PENNSYLVANIA
Outdoor Wood-Fired Boilers
25 *Pa. Code* Chapter 121 (relating to general provisions) and Chapter 123 (relating to standards for contaminants)
39 *Pa.B.* 6068 (October 17, 2009)

Environmental Quality Board Regulation #7-444
(Independent Regulatory Review Commission #2802)

Comment/Response Document

Pennsylvania Outdoor Wood-Fired Boilers

On October 17, 2009, the Environmental Quality Board (Board or EQB) published a notice of public hearings and comment period on a proposed rulemaking concerning amendments to 25 *Pa. Code* Chapters 121 and 123 (relating to general provisions; and standards for contaminants). (39 *Pa.B.* 6068) The proposed amendments would add four new terms and definitions under § 121.1 (relating to definitions). The proposed amendments would add provisions under Chapter 123 for the control of particulate matter from the operation of outdoor wood-fired boilers. On December 12, 2009, the Board published notice of an additional public hearing and an extension of the public comment period to February 12, 2010 (39 Pa.B. 7012).

The Board held five public hearings on the proposed rulemaking at the following locations:

November 30, 2009 1 p.m.	Department of Environmental Protection Rachel Carson State Office Building Room 105 400 Market Street Harrisburg, PA 17101
December 1, 2009 1 p.m.	Department of Environmental Protection Northeast Regional Office Susquehanna Conference Rooms A and B 2 Public Square Norristown, PA 18711-0790
December 2, 2009 1 p.m.	Cranberry Township Municipal Building 2525 Rochester Road Cranberry Township, PA 16066-6499
December 3, 2009 1 p.m.	Department of Environmental Protection Northcentral Regional Office Goddard Conference Room 208 West Third Street, Suite 101 Williamsport, PA 17701-6448
January 13, 2010 6 p.m.	Coudersport High School 698 Dwight Street Coudersport, PA 16915

The Board received written submittals from over 2,000 commentators regarding the proposed OWB regulations during the public hearings and public comment period. The comments generally were categorized as follows: support (538 – including 8 from legislators); support a state regulation contingent with revisions being made to the proposed regulation (723 – including 4 from legislators); and opposed (745 – including 56 from legislators).

This document summarizes the testimony received during the public hearings and the written comments received during the public comment period. An identifying number has been assigned to each commentator. A list of the commentators, including name, affiliation (if any), and city/state/country, can be found beginning on page 109 of this document. In addition, the comments received from the Senate Environmental Resources and Energy Committee and the Independent Regulatory Review Commission (IRRC) are summarized and responses provided.

The Board invited each commentator to prepare a one-page summary of the commentator's comments. Nine one-page summaries were submitted for this rulemaking and are attached at the end of this document.

Acronyms and Abbreviations used in this Comment/Response Document

APCA – Pennsylvania Air Pollution Control Act, Act of 1959 (35 P.S. §§ 4001-4015)
EQB – Environmental Quality Board
HPBA – Hearth, Patio and Barbecue Association
IRRC – Independent Regulatory Review Commission
NAAQS – National Ambient Air Quality Standard
NCRO –Northcentral Regional Office
NERO – Northeast Regional Office
NWRO –Northwest Regional Office
NESCAUM – Northeast States for Coordinated Air Use Management
OHHC – Outdoor Hydronic Heater Caucus
OWB – Outdoor wood-fired boiler
PM – Particulate matter
PM2.5 – Fine particulate matter having a diameter of 2.5 microns or less
SCRO – Southcentral Regional Office
SERO – Southeast Regional Office
SWRO – Southwest Regional Office

COMMENTS FROM THE GENERAL ASSEMBLY ON THE OUTDOOR WOOD-FIRED BOILERS RULEMAKING

COMMENTS IN SUPPORT OF THE PROPOSED REGULATION

1. COMMENT: Several Commonwealth legislators commented that they support strong regulations to reduce pollution from outdoor wood-fired boilers (OWBs) and urged the Board to adopt tough rules that will protect neighbors. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department acknowledges the support of these legislators. The final-form rulemaking retains the proposed Phase 2 OWB requirement of subsection 123.14(c), which establishes a particulate matter emission limit of 0.32 pounds of particulate emissions per million Btu of heat output for OWBs. The final-form rulemaking also retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The final-form rulemaking limits the setback and stack height requirements to OWBs installed after the effective date of the final-form regulation. The Department believes that the final-form rulemaking requirements should reduce the effects of the problems associated with the operation of OWBs, including smoke and odors.

2. COMMENT: These Commonwealth legislators commented that, according to the U.S. Environmental Protection Agency (EPA), fine particulate matter (PM2.5) pollution from OWBs is associated with heart disease, lung disease and premature death. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department agrees. Epidemiological studies have shown a significant correlation between elevated PM2.5 levels and premature mortality. Other important health effects associated with PM2.5 exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems. Individuals particularly sensitive to PM2.5 exposure include older adults, people with heart and lung disease and children. See 74 FR 58688 (November 13, 2009).

3. COMMENT: These Commonwealth legislators commented that children and the elderly are especially sensitive to the effects of fine particle pollution. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department agrees. Wood smoke from OWBs is made up PM2.5, volatile organic compounds, polycyclic aromatic hydrocarbons, metals, dioxins and furans. The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer. Upwards of 50% of the general population is

susceptible to acute and chronic PM2.5 exposure including children, asthmatics, persons with respiratory or heart disease, diabetics and the elderly.[1]

4. COMMENT: These Commonwealth legislators commented that one wood boiler can emit as much fine particle pollution as two heavy duty diesel trucks, 45 passenger cars, 1000 oil furnaces or 1800 gas furnaces. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department agrees that OWBs emit large quantities of fine particle (PM2.5) pollution. OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making OWB emissions a major health threat. The Northeast States for Coordinated Air Use Management (NESCAUM) has conducted stack tests on uncontrolled OWBs. Based on the test results, the average PM2.5 emissions from one uncontrolled OWB are equivalent to the emissions from 205 oil furnaces or as many as 8,000 natural gas furnaces. Cumulatively, the smallest OWB has the potential to emit almost 1 1/2 tons of PM every year.[2]

5. COMMENT: These Commonwealth legislators commented that one wood boiler can emit enough fine particle pollution to violate EPA health standards 150 feet away. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department appreciates your comment in support of the proposed regulation. However, the Department is unable to verify this statement. The speed and direction of air circulation and the unit's stack height will influence how far away the PM2.5 emissions travel and how quickly they are dispersed. The EPA has determined that most unqualified outdoor wood-fired heaters emit about 2 pounds of fine particle pollution per million BTUs of heat input (i.e., wood burned) -- or about 0.83 tons per year. Phase 2-qualifying units can emit no more than 0.32 pounds of fine particles per million BTUs of heat output, which is a level of emissions 90% cleaner than unqualified units.[3] On July 18, 1997, the EPA revised the National Ambient Air Quality Standard (NAAQS) for particulate matter (PM) to add a new standard for fine particles, using fine particulates equal to and less than 2.5 micrometers in diameter (PM2.5) as the indicator. The EPA set the health-based (primary) and welfare-based (secondary) PM2.5 annual standards at a level of 15 micrograms per cubic meter ($\mu g/m^3$) and the primary and secondary 24-hour standards at a level of 65 $\mu g/m^3$ (62 FR 38652). The health-based primary standard is designed to protect human health from elevated levels of PM2.5, which have been linked to premature mortality and other important health effects. The secondary standard is designed to protect against major environmental effects of PM2.5 such as visibility impairment, soiling and materials damage. Subsequently, on October

[1] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007), 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 – 208.

[2] NESCAUM. Northeast States for Coordinated Air Use Management. Assessment of Outdoor Wood-fired Boilers. P. viii. March 2006 (revised June 2006); available at: http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers.

[3] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

17, 2006, the EPA revised the primary and secondary 24-hour NAAQS for PM2.5 to 35 $\mu g/m^3$ from 65 $\mu g/m^3$ (71 FR 61236).

6. COMMENT: These Commonwealth legislators commented that wood boilers also emit cancer-causing pollution. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department agrees. Wood smoke from OWBs can contain potentially cancer-causing compounds including volatile organic compounds, polycyclic aromatic hydrocarbons, benzene, formaldehyde, metals, dioxins and furans.[4] The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer.[5]

7. COMMENT: These Commonwealth legislators commented that there are thousands of wood boilers operating across Pennsylvania. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The Department also believes that thousands of OWBs may be operating in Pennsylvania. However, we are unable to verify the actual number of units that have been sold and installed in the Commonwealth. NESCAUM estimates that over 155,000 OWBs were sold nationwide from 1990 through 2005, with 95% being sold in nineteen states. This Commonwealth is listed as one of those nineteen states, and is also listed sixth in the Nation for sales, behind Michigan, Wisconsin, Minnesota, Ohio and New York.[6] NESCAUM estimates that 11,836 OWBs, or 8%, were sold in this Commonwealth. Additionally, NESCAUM estimates that there will be 500,000 OWBs operating nationwide by 2010

8. COMMENT: These Commonwealth legislators commented that OWBs have severe effects on neighbors' quality of life. At some homes, neighbors cannot be outside because of thick smoke and fumes. Citizens report burning eyes, sinuses, throats and lungs, even inside their homes. These legislators also commented that the Board has proposed regulations that they believe will reduce these effects. They support the Board proposals for cleaner EPA Phase 2 units, clean fuels and information for wood boiler purchasers. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: Since 2005 the Department has logged 200 complaints. Many more complaints were not logged into the database, but were instead referred to the respective local municipalities. The Department believes that the final-form rulemaking

requirements will reduce the effects of the problems associated with the operation of OWBs, including smoke, odors and emissions. The final-form amendments will help

[4] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).
[5] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007), 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 – 208.
[6] NESCAUM. Northeast States for Coordinated Air Use Management. Assessment of Outdoor Wood-fired Boilers, pages 3-2 and C-2. March 2006 (revised June 2006).

assure that all of the Commonwealth will benefit from reduced emissions of PM2.5 and air toxics from OWBs. Certain provisions of the proposed OWB rulemaking have been revised at final as a result of the large number of comments received. The final-form rulemaking retains the proposed allowed fuels requirements of subsection 123.14(f), and it requires that only Phase 2-compliant units can be sold, leased, distributed or installed in this Commonwealth after May 31, 2011. The Department believes that the final-form rulemaking requirements will reduce the effects of the problems associated with the operation of OWBs, including smoke and odors.

