high turbidities and filtration issues essentially plugged all seven (7) filters. As plant supervisors and operators worked to remedy the situation, we initiated contact with representatives from the Pennsylvania Department of Environmental Protection and the Pennsylvania Public Utility Commission.

The first calls to DEP's Emergency Response and PUC's Emergency Service officials were placed shortly after the incident began, and we continued to consult with regulators from both agencies to get their guidance and approval every step of the way for the duration of the event.

Our team realized early morning May 20 (4 a.m.) that the plant's slower processing and filtering of water meant production would not keep pace with customer demand, so we prepared to initiate the mandatory conservation notice. In addition, we started to deploy interconnections with neighboring water suppliers and to mobilize water tankers from other Pennsylvania American Water districts.

Again, the water quality leaving the plant was never compromised, but the quantity was not sufficient to meet demand. Pennsylvania American Water issued the conservation notice to save as much water as possible in our distribution system. Under the conservation notice, we asked all of our Norristown area customers to limit their water use to essential purposes only until the plant issues could be resolved. The communities affected by the conservation notice were:

- Norristown
- Bridgeport

- East Norriton Township
- West Norriton Township
- Upper Merion Township
- Lower Providence Township
- Plymouth Township
- Whitpain Township
- Worcester Township
- Perkiomen Township
- Whitemarsh Township

Eventually, late in the day on May 20, when customer demand peaked, several storage tanks emptied and water pressure was completely lost in certain communities, which required the precautionary boil water advisory to be issued, according to DEP guidelines. This is an important distinction, because we know there were questions why all the customers who received the conservation notice were not also placed under the boil water advisory.

Pennsylvania American Water issued the precautionary boil water advisory at approximately 7:20 p.m. for customers in those six municipalities where we experienced the loss of water pressure, because the loss of pressure creates the potential for bacteria to enter the distribution system. The six affected communities were: East Norriton Township, West Norriton Township, Lower Providence Township, Whitpain Township, Worcester Township, Whitemarsh Township.

Fortunately, overnight on May 20 into May 21, our plant staff made significant progress in backwashing filters to resolve the treatment issues, and production levels started to return to normal. By the morning of May 21, storage tank levels were recovering, water pressure returned, and all impacted customers were back in water service. Our Water Quality team then consulted with DEP on the process for lifting the boil water advisory.

Remember: The advisory was a strictly precautionary measure because there was no evidence of any contamination. But to lift the advisory, DEP guidelines require two sets of water samples over consecutive days to come back negative for the presence of bacteria. The two sets of samples taken from 11 sites in the distribution system confirmed that our water quality met all regulatory standards, and we were able to lift the boil advisory around noon on May 23.

Communications

Communication is critical in these types of events, so let me explain how Pennsylvania American Water communicated with our customers and other stakeholders. Throughout the event, we used a number of channels to make customers aware of the situation, what they should do, and to provide regular updates. First, when the mandatory water conservation notice was issued (early May 20), we launched our autodialer system to communicate it to our entire Norristown area database of approximately 31,000 customers. In addition, the information was distributed via news release to all Norristown/Philadelphia media outlets, as well as through our website and social media sites.

When it was necessary to issue the precautionary boil water advisory for certain communities later in the evening (7:20 p.m.), we launched the autodialer system again to reach approximately 18,600 customers in the six affected municipalities. The advisory was also distributed through news release to Norristown/Philadelphia media outlets, as well as posted on our website and social media sites.

We also assembled a team to personally contact our list of critical customers, which totaled approximately 400 institutions, health care facilities and businesses.

On May 23, when we were able to simultaneously lift the boil water advisory and conservation notice, we again launched the autodialer system. The lift notices were also communicated through news release to the same local media outlets, as well as posted on our website and social media sites.

Let me emphasize that social media was an important tool we used to help share information with customers, to address questions and concerns, and to provide updates. Our Facebook and Twitter pages not only linked to the notices and news releases, but also provided FAQs to help customers understand what they should do, where water tankers were located, and what we were doing to resolve the issue. This information was widely shared and retweeted on other websites and social media, including the county and municipalities in the affected areas. In particular, the Montgomery County Department of Public Safety and the Montgomery County Health Department were very helpful in sharing updates through their social media networks. Our Communications Team also responded to many customers' questions via social media.

During the event, we also hosted daily conference calls (May 21-23) with state legislators/staff, Montgomery County representatives, municipal government officials, and fire and emergency services personnel. Our Vice President of Operations and local

supervisors used the calls to provide information and answer questions about the status of our efforts to resolve the situation, customer impact, availability of alternate water supplies and coordination with emergency services. After the event, a number of participants provided positive feedback that the calls were very useful in helping them address questions and concerns from their constituents.