9. COMMENT: These Commonwealth legislators commented that they believe the Board rules on smokestack heights and setbacks from property lines are a good start, but the Board must ensure that these provisions are strong enough to result in protection from health and nuisance effects. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: The final-form rulemaking limits the setback and stack height requirements to Phase 2 OWBs installed after the effective date of the final-form regulation; the Phase 2 OWBs are 90% cleaner than conventional units. The final-form rulemaking retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs.

10. COMMENT: These Commonwealth legislators commented that the Department must enforce these regulations and assist local municipalities in responding to OWB complaints. (1714, 1886, 1887, 1888, 1889, 1890, 1891, 1892)

RESPONSE: When a complaint is received by the Department, an air quality field inspector will investigate the complaint to determine if there is a violation. The first step in an enforcement action taken by the Department will be to try and assure voluntary compliance. This effort will include education related to ensuring that the OWB is not operated in a manner that causes a nuisance to surrounding property owners. In complaints such as these, the most important goal is resolving the complaint. If voluntary compliance fails, the Department will then take a more traditional enforcement path.

11. COMMENT: Three Commonwealth legislators expressed concerns about the proposed regulation, but do support fuel requirements for new and existing OWBs. (1369, 1709, 1715)

RESPONSE: The Department appreciates the commentators' support for fuel requirements. The fuel requirements in the final-form rulemaking apply to both existing and new OWBs. Outdoor wood-fired boilers can create heavy smoke, which can be a nuisance, in addition to posing health risks for residents of the OWB-heated structures and for neighbors. The potential for health risks is most likely when heaters are used improperly or located too close to homes, or have short stacks which do not allow the emissions to be dispersed adequately. Use of the wrong fuels in an OWB cannot only decrease the efficiency of the unit, but also increase pollution, and can sometimes be dangerous.

12. COMMENT: One Commonwealth legislator expressed concerns about the proposed regulation, but does support regulations that will alleviate nuisances. (1709)

RESPONSE: The Department appreciates the commentator's support. OWBs can create heavy smoke, which can be not only a nuisance, but also pose risks to public health to both residents of the OWB-heated structures and to neighbors. This is most likely when heaters are used improperly or located too close to homes. Use of the wrong fuels in an OWB can decrease the efficiency of the unit, increase pollution, and sometimes can be dangerous. Further, the proposed applicable regulatory requirements of subsection 123.14(h) are revised at final to specify that a person may not use or operate an outdoor wood-fired boiler in this Commonwealth unless it complies with all applicable Commonwealth, county and local laws and regulations.

13. COMMENT: Three Commonwealth legislators expressed concerns about the proposed regulation, but do support promoting technological advances for emission standards, as long as the standards are not retroactive. One of these legislators (986) supports applying the proposed requirements to new installations. (785, 986, 1975)

RESPONSE: The proposed emission standard was not retroactive; it applied to new Phase 2 OWBs. The Department has revised the final-form rulemaking so that the stack height requirements are not retroactive. The stack height requirements will apply only to newly installed units; a sell-through exemption for non-Phase 2 OWBs has been added that extends through May 31, 2011, for non-Phase 2 OWBs that are manufactured, distributed, purchased or leased and received before May 31, 2011. The Department also appreciates the commentators' support of the proposed emission standard requirements for new OWBs.

COMMENTS OPPOSING PARTS OR ALL OF THE PROPOSED REGULATION

14. COMMENT: Several Commonwealth legislators expressed concerns about the possible seasonal prohibition on use from May 1 through September 30 of each year and oppose adding a seasonal prohibition. The concerns included: many citizens use their OWB to heat hot water year-round; and this prohibition is unreasonable for citizens in very rural areas, where the OWB has little, if any, impact on neighbors. (322, 785, 786, 787, 788, 945, 986, 1369, 1374, 1378, 1709, 1885, 1929, 1930, 1933, 1934, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: The final-form rulemaking does not establish a seasonal prohibition.

15. COMMENT: Several Commonwealth legislators expressed concerns about the possible seasonal prohibition on use from May 1 through September 30 of each year. This prohibition does not take into account farming and dairy operations, and greenhouse operations. (785, 786, 787, 788, 945, 986, 1374, 1378, 1709, 1885, 1929, 1930, 1933, 1934, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,

2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: The final-form rulemaking does not establish a seasonal prohibition. Farming, dairy and greenhouse operations are exempt from this regulation under section 4.1(a) of the APCA (35 P.S. § 4004.1(a)).

16. COMMENT: Several Commonwealth legislators expressed concerns about stack heights in general and about the retroactive stack height provisions of the proposed rulemaking in particular. Numerous Pennsylvania residents have invested thousands of dollars each on OWB systems as a means of providing heat. The proposed rulemaking would require these residents to increase the chimney height of their system. This requirement should not be imposed upon existing OWB systems. These systems should be grandfathered according to existing law and regulations at the time that the investment was made. (785/2005, 786, 787, 945, 986, 1369, 1374/2013, 1378, 1709, 1715, 1885/1932/2004, 1929, 1930/1992, 1933/1986, 1934/1989, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: The proposed stack height requirements for OWBs installed before the effective date of the final-form regulation have been deleted in the final-form rulemaking. The stack height requirements for new OWBs established in the final-form rulemaking provide that all new OWBs installed on or after the effective date of the final-form regulation must have a permanent stack that extends at least 10 feet above the ground and be installed according to the manufacturer's specifications.

17. COMMENT: A Commonwealth legislator asked why there is a stack height requirement for new OWBs if there are residences located within 150 feet of the OWB, when the setback requirement is 150 feet? Or does the stack height requirement apply to the OWB owner's residence? (322)

RESPONSE: The proposed requirement that the stack for a Phase 2 OWB extend two feet above the highest peak of the highest residence located within 150 feet of the OWB has been deleted in the final-form rulemaking. The final-form rulemaking establishes that OWBs installed on or after the effective date of the final-form regulation must have a permanently attached stack that extends at least 10 feet above the ground and be installed according to the manufacturer's specifications.

18. COMMENT: A Commonwealth legislator expressed concerns about chimney height requirements for existing and new OWBs. Requiring a smokestack for a boiler to be two feet above the nearest home is not practical for residential areas, and in rural areas it has virtually no impact. Further, it is unclear if this requirement is for the OWB owner's home or neighboring properties. (788)

RESPONSE: The proposed stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The final-form rulemaking establishes that OWBs installed on or after the effective date of the final-form regulation must have a permanently attached stack that extends at least 10 feet above the ground and be installed according to the manufacturer's specifications.

19. COMMENT: Several Commonwealth legislators expressed concerns about the proposed rulemaking, stating that it will impose economic hardship on citizens, including: the inability to use inexpensive wood fuel year-round to heat hot water; costs to retrofit stacks; and the inability to use this technology due to the required setback. (322, 399, 785/2005, 786, 787, 945, 986, 1369, 1374/2013, 1378, 1708, 1709, 1715, 1885/1932/2004, 1929, 1930/1992, 1933/1986, 1934/1989, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2029)

RESPONSE: The Department received many comments on this subject, both for and against a seasonal prohibition. After considering all of the comments, the Department has decided to not include a seasonal prohibition in the final-form rulemaking. The proposed stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The final-form rulemaking establishes that OWBs installed on or after the effective date of the final-form regulation must have a permanently attached stack that extends at least 10 feet above the ground and be installed according to the manufacturer's specifications. The proposed requirement that the stack for a Phase 2 OWB extend two feet above the highest peak of the highest residence located within 150 feet of the OWB has been deleted in the final-form rulemaking. The revised setback requirement of 50 feet applies only to the installation of a new OWB on or after the effective date of the final-form regulation.

20. COMMENT: A Commonwealth legislator expressed concern about the potential incremental cost of a new Phase 2 OWB. The commentator encouraged the Board and the Department to examine and document these costs, as well as the potential fuel savings to homeowners that may recoup some of this additional upfront investment. (322)

RESPONSE: According to the EPA, OWBs fueled by wood, pellets and other biomass cost between $8,000 and $18,000, depending on the size of the unit. The cleaner Phase 2 units may be about 15% more expensive than non-compliant units. However, the new models are significantly more efficient and will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[7] It is difficult to document the costs of fuel savings due to the variety of sizes of OWBs and the variation in amount of use between homeowners. Some Phase 2-compliant OWB models qualify for the energy tax credits from the Federal government. The Department is also exploring the feasibility of an OWB change-out program where a monetary incentive will be paid to people who

[7] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

destroy their conventional model OWB and replace it with a new Phase 2-compliant model.

21. COMMENT: Several Commonwealth legislators expressed concerns about the proposed rulemaking, stating that it will prevent the use of this technology due to the required setback. (785/2005, 786, 787, 945, 1374/2013, 1378, 1885/1932/2004, 1929, 1930/1992, 1933/1986, 1934/1989, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: The final-form setback requirement for new Phase 2 OWBs is 50 feet from the property line, compared with the proposed setback of 150 feet from the property line. There were no setback requirements for existing OWBs in the proposed rulemaking, and there are none in the final-form rulemaking.

22. COMMENT: Several Commonwealth legislators commented that the regulation of outdoor wood-fired boilers should be left to the local municipalities. Many municipalities have enacted ordinances to regulate this technology. (399, 785, 786, 787, 987, 1374, 1378, 1708, 1715, 1885, 1929, 1930, 1933, 1934, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: Many commentators have stated that local governments have been unable or unwilling to manage the OWB issue adequately. In addition, the Department has received complaints from all across the state, from both rural and urban areas, about the operation of OWBs and how it is affecting the health of citizens exposed to the ground-level smoke. The final-form rulemaking would establish an emissions standard and minimum setback and stack height requirements for new OWBs and fuel requirements for all OWBs. Local governments would be able to expand upon these requirements.

23. COMMENT: A Commonwealth legislator expressed concerns about opacity requirements for residential-sized OWBs, stating that opacity requirements are unreasonable because opacity is based on a subjective, visual observation. (787)

RESPONSE: The opacity regulation is an existing statewide regulation limiting the visual emissions emanating from stacks. The opacity regulation applies to any stack, residential or commercial, in use in this Commonwealth. The Department's regional air quality program field staff are certified annually to determine the percent opacity from stacks. Opacity measurement is not a subjective visual observation for certified individuals.

24. COMMENT: A Commonwealth legislator expressed concerns about applying opacity requirements to existing OWBs. This requirement should be applied to new OWBs only. (986)

RESPONSE: The opacity regulation is an existing statewide regulation limiting the visual emissions emanating from stacks. The opacity regulation applies to any stack, residential or commercial, in use in this Commonwealth.

25. COMMENT: Several Commonwealth legislators questioned how a small boiler can emit 1.5 tons of particulate matter and why the regulations are are based on potential to cause certain emissions. (785, 786, 787, 945, 1374, 1378, 1885, 1929, 1930, 1933, 1934, 1975, 1987, 1988, 1990, 1991, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

RESPONSE: The 1.5-ton figure is based on the results of the NESCAUM field testing of conventional OWBs. Those results determined an emission rate of 161 grams per hour of particulate matter. If that is extrapolated out for an OWB operating 24 hours a day and 7 days a week, the resulting emissions would be 1.5 tons per year. Potential to emit is used in developing requirements to protect against the worst case scenario. However, the requirements of this proposed rulemaking were not based on the potential to emit; rather, this proposed rulemaking established an emissions standard that will provide for 90% reductions in emissions of particulate matter over non-complying units.

26. COMMENT: A Commonwealth legislator questioned why the Department proposed to regulate OWBs and not indoor woodstoves, fireplace inserts, and old/inefficient oil and gas heaters. (785)

RESPONSE: There are many differences between OWBs and other sources of wood smoke. First, the EPA established mandatory emission standards for new indoor wood stoves and pellet stoves sold or distributed in the United States in 1990. OWBs are not subject to these requirements. Emission testing of a conventional model OWB suggests that PM emissions from OWBs are higher than pre-certified indoor woodstoves manufactured before 1990, as well as EPA-certified indoor woodstoves manufactured after 1990.[8] Second, indoor wood stoves, fireplaces and pellet stoves generally have chimneys that are higher than OWB stacks. This allows for the emissions to be dispersed more efficiently. Third, indoor wood stoves, fireplaces and pellet stoves are less likely to be used to burn household garbage and hazardous wastes because of their indoor location and smaller fireboxes. Finally, home barbecues and campfires used for cooking food and recreation are not in operation nearly as frequently as are OWBs and typically burn smaller quantities of fuel. While old and inefficient oil and gas heaters may cause more emissions than newer, more efficient models, they typically do not emit the emissions at ground level like OWBs. Oil and gas heaters usually have higher chimneys than OWBs and the emissions are dispersed at higher levels.

27. COMMENT: The Commonwealth legislator stated that the Department should use existing regulations to enforce against OWBs and not promulgate a new regulation. (785)

[8] Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153–70

RESPONSE: Existing regulatory requirements can be used by the Department's field staff to enforce against OWB nuisance complaints. However, the existing provisions do not address particulate matter emission standards, inappropriate fuels that produce harmful emissions, and problems with placement of an OWB too close to neighbors' residences, schools, hospitals and nursing homes. A number of states have enacted laws or adopted regulations mandating that after a certain date only Phase 2-compliant OWBs can be sold. Without the adoption of the Phase 2 OWB emission standard for particulate matter, Pennsylvania, already sixth in the Nation for numbers of operating OWBs, could become a dumping ground for non-Phase 2 OWBs. Following is a list of states with laws or regulations establishing particulate matter emission standards and the dates that the Phase 2 emission standard was, or will be, effective:

State	Effective Date of Phase 2 Emission Standard
Maine	4/1/2010
Maryland	4/1/2010
Massachusetts	12/26/2008
New Hampshire	4/1/2010
Rhode Island	7/1/2010
Vermont	3/31/2009
New York – Proposed but moving forward	4/15/2011

28. COMMENT: A Commonwealth legislator opposes the proposed rulemaking because it may be considered a government "Taking," placing the Commonwealth at risk for numerous lawsuits from those using OWBs. (1378)

RESPONSE: The Department disagrees that the proposed OWB rulemaking is a regulatory taking. The final-form rulemaking merely establishes a number of environmental and public health requirements that property owners must abide by if they install an OWB on their property.

29. COMMENT: These Commonwealth legislators disagreed with the one-size-fits-all approach, stating that the proposed rulemaking may be appropriate in urban, non-attainment areas but not in rural areas. (785, 1929, 1933, 1975)

RESPONSE: The Department has received complaints about OWBs from all over this Commonwealth, not just the more populated areas, and believes this regulation is in the collective best interest of all Pennsylvanians.

30. COMMENT: A Commonwealth legislator stated that an issue like this should go through the legislature and be voted on by elected officials. The Environmental Quality Board should not even have the authority to come up with regulations like this. Regulations passed by the Environmental Quality Board never go through the elected officials. (1929)

RESPONSE: The final-form rulemaking is designed to protect public health and the environment. The Board was created by the General Assembly through enactment of the Pennsylvania Air Pollution Control Act, Act of 1959 (35 P.S. §§ 4001-4015). Statutory authority for the Board to adopt an OWB regulation comes from section 5(a)(1) of the APCA (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Further, the Commonwealth's rulemaking process provides extensive legislative review and oversight of proposed and final-form rulemakings. Proposed and final-form rulemakings adopted by the Board are reviewed by the House and Senate Environmental Committees, which are made up of all legislators. Rulemakings are also reviewed by the Independent Regulatory Review Commission and the Attorney General's Office.

31. COMMENT: Two Commonwealth legislators oppose regulating OWBs, stating that OWBs are safer than indoor wood-burning appliances. (787, 1930)

RESPONSE: The Department respectfully disagrees. While operating an OWB may reduce the risk of home fires and accidental carbon monoxide poisoning compared to in-home heating systems, OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making uncontrolled OWB emissions a major health threat. OWBs are typically equipped with a very short stack, many times only 8 – 12 feet high, leading to poor dispersal of the stack emissions and causing smoky conditions at or near ground-level, where people are readily impacted. The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer.[9] Wood smoke from OWBs can contain potentially cancer-causing compounds including volatile organic compounds, polycyclic aromatic hydrocarbons, benzene, formaldehyde, metals, dioxins and furans.[10] The large firebox and outdoor location of the OWB render it tempting for persons to also use the OWB as a receptacle to burn household garbage, hazardous waste and other materials. Additional toxic and hazardous air pollutant (HAP) emissions from burning these unknown substances increase the risk of potential adverse health effects of emissions from OWBs.

32. COMMENT: These Commonwealth legislators state that if the Department wants to get involved in this sort of issue, it should start by regulating burn barrels. (785, 1975)
RESPONSE: The use of "burn barrels" in the Commonwealth has been regulated under the "open burning operations" provisions in 25 *Pa. Code* § 129.14 since 1971. Although the Department does not condone the uncontrolled burning of trash and garbage by individuals because of the adverse health and environmental impacts, there are exceptions to the provisions of § 129.14, one of which is for fires set for the purpose of burning domestic refuse when the fire is on the premises of a structure occupied solely as a

[9] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007), 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 – 208.
[10] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

dwelling by two families or less and the refuse results from the normal occupancy of the structure. The provisions of § 129.14 were subsequently approved by the EPA as a revision to the State Implementation Plan and codified as a Federal requirement in 40 CFR § 52.2020.

33. COMMENT: A Commonwealth legislator asserts that the use of wood for heating has a lower net increase in global warming emissions than the alternative fuels of oil, natural gas and liquid propane gas. (787)

RESPONSE: The Department agrees that heating with wood may result in lower greenhouse gas (GHG) emissions than heating with oil, coal or natural gas, depending on the amount of control on the source of emissions. However, OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions, making uncontrolled OWB emissions a major health threat.