Root Causes of the Event

- As previously discussed, the residuals (solids and sediment) produced from high raw water turbidity from the three storms between April 30 and May 16 exceeded the plant's design capacity for treatment.

- As is our normal plan during periods of high residual levels, we were removing the liquid residuals from the plant by tanker truck in the period leading up to the event, but not at a rate sufficient to keep up when with the increasing residuals production.

- The trigger for the treatment plant issues was a filter backwash initiated on May 19, using residuals wastewater clarifier #1 to accept the backwash, because clarifier #2 was out of service for repair. With the high level of residuals in clarifier #1, the filter backwash unexpectedly led to a large volume of residuals exiting the clarifier unit and go directly back to the head of the plant through the recycle operation.

We understand one of the primary questions is, "Why did your facility have this issue when other water providers in the region did not? The fact is that our Norristown Water Treatment Plant is a "zero discharge" facility. This means it does NOT discharge anything into the Schuylkill River. Nearly all of the residuals that are collected during the water treatment process are recycled, treated and beneficially reused, which we believe is an environmentally responsible approach.

Also, we do not have a NPDES permit to allow discharging clarified (residual) wastewater into the river. The clarified water that is removed from the residuals is recycled back into the treatment process. But even if we wanted to discharge during this event, the plant doesn't have the infrastructure (e.g. pipe) to transport clarified residual water into the river.

- NOTE: There are very few zero-discharge facilities in the region. For example, Philadelphia Water Department's facilities, Pottstown Borough and Phoenixville Borough Authorities, and Pennsylvania American Water's Shady Lane plant are

also located on the Schuylkill River – and all have NPDES permits to discharge into the river. Another large southeast PA supplier, Aqua Pennsylvania, operates treatment plants that have NPDES permits to discharge, while other Aqua facilities are supplied by reservoirs, so their sources are not affected by turbidity issues.

Short-term measures and long-range improvements

Pennsylvania American Water managers have already reviewed and modified our Standard Operating Practices to put in place new operating thresholds related to:

- Managing the facility's clarifier and thickener levels
- Removing a unit from service
- Trucking of liquid residuals

The final revisions to our written operations plan incorporating the operating thresholds and any other operational changes that resulted from this event were completed July 3, 2014.

We are also currently reviewing the need for improving and/or constructing additional emergency interconnections with neighboring water purveyors, and the implementation of the recommendations will occur in 2014 and 2015.

Lastly, we are planning capital improvements to enhance the long-term reliability and capacity of the residuals management process at the plant, starting with an evaluation of the existing process and a review of the historical data, including data from this event. The evaluation will include an alternative NPDES discharge option and recommendations for expansion or other improvements. We expect construction of plant improvements to begin in 2015.

This capital improvement project will be the latest example of our proactive investments in the local water infrastructure. Over the past two years, we spent more than $10 million to maintain and improve this community's water system, such as replacing aging water main and upgrading the Forest Avenue Booster Station.

In the aftermath of the event, Pennsylvania American Water managers have continued to meet with officials from DEP's Southeast PA Regional Office. We also conducted plant tours for representatives from DEP and PUC to analyze what occurred and how to prevent it from happening again. Our discussions with DEP have included the capital improvements to expand the plant's residuals processing capacity, as well as an

alternative NPDES permit option, and DEP expressed their support and willingness to work with us on those measures.

Let me close by again thanking Montgomery County officials, our state legislators and the many municipal government leaders, along with the fire and emergency services personnel, for their outstanding cooperation during the event. I also want to recognize our local water industry colleagues, specifically North Penn Water Authority, North Wales Water Authority and Aqua Pennsylvania, who stepped up to provide supplemental supply through our interconnections. Their assistance truly helped minimize the impact on our customers, and we are very grateful for their support and professionalism.

I am also extremely proud of how the employees of Pennsylvania American Water responded with tireless dedication, working non-stop day and night to restore normal water service as soon as possible. Thank you and I welcome the opportunity to answer questions.

Pa PUC - Water Service Outages
Fact Sheet

The Pennsylvania Public Utility Commission (PaPUC) adheres to several sets of regulations within 52 Pa Code for water companies. Service interruptions and outages are specifically addressed in the following:

52 Pa Code § 56.71. Interruption of service
52 Pa Code § 65.5. Interruptions of service
52 Pa Code § 67.1. Service Outages, General provisions
52 Pa Code § 69 Statements of Policy, Unscheduled Water Service Interruptions and Associated Actions

Copies are included below for reference.