COMMENTS FROM THE INDEPENDENT REGULATORY REVIEW COMMISSION Environmental Quality Board Regulation #7-444 (IRRC #2802) Outdoor Wood-fired Boilers

1. COMMENT: The Independent Regulatory Review Commission (IRRC, Commission) states, "Given the number of legitimate points raised by opponents and proponents of the rulemaking, the different effects it will have on rural citizens of the Commonwealth compared to urban citizens of the Commonwealth, and the amount of interest expressed by members of the General Assembly, we suggest the regulation of OWBs on a statewide scale is a policy decision of such a substantial nature that it requires legislative review. Since regulations have the full force and effect of law, we believe that any decision pertaining to the use of OWBs should be made by the elected officials of the legislative branch of government that represent all geographic regions of the Commonwealth." (2024)

RESPONSE: The Environmental Quality Board was created by the General Assembly through enactment of the APCA, Act of 1959 (35 P.S. §§ 4001-4015). Statutory authority for the Board to adopt an OWB regulation comes from section 5(a)(1) of the APCA (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. The final-form regulation would be adopted to prevent, control, reduce, and abate air pollution. The Regulatory Review Act criteria cited (Section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b)) directs the Commission to consider whether the regulation represents a policy decision of such a substantial nature that it requires legislative review. The Department has undertaken additional discussions with, and provided the draft final-form rulemaking to, interested legislators for review. Further, the Commonwealth's rulemaking process provides extensive legislative review and oversight of proposed and final-form rulemakings.

2. COMMENT: The IRRC acknowledges that the Department has an obligation to protect the public health and that OWBs can be a nuisance under certain circumstances. However, the Board has not provided adequate justification for the statewide regulation of OWBs. The Department has produced a model ordinance to assist municipalities in enacting local ordinances to regulate OWBs. The model ordinance states that, where home heating decisions are concerned, "the Department believes that local municipalities can respond to and resolve these issues more effectively and swiftly than a state agency." Many commentators, including members of the General Assembly, also believe the regulation of OWBs should be left to local governments. Why does the Board believe that it is now more appropriate for a state agency to set the standards for the regulation of OWBs? (2024)

RESPONSE: The Department has logged citizen complaints from 52 of the 67 counties in the Commonwealth. Many of these citizen complaints indicate that local governments are unable to resolve the issues involved. The Board received 49 public comments concerning how specific municipalities either do not have OWB ordinances or are not adequately enforcing the ordinances. A Borough Councilman commented on the proposed rulemaking, providing a number of reasons why municipalities have difficulty pursuing ordinances to regulate OWBs, including neighbor-to-neighbor hostility; OWB owners' hostility toward government officials; threats of lawsuits from citizens who have suffered adverse health effects from OWB emissions; threats of lawsuits from OWB owners; threats and acts of physical violence from OWB owners; and threats of lawsuits from OWB manufacturers (please see General Comment # 24).

The Department believes that requiring new OWBs sold and installed in this Commonwealth to meet the Phase 2 particulate matter standard, 0.32 pounds per million BTU output, is in the best interest of all Pennsylvanians. Further, this regulation will prevent this Commonwealth from becoming a dumping ground for non-Phase 2 OWBs that cannot be sold in nearby states that have already enacted laws or adopted regulations establishing the Phase 2 emission standard for newly installed OWBs. These states include CT, ME, MA, ME, NH RI and VT; the state of NY has a proposed rulemaking in process. Without this final-form rulemaking, the impact of dumping non-Phase 2 OWBs on this Commonwealth would exacerbate the existing particle pollution problems in certain areas of Pennsylvania. The amount of particulate matter emissions from the increasing number of non-Phase 2 units installed in this Commonwealth would also increase, hindering the Commonwealth's ability to attain and maintain the PM2.5 health-based standards.

3. COMMENT: The IRRC commented that in the Regulatory Analysis Form to the proposed rulemaking, the Board stated that there are "many" citizen complaints regarding the operation of OWBs. Based on the number of comments received from citizens in support of this rulemaking, the IRRC recognizes that OWBs can be problematic to many citizens of the Commonwealth. However, the IRRC asked the Board to quantify the number of complaints it has received and the number of complaints received by local governments. The IRRC commented further that a breakdown of complaints by county

would assist the Commission in determining if the regulation is in the public interest for all citizens of the Commonwealth. (2024)

RESPONSE: The Department has logged over 200 complaints since 2005, and many others were referred to local municipalities. The Department does not maintain records regarding the number of complaints received by local governments.

- Following is the number of OWB complaints per county received by each Department Regional Office:
    - NERO - 8 of 11 counties (Lackawanna (4), Luzerne (5), Lehigh (1), Monroe (5), Northampton (3), Schuylkill (14), Wayne (3), Wyoming (4))
    - NCRO – 11 of 14 counties (Bradford (5), Centre (5), Clearfield (7), Clinton (2), Columbia (4), Lycoming (4), Northumberland (1), Potter (5), Snyder (2), Tioga (1), Union (3))
    - NWRO – 10 of 12 counties (Butler (3), Crawford (4), Elk (1), Erie (5), Jefferson (4), Lawrence (3), McKean (2), Mercer (6), Venango (4), Warren (1))
    - SERO – 2 of 4 counties (Delaware (1), Montgomery (1))
    - SCRO – 13 of 15 counties (Adams (3), Bedford (5), Berks (1), Blair (4), Cumberland (4), Franklin (5), Huntingdon (2), Juniata (1), Lancaster (7), Lebanon (4), Mifflin (3), Perry (1), York (4))
    - SWRO – 9 of 9 counties (Armstrong (5), Beaver (5), Cambria (2), Fayette (11), Greene (3), Indiana (7), Somerset (12), Washington (3), Westmoreland (8))
- The Department has received complaints from 29 of the 37 counties (or 78%) located in the northern tier.

In general, complaints are being received from every part of the state.

4. COMMENT: The IRRC commented that the Board stated that all or portions of 22 counties in this Commonwealth were designated by the EPA as nonattainment for certain air quality standards. The IRRC asked the Board to quantify how many OWBs are operating in the 22 nonattainment counties and compare that to the number of OWBs operating in the Commonwealth's remaining 47 counties. Is there a correlation between the number of OWBs in a particular county and its attainment or non-attainment status as determined by the EPA? (2024)

RESPONSE: The Department is unable to determine if there is a correlation "between the number of OWBs in a particular county and its attainment or non-attainment status as determined by the EPA." In addition to impacting areas where the OWBs are operated, emissions from these units also impact downwind areas. In an effort to determine where more than 12,000 OWBs have been installed in this Commonwealth, the Department contacted the HPBA OHHC, the industry association, for sales data specific to counties, but the OHHC could not provide this information. Further, the sales data collected by NESCAUM for its 2006 Assessment of Outdoor Wood-fired Boilers does not break the sales down by counties. The Department therefore does not have the required information to provide a response. Nevertheless, the Department believes that this

regulation is an important strategy in its effort to ensure that all areas in the Commonwealth attain and maintain the PM2.5 NAAQS.

5. COMMENT: The IRRC asked that, given the list of applicable Commonwealth regulations and statutes already in place and specifically cited in proposed § 123.14(h), what is the need for this rulemaking and why can't enforcement of the existing regulatory and statutory requirements provide adequate protection of the public health, safety and welfare? (2024)

RESPONSE: The existing regulatory and statutory requirements can be used by the Department's field staff to enforce against a nuisance OWB; however, existing regulations and statutes do not establish emission standards for OWBs. This final-form rulemaking establishes an emissions standard for cleaner burning OWBs, which is in the best interest of all Pennsylvania citizens.

6. COMMENT: The IRRC asked how many local governments have ordinances pertaining to the use of OWBs. Are the ordinances less stringent than this proposed rulemaking? (2024)

RESPONSE: In an effort to respond to IRRC's comments, the Department contacted the Pennsylvania State Association of Township Supervisors and the Pennsylvania State Association of Boroughs. However, these associations do not keep records regarding the number of municipalities with OWB ordinances. Local OWB ordinances contain a variety of provisions; some are more stringent than the proposed rulemaking to the point that they ban installation of OWBs, with others are less stringent.

7. COMMENT: The IRRC commented that eight members of the Democratic Caucus of the House of Representatives submitted comments in support of the rulemaking. In one comment, they state, "Most importantly, the Department of Environmental Protection must enforce these rules, and must assist local authorities in responding to wood boiler complaints." The proposed regulation is silent on enforcement of this regulation. How will it be enforced? As suggested by the commentators, will the Department assist local authorities in responding to complaints? (2024)

RESPONSE: Enforcement of the OWB regulation by the Department would be on a complaint-driven basis. The first step in an enforcement action taken by the Department to apply the OWB regulation would be to encourage voluntary compliance with the OWB regulation. This effort would include education related to ensuring that the OWB is not operated in a manner that might cause a nuisance to surrounding property owners. Should voluntary compliance fail, the Department would then take a more traditional enforcement path.

Department field staff currently respond to OWB complaints received by the Department where there are no local ordinances in place, or when the complainant indicates that a local ordinance exists but is not being enforced by the local municipality. In these instances, Department staff apply Department regulations and statutes to abate the

nuisance. The Department would continue to assist local authorities by responding to complaints that are referred to the Department.

8. COMMENT: The IRRC commented that the Pennsylvania State Association of Township Supervisors stated in their comment, "If the municipality would want to assist and enforce the proposed regulations, that municipality would have to first adopt an ordinance referencing the proposed regulation. Without such an ordinance, the only recourse for the municipality would be to refer the individual to DEP for relief." Will local municipalities be required to pass their own ordinances referencing this rulemaking before they could require compliance? The IRRC asked that the Board respond to this concern in the Preamble of the final-form rulemaking. (2024)

RESPONSE: The Department agrees with the Pennsylvania State Association of Township Supervisors comment. Municipal officers do not have powers conveyed upon them to enforce Department regulations. If a municipality would want to assist and enforce the final-form requirements, the municipality must enact an ordinance at least as stringent as the Department's final-form regulation. A municipality may enact an ordinance that adopts a Department regulation by reference, but would then enforce its own ordinance.

9. COMMENT: The IRRC commented that the retroactive nature of the rulemaking is problematic. Many commentators believe it is unfair to impose new requirements on people that have already invested in OWBs. The IRRC asks if the Board has considered adding a grandfathering provision to the regulation. (2024)

RESPONSE: The proposed stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The final-form rulemaking does retain the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs.

10. COMMENT: The IRRC commented that the Board identified two companies in the Commonwealth that manufacture OWBs. One of the companies submitted comments expressing concern that the proposed effective date will not provide them with enough time to develop and properly test the new technology that will be required. The company notes that if they are prohibited from selling their current units before they have a unit that is in compliance with this rulemaking, they will be forced out of business. The IRRC asked the Board to allow the requirements of the regulation to be phased-in over time so that the two Pennsylvania manufacturers will not be negatively affected by the rulemaking. (2024)

RESPONSE: The final-form rulemaking has been revised to include a sell-through provision until May 31, 2011, for non-Phase 2 OWBs that are manufactured, distributed, purchased or leased and received before May 31, 2011.

11. COMMENT: The IRRC commented that the Board's estimate of costs to operators of OWBs is limited to the costs associated with ensuring the stack height of the device is

in compliance with the regulation. Many commentators, including members of the General Assembly, believe that there are other costs associated with the rulemaking and these costs will deny many rural home owners, most of whom are on limited incomes, the ability to heat their home economically. If an owner of an OWB is unable to meet the requirements of this regulation, the IRRC asked that the Board quantify the cost of obtaining a new source of heat and the cost of paying for that heat source on an annual basis. The IRRC also asked the Board to provide a more detailed analysis of the costs associated with retrofitting an existing OWB. (2024)

RESPONSE: The proposed stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The only requirements that would apply to existing OWBs are the fuel requirements and regulatory requirements. Therefore, there are no additional costs associated with the final-form regulation for owners of existing OWBs.

12. COMMENT: The IRRC commented that if the Department will be enforcing the regulation and assisting local authorities with complaints, what additional costs will be incurred by the Department? The IRRC asked that the Board quantify these costs in the Preamble and Regulatory Analysis Form of the final-form rulemaking. (2024)

RESPONSE: The Department does not believe that it will incur additional costs to enforce the final-form regulation, or to assist local authorities with complaints. Department field staff already respond to complaints that it receives regarding the operation of OWBs. Implementation of an OWB-specific regulation will enable the Department's response to be more effective and efficient.

13. COMMENT: The IRRC commented that if enforcement and responding to complaints will be the duty of local governments, what will be the costs for those entities? The IRRC asked the Board to quantify these costs in the Preamble and Regulatory Analysis Form of the final-form rulemaking. (2024)

RESPONSE: The Department does not believe that local entities will incur additional costs to enforce the final-form regulation. Local municipalities do not enforce Department regulations; they would enforce their own ordinance.

14. COMMENT: The IRRC commented that the setback provisions contained in proposed § 123.14(c) have been cited by many commentators as problematic. For situations in which the operation of an OWB does not impact a neighbor, the IRRC asked the Board to consider providing an exemption. (2024)

RESPONSE: The proposed setback requirements for Phase 2 OWBs have been revised in the final-form rulemaking from the proposed minimum of 150 feet from the nearest property line to be a minimum of 50 feet from the nearest property line. The setback requirements, which will apply only to new Phase 2 OWBs installed on or after the effective date of the final-form regulation, are designed to ensure proper dispersal of the stack emissions from the OWB.

15. COMMENT: The IRRC commented that section 15 of the Regulatory Analysis Form requires a promulgating agency to describe who and how many will be affected by a regulation. The Board's response to section 15 of the Regulatory Analysis Form for the proposed rulemaking included the statement that real estate agents and brokers may be affected by the proposed rulemaking, if an unqualified OWB is located on a property that is being sold after the effective date of the final-form regulation. The IRRC urged the Board to include specific language in the final-form regulation that would exempt individuals involved with real estate transactions from these regulations. (2024)

RESPONSE: The final-form rulemaking has been amended to include an exemption for the transfer of permanently installed OWBs as part of a real estate transaction.

16. COMMENT: The IRRC commented that the phrase "reasonably prudent precautions" is used in proposed subsection (a)(2)(ii). The IRRC states that this phrase is vague and does not establish a binding standard that can be evenly applied to all members of the regulated community. The IRRC recommended that the phrase "reasonably prudent precautions" be replaced with a more precise standard that would allow the regulated community and those that will be enforcing the regulation to know what is expected of them. (2024)

RESPONSE: The Department agrees. The language of proposed subsection (a)(2)(ii) has been deleted in the final-form rulemaking.

17. COMMENT: The IRRC commented that proposed subsection (b) states that only Phase 2 OWBs may be sold or purchased in this Commonwealth. The IRRC asked how this provision will be administered if real estate is sold that includes a non-Phase 2 OWB. (2024)

RESPONSE: The final-form rulemaking has been amended to include an exemption for the transfer of permanently installed OWBs as part of a real estate transaction.

18. COMMENT: The IRRC commented that proposed subsection (c) states that a Phase 2 OWB must be installed a minimum of 150 feet from the nearest property line. The IRRC asked, since Phase 2 OWBs are cleaner burning devices than non-Phase 2 OWBs, what is the need for such a significant setback requirement? (2024)

RESPONSE: The proposed setback requirement of a minimum of 150 feet from the nearest property line has been revised in the final-form rulemaking to be a minimum of 50 feet from the nearest property line for new Phase 2 OWBs.

19. COMMENT: The IRRC commented that proposed subsection (c) states that a Phase 2 OWB must be installed a minimum of 150 feet from the nearest property line. The IRRC asked, since Phase 2 OWBs are cleaner burning devices than non-Phase 2 OWBs, why does this provision use the phrase "nearest property line"? The IRRC notes that the stack height requirements of proposed subsection (d)(2) are imposed on Phase 2 OWBs within 150 of a residence, not a property line. As recommended by several

commentators, the IRRC suggested that the setback be a function of distance to the nearest residence, not property line. (2024)

RESPONSE: The Department used a setback from the property line as a conservative measure to ensure emissions from an OWB unit would not pose a potential health risk to the property and area, and not just the residence. Since Phase 2 OWBs are approximately 90% cleaner than conventional units, the final-form rulemaking requires that new OWBs be installed at least 50 feet from the nearest property line. The revised setback of 50 feet was a recommendation made by industry trade associations. .

20. COMMENT: The IRRC commented that proposed subsection (d) mandates certain stack height requirements for Phase 2 OWBs. Since Phase 2 OWBs are cleaner burning devices than non-Phase 2 OWBs, what is the need for these stack height requirements?

RESPONSE: The stack height requirement of proposed subsection (d)(2) of two feet above the highest peak of the highest residence located within 150 feet of the device has been deleted in the final-form rulemaking. The stack height requirement of a minimum of 10 feet above the ground of proposed subsection (d)(1) has been retained in the final-form rulemaking for new Phase 2 OWBs installed on or after the effective date of the final-form regulation. Additionally, the final-form rulemaking specifies that these stacks must be installed according to the manufacturer's specifications.

21. COMMENT: The IRRC asked how the Board can ensure that the effectiveness of the Phase 2 OWBs will not be affected by the stack height requirements. IRRC also questioned what evidence the Board has to show that this requirement is reasonable. (2024)

RESPONSE: The stack height requirement of proposed subsection (d)(2) for Phase 2 OWBs of two feet above the highest peak of the highest residence located within 150 feet of the device has been deleted in the final-form rulemaking. The stack height requirement of a minimum of 10 feet above the ground of proposed subsection (d)(1) has been retained in the final-form rulemaking for new Phase 2 OWBs installed on or after the effective date of the final-form regulation. This stack height is based on manufacturers' information. Additionally, the final-form amendments require that these stacks must be installed according to the manufacturer's specifications.

22. COMMENT: The IRRC asked how the Board will ensure that the effectiveness of existing OWBs will not be affected by the stack height requirements. What evidence does the Board have to show that this requirement is reasonable? (2024)

RESPONSE: The stack height requirements of proposed subsection (e) for existing OWBs have been deleted in the final-form rulemaking.