Of the above, the Statements of Policy at 52 Pa Code §69 are the most comprehensive.

52 Pa Code [excerpts]

§ 56.71. Interruption of service.

A public utility may temporarily interrupt service when necessary to effect repairs or maintenance; to eliminate an imminent threat to life, health, safety or substantial property damage; or for reasons of local, State or National emergency.

(1) *Interruption with prior notice.* When the public utility knows in advance of the circumstances requiring the service interruption, prior notice of the cause and expected duration of the interruption shall be given to customers and occupants who may be affected.

(2) *Interruption without prior notice.* When service is interrupted due to unforeseen circumstances, notice of the cause and expected duration of the interruption shall be given as soon as possible to customers and occupants who may be affected.

(3) *Notification procedures.* When customers and occupants are to be notified under this section, the public utility shall take reasonable steps, such as personal contact, phone contact and use of the mass media, to notify affected customers and occupants of the cause and expected duration of the interruption.

(4) *Permissible duration.* Service may be interrupted for only the periods of time as are necessary to protect the health and safety of the public, to protect property or to remedy the situation which necessitated the interruption. Service shall be resumed as soon as possible thereafter.

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§ 65.5. Interruptions of service.

(a) *General.* A public utility shall keep a record of each prolonged interruption of service affecting its entire system or a part of its system. This record shall contain the time, cause, extent and duration of the interruption. Further, the interruptions shall be treated in accordance with the provisions of § 56.71 (relating to interruption of service) and Chapter 67 (relating to service outages).

(b) *Scheduled interruptions.* Scheduled interruptions shall be made at hours that will provide least inconvenience to the customers consistent with reasonable and economical utility operating practices.

* * *

§ 67.1. General provisions.

(a) Electric, gas, water and telephone utilities holding certificates of public convenience under 66 Pa.C.S. § § 1101 and 1102 (relating to organization of public utilities; and beginning of service and enumeration of acts requiring certificate) shall adopt the following steps to notify the Commission with regard to unscheduled service interruptions.

(b) All electric, gas, water and telephone utilities shall notify the Commission when 2,500 or 5.0%, whichever is less, of their total customers have an unscheduled service interruption in a single event for 6 or more projected consecutive hours. A service outage report shall be filed with the Commission within 10 working days after the total restoration of service. Where storm conditions cause multiple reportable interruptions as defined by this section, a single composite service outage report shall be filed for the event. Each report must contain the following information:

(1) The approximate number of customers interrupted during the event.

(2) The approximate number of trouble cases for each county affected during the event. Trouble cases are non-outage cases such as primary and secondary line-down calls and emergency calls.

(3) The approximate number of outage cases for each county affected during the event.

(4) The number of outage cases exceeding 6 or more hours in duration.

(5) A listing of each outage case exceeding 6 or more hours in duration, including the following:

(i) Approximate geographic location (county, city, municipality or township).

(ii) Total number of customers affected.

(iii) Duration of the outage.

(iv) Initial date and time of the outage.

(v) Restoration time and date.

(6) The reason for the interruption.

(7) The projected time for service restoration of the event.

(8) A listing of the number of utility workers assigned specifically to the repair work by general function, that is linemen, troublemen, tree crew, and the like.

(9) A listing of the number of contract workers assigned specifically to the repair work by company and by general function, that is linemen, troublemen, tree crew, and the like.

(10) A listing of the number of workers received as mutual aid by company and by general function, that is linemen, troublemen, tree crew, and the like.

(11) The date and time of the first information of a service interruption.

(12) The date and time that repair crews were assembled.

(13) The actual time that service was restored to the last affected customer.

(14) A general description of the physical damage sustained by the utility facilities as a result of the event. The description must include facilities replaced due to damage and a listing of the number of poles, transformers, spans of wire, pipes or valves replaced.

(15) For weather-related events, the utility's weather reports, outlooks or scenarios for the day before and the day of the interruption event.

(16) For all interruption events that caused outages to more than 10% of customers in the utility's service territory, and to the best of the utility's ability to access historical data, the historical ranking of the event in terms of the number and duration of outages and examples of two comparable events, including the number and duration of outages for those comparable events.

(c) In addition to the requirements of subsection (b), the utility shall notify the Commission by telephone within 1 hour after preliminary assessment of conditions reasonably indicates that the criteria listed in subsection (b) may be applicable. Subsection (b)(1), (3), (6) and (7) shall be used as guidelines for the telephone report. The Commission will maintain telephone lines for this purpose and will notify each utility of the numbers to be called. Blank outage reporting forms are available for download on the Commission's web site.