23. COMMENT: The IRRC commented that proposed subsection (d)(2) requires a Phase 2 OWB stack extend two feet above the highest peak of the highest residence located within 150 feet of that device. If a person currently owns or installs a Phase 2

OWB that is in compliance with this provision and a neighbor builds a residence within that 150 foot radius that makes the Phase 2 OWB non-compliant, how will this be resolved? (2024)

RESPONSE: The stack height requirement of proposed subsection (d)(2) for Phase 2 OWBs of two feet above the highest peak of the highest residence located within 150 feet of the device has been deleted in the final-form rulemaking. The setback requirement of proposed subsection (c) for new Phase 2 OWBs of a minimum of 150 feet from the nearest property line has been revised in the final-form rulemaking to be a minimum of 50 feet from the nearest property line. Basing the setback on the property line eliminates the possibility of someone building within the setback distance.

24. COMMENT: The IRRC commented that proposed subsection (e)(1)(ii) requires the stack of an existing OWB extend two feet above the highest peak of the highest residence located within 500 feet of that device. If a person owns an OWB that is in compliance with this provision and a neighbor builds a residence within that 500 foot radius that makes the OWB non-compliant, how will this be resolved? (2024)

RESPONSE: Stack height requirements for existing OWBs have been deleted in the final-form rulemaking. Therefore, the scenario as described in the comment will not occur.

25. COMMENT: The IRRC asked how a person would obtain approval from the Department to use a fuel other than the fuels listed in proposed subsection (f). IRRC also commented that the process for obtaining approval from the Department should be included in the final-form regulation. (2024)

RESPONSE: Proposed subsection (f)(4) has been revised in the final-form rulemaking to specify the use of other types of fuels approved in writing by the Department upon receipt of a written request.

26. COMMENT: The IRRC commented that proposed subsection (i) requires a distributor, seller or lessor of an OWB to provide the prospective buyer or lessee with a copy of the regulation and a written notice that includes six pieces of information.

a) Does this subsection apply to the sale or lease of real estate on which an OWB is located?

. b) Does this subsection apply to isolated sales between two private individuals?

c) Subsection (i)(1)(i) requires "acknowledgement" that the buyer was provided a copy of the regulation. Would a verbal acknowledgement satisfy the requirement of this subsection? If a written acknowledgement is required, it should be included in the final-form regulation.

d) What is the need for subsection (i)(1)(ii)? Since the buyer will be receiving a copy of the regulation which specifically lists the allowed fuels, providing that list again via the written notice is redundant.

e) What is the need for subsection (i)(1)(iii), which requires that the notice include a written statement that a person who owns, leases, uses or operates an outdoor wood-fired boiler in this Commonwealth may not burn a fuel or material in that outdoor wood-fired boiler other than those fuels listed under subsection (f)? Since the buyer will be receiving a copy of the regulation which specifically lists the allowed fuels, providing that list again via the written notice is redundant.

f) What is the need for subsection (i)(1)(iv), which requires that the written notice include a written statement that even if the requirements set forth in this section are met, the installation and operation of the outdoor wood-fired boiler may be subject to other applicable Commonwealth regulations and statutes including the regulations and statutes listed under subsection (h)? Since the buyer will be receiving a copy of the regulation which lists the regulations and statutes under subsection (h), providing that list again via the written notice is redundant.

g) The IRRC expressed concern about subsection (i)(1)(vi), which states that the written notice must include a written statement that the stack height and setback requirements provided under this section may not be adequate in some areas of this Commonwealth due to terrain that could render the operation of the outdoor wood-fired boiler a nuisance or public health hazard. The IRRC asked what this provision means and how it will be applied to the regulated community. Is the Board implying that compliance with this regulation could still lead to some sort of fine, penalty or corrective action? (2024)

RESPONSE: Based upon review of the public comments received on this proposed provision, the written notice requirements have been deleted in the final-form rulemaking.

27. COMMENT: The IRRC asked if real estate transfers and isolated sales between individuals require the written notices referenced in proposed subsection (i), will the requirements of proposed subsection (j), relating to recordkeeping requirements, be applicable to those that sell real estate with an OWB or to a private party that sells an OWB? (2024)

RESPONSE: Based upon review of the public comments received on this proposed provision, the notice and recordkeeping requirements have been deleted in the final-form rulemaking.

GENERAL COMMENTS ON THE OUTDOOR WOOD-FIRED BOILER RULEMAKING

General Support

1. COMMENT: Many commentators support the Department of Environmental Protection's (Department) proposed amendments to 25 *Pa. Code* Chapters 121 and 123 (relating to general provisions; and standards for contaminants) that will control particulate matter emissions from the operation of outdoor wood-fired boilers (OWBs). (4, 10, 20, 21, 32, 34, 39, 55, 56, 64, 69, 72, 73, 81, 86, 89, 90, 91, 92, 94, 95, 97, 104, 107, 108, 111, 136, 153, 160, 231, 241, 242, 245, 246, 247, 270, 278, 281, 283, 285, 299, 306, 321, 325, 331, 340, 345, 347, 349, 391, 457, 487, 504, 568, 602, 603, 605, 616, 621, 629, 710, 757, 759, 761, 765, 777, 797, 803, 811, 817, 847, 849, 855, 864, 870, 871, 872, 884, 888, 890, 908, 909, 919, 924, 933, 934, 949, 979, 1012, 1014, 1025, 1049, 1058, 1070, 1071, 1081, 1104, 1129, 1258, 1286, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1306, 1307, 1324, 1326, 1336, 1345, 1350, 1352, 1354, 1388, 1392, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1557, 1560, 1562, 1563, 1564, 1565, 1566, 1567, 1569, 1574, 1577, 1579, 1585, 1588, 1589, 1591, 1598, 1603, 1605, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1677, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1840, 1841, 1842, 1843, 1844, 1847, 1848, 1851, 1852, 1853, 1855, 1856, 1858, 1859, 1862, 1863, 1864, 1867, 1868, 1869, 1870, 1871, 1872, 1874, 1875, 1876, 1878, 1879, 1895, 1896, 1909, 1917, 1920, 1973, 1985, 2026, 2027)

RESPONSE: The Department appreciates the commentators' support. The final-form rulemaking retains the proposed Phase 2 OWB requirement of subsection 123.14(c), which establishes a particulate matter emission limit of 0.32 pounds of particulate emissions per million Btu of heat output for OWBs installed in this Commonwealth on or

after the effective date of the final-form regulation. The final-form rulemaking also retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The final-form rulemaking limits the setback and stack height requirements to OWBs installed after the effective date of the final-form regulation. The Department believes that the final-form rulemaking requirements will reduce the effects of the problems associated with the operation of OWBs, including smoke, odors and the burning of prohibited fuels and wastes including garbage, tires, hazardous waste and the like.

2. COMMENT: Many commentators stated that the proposed regulation will protect public health by reducing particulate matter pollution. (111, 136, 160, 621, 979, 1025, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1557, 1564, 1565, 1567, 1569, 1574, 1589, 1603, 1607, 1608, 1613, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1842, 1852, 1858, 1862, 1868, 1879, 1896, 1909, 1917)

RESPONSE: The Department agrees that the proposed rulemaking will protect public health by reducing particulate matter (PM) pollution.

3. COMMENT: Several commentators are concerned about the health problems associated with the emissions from OWB operations. (10, 89, 94, 97, 104, 111, 136, 160, 246, 270, 278, 299, 321, 325, 340, 391, 457, 504, 568, 603, 605, 621, 710, 757, 765, 777, 803, 855, 870, 871, 909, 916, 1012, 1014, 1025, 1049, 1081, 1129, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1306, 1307, 1324, 1326, 1350, 1388, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499,

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RESPONSE: The Department agrees that there are significant health problems associated with exposure to fine particulate matter less than 2.5 microns (PM2.5). OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making OWB emissions a major health threat. The Northeast States for Coordinated Air Use Management (NESCAUM) has conducted stack tests on uncontrolled OWBs. Based on the test results, the average PM2.5 emissions from one uncontrolled OWB are equivalent to the emissions from 205 oil furnaces or as many as 8,000 natural gas furnaces. Cumulatively, the smallest OWB has the potential to emit almost 1 1/2 tons of PM every year.[11] The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer. Upwards of 50% of the general population is susceptible to acute and chronic PM2.5 exposure including children, asthmatics, persons with respiratory or heart disease, diabetics and the elderly.[12] The Department believes that the emissions standard established in the final-form rulemaking will reduce adverse health impacts, air emissions and nuisances.

4. COMMENT: Several commentators stated that they have one or more health problems, such as allergies, asthma or lung or cardiovascular disease that are exacerbated

[11] NESCAUM. Northeast States for Coordinated Air Use Management. Assessment of Outdoor Wood-fired Boilers. P. viii. March 2006 (revised June 2006); available at: http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers.

[12] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007) 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 - 208

by breathing wood smoke. (56, 86, 95, 108, 111, 231, 241, 242, 246, 281, 347, 487, 616, 629, 761, 849, 872, 888, 924, 933, 979, 1104, 1286, 1324, 1388, 1566, 1567, 1841, 1842, 1843, 1853, 1855, 1863, 1870, 1875, 1895)

RESPONSE: The Department agrees that health problems, such as allergies, asthma or lung or cardiovascular disease can be exacerbated by breathing wood smoke. Wood smoke contains both PM 2.5 and other harmful air pollutants including sulfur oxides, nitrogen oxides and carbon monoxide, and a number of air toxics such as potentially cancer-causing compounds including polycyclic aromatic hydrocarbons, benzene, formaldehyde and dioxins. PM2.5 is linked to a variety of health problems, including aggravated asthma, reduced lung function, development of chronic bronchitis, irregular heartbeat, non-fatal heart attacks and premature death in people with heart and lung disease. Children, people with heart and lung disease, and older adults are the most vulnerable to the effects of PM2.5.

5. COMMENT: Many commentators are concerned about the fine particulate matter pollution from OWBs. (10, 136, 605, 916, 1296, 1388, 1589, 1612, 1614, 1628, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1841, 1842, 1848, 1862, 1867, 1871, 1872, 1874, 1876, 1877, 1878, 1896, 1909, 1917, 1985, 2026, 2027)

RESPONSE: The Department agrees that there are significant health problems associated with exposure to PM2.5. OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making OWB emissions a major health threat. NESCAUM has conducted stack tests on uncontrolled OWBs. Based on the test results, the average PM2.5 emissions from one uncontrolled OWB are equivalent to the emissions from 205 oil furnaces or as many as 8,000 natural gas furnaces. Cumulatively, the smallest OWB has the potential to emit almost 1 1/2 tons of PM every year.[13] The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer. Upwards of 50% of the general population is susceptible to acute and chronic PM2.5 exposure including children, asthmatics, persons with respiratory or heart disease, diabetics and the elderly.[14]

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[13] NESCAUM. Northeast States for Coordinated Air Use Management. Assessment of Outdoor Wood-fired Boilers. P. viii. March 2006 (revised June 2006); available at: http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers.

[14] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007) 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 - 208

The Department believes that the emissions standard established in the final-form rulemaking should reduce adverse health impacts, air emissions and nuisances.

6. COMMENT: Several commentators are concerned about the odors and pollutants caused by burning garbage and trash in OWBs. (10, 20, 89, 111, 504, 603, 629, 759, 765, 797, 855, 933, 1336, 1352, 1392, 1588, 1610, 1840, 1844, 1851, 1862, 1867)

RESPONSE: Odors and pollutants caused by burning garbage and trash in OWBs are issues of concern. Toxic and hazardous air pollutant (HAP) emissions from burning garbage and trash increase the risk of potential adverse health effects of emissions from OWBs. Final-form subsection 123.14(g) prohibits the burning of garbage and trash in existing or new OWBs. The Department believes that the requirements under final-form subsection 123.14(f) for allowed fuels, including clean wood, should reduce adverse health impacts, air emissions and nuisances.

7. COMMENT: Several commentators requested more stringent provisions for all OWBs than those established in the proposed regulation. (95, 340, 861, 864, 892, 1371, 1613, 1862, 1878, 2026, 2027)

RESPONSE: The final-form rulemaking retains the proposed Phase 2 OWB requirement of subsection 123.14(c), which establishes a particulate matter emission limit of 0.32 pounds of particulate emissions per million Btu of heat output for OWBs installed in this Commonwealth on or after the effective date of the final-form regulation. The final-form rulemaking also retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The final-form rulemaking limits the setback and stack height requirements to OWBs installed after the effective date of the final-form regulation. The Department believes that the final-form rulemaking requirements should reduce the effects of the problems associated with the improper operation of OWBs, including smoke, odors and the burning of prohibited fuels and wastes including garbage, tires, hazardous waste and the like. The requirements in the final-form regulations are comparable with provisions established in OWB regulations adopted by surrounding states.

8. COMMENT: Several commentators suggested a ban on the operation of OWBs. (281, 602, 757, 759, 849, 888, 1588, 1609, 1612, 1614, 1677, 1840, 1847, 1854, 1861, 1866, 1872, 1876)

RESPONSE: The Department disagrees that OWB operations should be banned. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth on and after the effective date of the final-form regulation, and that all existing and new OWBs use cleaner burning fuels. The Department recognizes the value of heating with OWBs, including providing

a lower-cost fuel option, which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel.

9. **COMMENT:** Many commentators complained about the smoke odors. (4, 10, 21, 32, 55, 56, 81, 89, 97, 104, 107, 246, 270, 278, 281, 306, 321, 325, 345, 603, 605, 621, 629, 757, 761, 797, 811, 849, 855, 872, 884, 888, 909, 919, 920, 933, 1012, 1014, 1058, 1258, 1306, 1307, 1326, 1336, 1345, 1350, 1352, 1354, 1378, 1560, 1562, 1563, 1566, 1585, 1591, 1598, 1610, 1613, 1614, 1623, 1840, 1842, 1843, 1844, 1847, 1851, 1853, 1854, 1855, 1856, 1861, 1862, 1867, 1871, 1895, 1909, 1917, 1920, 1973)

RESPONSE: The Department agrees that ground-level smoke is one of the problems associated with the operation of non-Phase 2 OWBs. The final-form rulemaking establishes stack height, setback and emission standards for new OWBs installed on and after the effective date of the final-form regulation, subject to certain exemptions. These requirements should provide some relief from the impact of smoke odors.

10. **COMMENT:** Several commentators state that smoke from OWBs can reduce visibility on roads, causing dangerous conditions. (325, 457, 847, 855, 1856, 1920)

RESPONSE: The Department agrees that smoke from OWBs can reduce visibility on roads. The requirements established under the final-form OWB rulemaking will reduce particle pollution and improve visibility.

11. **COMMENT:** Many commentators support the seasonal prohibition from May 1 – September 30 mentioned in the Preamble. (89, 323, 621, 861, 864, 890, 908, 920, 923, 949, 979, 1014, 1071, 1081, 1137, 1229, 1562, 1581, 1623, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1840, 1851, 1855, 1859, 1862, 1867, 1871, 1877, 1878, 1909, 1917)

RESPONSE: The final-form rulemaking does not include a seasonal prohibition provision. The Department received many comments on this subject, both for and against a seasonal prohibition. Concerns about implementing a seasonal prohibition included that, for many citizens, OWBs are the sole source of hot water year-round; another concern was that northern sections of this Commonwealth are cold after May 1 and before September 30 of each year. After considering all of the comments, the Department has decided to not include a seasonal prohibition in the final-form rulemaking and believes that the better approach is to educate owners of OWBs on more

efficient operation of the units to reduce the adverse health impacts, air emissions and nuisance odors and smoke.

12. COMMENT: Many commentators support limiting or prohibiting the use of OWBs during the summer when they are less necessary for home heating to provide significant quality of life benefits to neighbors, who report that they must keep their windows closed even in the warmer months to keep, out smoke and odors. (111, 136, 160, 321, 325, 391, 487, 568, 616, 765, 934, 1025, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1345, 1388, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1557, 1569, 1574, 1603, 1605, 1607, 1608, 1613, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1842, 1851, 1852, 1853, 1858, 1868, 1879, 1895, 1896, 1973)

RESPONSE: The final-form rulemaking does not include a seasonal prohibition provision. The Department received many comments on this subject, both for and against a seasonal prohibition. Concerns about implementing a seasonal prohibition included that, for many citizens, OWBs are the sole source of hot water year-round; another concern was that northern sections of this Commonwealth are cold after May 1 and before September 30 of each year. After considering all of the comments, the Department has decided to not include a seasonal prohibition in the final-form rulemaking and believes that the better approach is to educate owners of OWBs on more efficient operation of the units to reduce the adverse health impacts, air emissions and nuisance odors and smoke. The Department's air quality field staff will continue to respond to complaints regarding OWBs.

13. **COMMENT:** Several commentators complained about having to deal with the smoke and odors all year round since the neighboring OWB is used to throughout the year for hot water or to heat swimming pools. (108, 231, 241, 345, 457, 765, 919, 1345, 1566, 1855, 1856, 1973)

RESPONSE: Increasingly, OWBs are being used year round for heating hot water, swimming pools, etc. The final-form rulemaking retains the proposed Phase 2 OWB requirement of subsection 123.14(c), which establishes a particulate matter emission limit

of 0.32 pounds of particulate emissions per million Btu of heat output for OWBs installed in this Commonwealth on or after the effective date of the final-form regulation. The final-form rulemaking establishes setback and stack height requirements for OWBs installed after the effective date of the final-form regulation. The final-form rulemaking also retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The Department believes that the final-form rulemaking requirements will reduce the effects of the problems associated with the improper operation of OWBs, including smoke, odors and burning prohibited fuels and wastes including garbage, tires, hazardous waste and the like. The requirements in the final-form rulemaking are comparable with provisions established in OWB regulations adopted by surrounding states. The Department's air quality field staff will continue to respond to complaints regarding OWBs and are able to enforce against those determined to be in violation of existing regulations.

14. **COMMENT:** Many commentators complain that the "quality of life" is significantly reduced by the operation of OWBs because they cannot open windows or enjoy their yards. (89, 281, 299, 325, 761, 817, 855, 924, 949, 1392, 1560, 1562, 1588, 1591, 1598, 1613, 1614, 1851, 1870, 1878, 1920)

RESPONSE: The improper operation of OWBs can significantly reduce the "quality of life" of neighbors because they cannot open windows or enjoy their yards. The final-form rulemaking retains the proposed Phase 2 OWB requirement of subsection 123.14(c), which establishes a particulate matter emission limit of 0.32 pounds of particulate emissions per million Btu of heat output for OWBs installed in this Commonwealth on or after the effective date of the final-form regulation. The final-form rulemaking also retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The final-form rulemaking establishes setback and stack height requirements for OWBs installed after the effective date of the final-form regulation. The Department believes that the final-form rulemaking requirements will reduce the effects associated with the improper operation of OWBs, including smoke, odors and burning prohibited fuels and wastes including garbage, tires and hazardous waste. The requirements in the final-form regulations are comparable with provisions established in OWB regulations adopted by surrounding states. Further, the Department's air quality field staff will continue to respond to complaints regarding OWBs and are able to enforce against those determined to be in violation of existing regulations.