(d) The Commission will implement a plan to govern its internal operations in receiving notification of service interruptions, in investigating such interruptions, and in assisting the customers of the utility, the utility and Commonwealth agencies in restoring service.

(e) All electric, gas, water and telephone utilities shall list in the local telephone directories of their service areas, and on their web sites, a telephone number to be used during normal operating hours and an emergency telephone number to be used 24 hours in emergency service situations.

(f) As defined in subsection (b), the service outage report must contain the required information except for the following utilities:

(1) Gas utilities are not required to submit the information under subsection (b)(2), (5), (14), (15) and (16).

(2) Water utilities are not required to submit the information under subsection (b)(2), (15) and (16).

(3) Telephone utilities are not required to submit the information under subsection (b)(2), (4), (5), (8), (9), (10), (12), (14), (15) and (16). Alternatively, in lieu of the service outage report required under subsection (b), telephone utilities may file a comparable outage report required by the Federal Communications Commission as long as the comparable report, at a minimum, contains the following information:

(i) The name of the reporting entity.

(ii) The reason for the interruption.

(iii) The date and time of the first information of a service interruption.

(iv) The approximate number of customers interrupted.

(v) The geographic area affected by the interruption.

(vi) The actual time that service was restored to the last affected customer.

(g) The reporting under this chapter is not limited to the requirements in this section and does not limit requests for additional information.

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UNSCHEDULED WATER SERVICE INTERRUPTIONS AND ASSOCIATED ACTIONS

§ 69.1601. General.

(a) The purpose of this statement of policy is to provide guidance to the water industry relating to unscheduled water service interruptions, particularly regarding the types of public notice and associated actions that will be deemed acceptable and appropriate for meeting the safe, reasonable and adequate standard in 66 Pa.C.S. § 1501 (relating to character of service and facilities) and for complying with the Commission's regulation in § 56.71 (relating to interruption of service). It is imperative that affected ratepayers/occupants receive actual, timely and sufficient notice of unscheduled service interruptions whenever a situation affects water quality or quantity and particularly when the water is unsafe to drink.

(b) Affected ratepayers/occupants should be notified when 2,500 or 5%, whichever is less, of a utility's total ratepayers/occupants have an unscheduled service interruption involving any reduction in the quantity of water in a single incident of 6 or more consecutive hours. Timely notification of fewer customers, however, is recommended when practicable. When there is an unscheduled service interruption involving the quality of water, water utilities should follow the applicable Department of Environmental Protection regulations regarding the public notification requirements for events requiring Tier 1 notification under 25 Pa. Code § 109.408(b) (relating to Tier 1 public notice—form, manner and frequency of notice), or Tier 2 notification under 25 Pa. Code § 109.409(b). Timely notification of customers in other incidents affecting the quantity or quality of water, such as water in short supply, discolored or sediment-laden, however, is recommended when practicable. It is also recommended that utilities set as a goal the Tier 1 time frame of ''as soon as possible'' rather than ''no later than 24 hours'' and the Tier 2 time frame of ''as soon as possible'' rather than ''but no later than 30 days.''

(c) This statement of policy should not be considered to modify or replace in any way the public notice requirements of the Department of Environmental Protection found in 25 Pa. Code § § 109.407—109.416 (relating to public notification).

Source

The provisions of this § 69.1601 adopted December 15, 2006, effective December 16, 2006, 36 Pa.B. 7624.

§ 69.1602. Public notification guidelines.

(a) *Acceptable methods of public notification.* In the event of an unscheduled water service interruption, the following acceptable methods of public notification should be considered and utilized as appropriate:

(1) *Mass media.* Facsimile/electronic mail notification to local radio and television stations, cable systems, newspapers and other print and news media as soon as possible after the event occurs. These notifications must provide relevant information about the

event, such as the affected locations, its potential impact including the possible duration of the outage, the possible adverse health effects and the population or subpopulation particularly at risk, and a description of actions affected ratepayers/occupants should take to ensure their safety, with updates as often as needed. Updates should be provided on a predictable, regular schedule for the duration of the event. The Commission's Office of Communications and Lead Emergency Preparedness Liaison Officer should also receive these notifications.

(2) *Web site.* Use of the utility's own Internet web site and 24/7 emergency phone line and integrated voice response system to provide relevant information about the event, such as the affected locations, estimated duration, its potential impact including possible adverse health effects and the population or subpopulation particularly at risk, and a description of actions affected ratepayers/occupants should take to ensure their safety, with updates as often as needed. A section of the utility's web site shall be dedicated to presenting outage information where regular updates of the number of customers without service by geographic area and estimated restoration times are available. Depending on the utility's system limitations, this could be as simple as a PDF or spreadsheet file of information that is updated at regular intervals.

(3) *Automated dialer system.* Automated dialer system (outbound dialing) notification to affected ratepayers'/occupants' landline or wireless phones. Updates should be provided at regular intervals or if the estimated restoration time changes by more than 2 hours.

(4) *Actual notice.* Actual notice to affected health care and child care facilities and other facilities, for example, schools and restaurants, as determined by consultation with the Department of Environmental Protection, the Department of Agriculture, the Department of Health, the Department of Aging and other State agencies as necessary.

(5) *Miscellaneous.* Other types of direct or actual notice, such as doorknob flyers distributed to affected ratepayers/occupants, when feasible.

(6) *Electronic mail and other emerging technology.* Electronic mail and text message notification to affected customers who have opted to receive notice through use of these methods. The use of emerging technology such as social media is strongly encouraged.

(7) *Emergency alert system.* Coordination with State and local emergency management agencies as needed to use the emergency alert system for qualifying situations.

(b) *NIMS standards.* Utilities should strive to follow the National Incident Management System (NIMS) and its Public Information System to organize all information throughout the utility into one unified message.

(1) *Crisis communication plans.* Utility crisis communication plans should be in writing and every attempt should be made to be consistent with Nationally-approved NIMS standards.

(2) *Coordination.* If more than one utility is affected in the same geographic region, strong consideration should be given to implementing the NIMS based Joint Information System/Joint Information Center, including coordinating messages on safety and other consumer information tips during outages. This would allow for coordination and integration of information across jurisdictions, especially on universal messages such as actions residents should take to ensure safety.

(3) *Public notice templates.* Utilities should have public notice templates prepared in advance to be available when needed to avoid wasting critical time developing materials when confronted with an unscheduled service interruption or emergency situation. The notices should cover all possible scenarios from water conservation to boil water alerts to contaminants of concern and associated health effects, safety and shelter information, estimated restoration times and times when updated information will be provided. Smaller utilities can refer to resources that are available on the web sites of the Department of Environmental Protection, the United States Environmental Protection Agency, the Pennsylvania Section of the American Water Works Association and the Pennsylvania Chapter of the National Association of Water Companies for assistance in developing public notice templates.

(c) *Contact information.* To ensure that the public is informed, utilities should have a knowledgeable contact person stationed onsite during the emergency, if possible, to communicate to the public and media on behalf of the company. Regular media updates should be scheduled at predictable times.

(1) *Spokesperson.* A single point of contact should be established as the sole media spokesperson for the utility for that time period. During extended outages, a secondary media spokesperson could be utilized as the sole contact for a specific period of time.

(2) *Talking points and informational sheets.* Talking points or informational sheets should be provided to customer service representatives and others who may come in contact with the public during the course of the outage to strive toward consistency of message. This information should also be shared with the Commission's Office of Communications, its Emergency Preparedness Coordinator and county emergency management agencies. For employees that may have contact with the public but will not be able to receive up-to-date outage information in the course of their duties, the utility should instruct those employees to direct the public to appropriate information sources.

Source

The provisions of this § 69.1602 adopted December 15, 2006, effective December 16, 2006, 36 Pa.B. 7624; amended February 24, 2012, effective February 25, 2012, 42 Pa.B. 1034; amended April 18, 2014, effective April 19, 2014, 44 Pa.B. 2405. Immediately preceding text appears at serial pages (360591) to (360593).

§ 69.1603. Other associated actions.

(a) Water utilities need to make reasonable efforts to ensure that adequate quantities of alternative supplies of water essential for domestic use are made available in a sufficient number of conspicuous and predetermined locations relative to the number of ratepayers/occupants affected by the incident. This includes the use of water tankers or free bottled water, or both. Utilities should ensure that ratepayers/occupants are adequately notified of the times available and locations of alternative water supplies. When bottled water is used, utilities should have plans in place, based on prior coordination with local vendors, to have adequate supplies to last for the duration of the outage. The Commission encourages utilities to work proactively with community-based organizations that would have readily available information on the location and special needs of affected elderly or homebound ratepayers/occupants in the area.

(b) Notice should be made to Commission personnel as soon as possible upon a utility becoming aware of an unscheduled service interruption. It should be noted that § 67.1(c) (relating to general provisions) already directs utilities to contact the Commission within 1 hour following preliminary assessment of conditions. Furthermore, jurisdictional utilities should maintain lists of appropriate Commission contact personnel, including current after-hour contact numbers.

Source

The provisions of this § 69.1603 adopted December 15, 2006, effective December 16, 2006, 36 Pa.B. 7624.