15. COMMENT: Several commentators mention that the right to breathe clean air should not been taken away by the operation of OWBs. (10, 21, 69, 95, 153, 160, 242, 765, 847, 849, 871, 920, 1104, 1129, 1306, 1350, 1605, 1610, 1614, 1840, 1853, 1872, 1878)

RESPONSE: The provisions in the proposed rulemaking were established to decrease the impact of OWBs on neighboring properties. In addition, the Department's air quality

field staff will continue to respond to complaints filed regarding OWBs and are able to enforce against those determined to be in violation of existing regulations.

16. **COMMENT:** Several commentators mentioned that the short chimneys on OWBs create smoke problems at ground level. (4, 89, 246, 757, 765, 909, 1012, 1628)

RESPONSE: One of the problems specific to OWBs is that emissions from their short stacks do not disperse easily. Poor dispersal tends to keep the smoke close to the ground and localized where people live, creating a situation where the emissions are especially unhealthy. The final-form rulemaking requires a minimum stack height of 10 feet above the ground.

17. **COMMENT:** Several commentators mentioned that a taller chimney would be helpful in dispersing the smoke. (107, 108, 568, 765, 811, 919, 1012, 1286, 1563)

RESPONSE: A taller chimney is helpful in dispersing the smoke. One of the problems specific to OWBs is that emissions from their short stacks do not disperse easily. Poor dispersal tends to keep the smoke close to the ground and localized where people live, creating a situation where the emissions are especially unhealthy. The final-form rulemaking establishes setback and stack height requirements for OWBs installed on and after the effective date of the final-form regulation. The Department believes that the final-form rulemaking requirements should reduce the adverse effects associated with the improper operation of OWBs, including smoke and odors. The Department's air quality field staff will continue to respond to complaints filed regarding OWBs and are able to enforce against those determined to be in violation of existing regulations.

18. **COMMENT:** The commentator is concerned about the thousands of unregulated OWBs in Pennsylvania while other air quality sources are regulated. (34, 69)

RESPONSE: Currently, the Department regulates nuisance OWBs using existing regulations including the existing opacity, malodor and fugitive emission requirements. The final-form rulemaking establishes controls for the use of OWBs in order to further reduce adverse health impacts, air emissions and nuisances.

19. **COMMENT:** Several commentators are concerned about reduced property values, the inability to sell their homes, or both, because of the operation of a neighboring OWB. (4, 55, 391, 765, 855, 1286, 1326, 1352, 1591, 1605, 1610, 1623, 1920)

RESPONSE: The final-form OWB rulemaking will provide relief by requiring the sale and installation of Phase 2 OWBs in Pennsylvania. In addition, the rulemaking establishes clean fuel requirements for new and existing units.

20. **COMMENT:** Many commentators support the proposed OWB regulation because one OWB produces the same amount of pollution as 205 oil furnaces, 8,000 natural gas furnaces, or four heavy duty diesel trucks. OWBs produce significantly more pollution than other heating sources. (20, 90, 92, 111, 136, 160, 621, 979, 1025, 1081, 1296, 1297,

1298, 1299, 1300, 1301, 1302, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1557, 1567, 1569, 1574, 1589, 1603, 1607, 1608, 1612, 1615, 1616, 1617, 1619, 1620, 1621, 1622, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, `1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1842, 1852, 1856, 1858, 1862, 1868, 1877, 1878, 1879, 1878, 1895, 1896, 1909, 1917, 1985)

RESPONSE: The Department appreciates the commentators' support for the rulemaking. The final-form rulemaking will provide relief by requiring the sale and installation of Phase-2 OWBs in Pennsylvania. In addition, the rulemaking will establish clean fuel requirements for new and existing units.

21. COMMENT: A few commentators are concerned about increased global warming gas emission from the operation of OWBs. (39, 278, 281, 1354, 1388, 1841, 1985)

RESPONSE: Wood is a renewable resource, which, when burned in OWBs, should not result in a net increase in greenhouse gas (GHG) emissions such as carbon dioxide. A net reduction in GHG emissions should be realized when wood is burned instead of fossil fuels.

22. COMMENT: Local governments are not able or willing to adequately manage the OWB issue. (4, 10, 20, 55, 69, 72, 81, 86, 94, 104, 231, 241, 242, 299, 504, 602, 612, 616, 621, 710, 765, 797, 817, 909, 919, 924, 949, 1012, 1049, 1306, 1326, 1345, 1388, 1562, 1588, 1605, 1840, 1841, 1851, 1854, 1856, 1878, 1895, 1896, 1909, 1917, 1920, 1973, 1985)

RESPONSE: The final-form rulemaking sets a minimum statewide standard that new OWBs must meet the Phase 2 emissions standard, and will be implemented and enforced by the Department. However, local governmental entities are not precluded from adopting more stringent requirements.

23. **COMMENT:** A few commentators stated that OWB operation can only be adequately controlled at the state level. (4, 20, 710, 777, 855, 949, 1012, 1605, 1851, 1862, 1874, 1878, 2026, 2027)

RESPONSE: The proposed rulemaking would consistently regulate OWBs across this Commonwealth, instead of the piecemeal, inconsistent way OWBs are currently regulated. This would be particularly appropriate for establishing emission standards for any new OWBs installed in this Commonwealth. The emissions standard established in the proposed rulemaking would ensure that Pennsylvania does not become a dumping ground for non-Phase 2 OWBs that cannot be sold, purchased or installed in other states that have enacted regulations. The New England and Mid-Atlantic states that have enacted or proposed regulations that establish emission standards for new OWBs are, as follows:

State	**Effective Date of Phase 2 Emission Standard**
Maine	4/1/2010
Maryland	4/1/2010
Massachusetts	12/26/2008
New Hampshire	4/1/2010
Rhode Island	7/1/2010
Vermont	3/31/2009
New York – Proposed but moving forward	4/15/2011

24. COMMENT: A commentator from the Berrysburg Borough Council supports the proposed OWB regulation because of health concerns and nuisance complaints from OWB emissions. As a councilman serving a borough that enacted an OWB ordinance, this commentator listed several reasons why it is difficult for local governments to adequately address the OWB issue. They are as follows:

- Neighbor-to-neighbor hostility
- OWB owners' hostility toward government officials
- Threats of law suits from citizens who have suffered health effects from OWB emissions
- Threats of law suits from OWB owners
- Threats and acts of physical violence from OWB owners
- Threats of law suits from OWB manufacturers

(1567)

RESPONSE: The Department appreciates the local municipality's support for the statewide OWB rulemaking.

25. COMMENT: Several commentators stated that OWBs do not belong in neighborhoods. (10, 20, 757, 872, 920, 924, 1306, 1326, 1591, 1610, 1613, 1840, 1847, 1851)

RESPONSE: This final-form rulemaking is designed to require the sale of cleaner burning OWBs and the use of cleaner burning fuels to minimize the adverse effects of improper operation of OWBs, including smoke, odors and the burning of prohibited fuels and wastes.

26. COMMENT: A couple of commentators stated that the environment should not be damaged for cheap energy. (34, 72)

RESPONSE: The Department recognizes the value of heating with OWBs; including providing a lower cost fuel option which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel. The Department also recognizes that the environment is impacted by the operation of OWBs, especially non-Phase 2 OWBs. Since Phase 2 OWBs are 90% cleaner burning than conventional OWBs, the Phase 2 requirements of the regulation will decrease the emissions from the operation of newly installed OWBs. The Department believes that the final-form rulemaking requirements for the sale and installation of Phase-2 OWBs and clean fuels for new and existing OWBS should reduce the adverse environmental effects associated with the improper operation of OWBs, including soiling, reduced visibility, smoke and odors.

27. COMMENT: A few commentators stated that using coal as a fuel creates problems. (94, 241, 1307, 1324, 1352, 1840, 1844, 1851, 1869)

RESPONSE: The Phase-2 OWBs required under the final-form rulemaking are not coal-burning units.

28. COMMENT: A few commentators stated that the fuel used in OWBs should be regulated. (321, 1862, 1871)

RESPONSE: The Department agrees that the fuel used in OWBs should be regulated and has retained the proposed allowed and prohibited fuels provisions in the final-form rulemaking for both new and existing OWBs.

29. COMMENT: A few commentators stated that the additional costs accrued by neighbors affected by OWBs should be considered. (1591, 1598, 1920)

RESPONSE: The Department has heard from complainants that have incurred one or more of the following costs: increased healthcare costs that range from regular doctor visits to emergency room visits; costs of installing and operating indoor air purifying equipment; and costs and of retaining an attorney, as well as other legal fees, in order to prohibit or modify the operation of a neighboring nuisance OWB.

30. COMMENT: Several commentators stated that OWBs increase the cost of healthcare. (347, 504, 916, 1388, 1605, 1841, 1856)

RESPONSE: The Department agrees that unregulated OWBs could increase the cost of healthcare resulting from exposure to particle pollution

31. COMMENT: A commentator stated that penalties should be included in the regulation. (349)

RESPONSE: The Department does not include the amount of civil penalties in specific regulations. However, the Department will initially address OWB noncompliance by promoting educational awareness and encouraging voluntary compliance by the OWB owner. Should enforcement action be necessary, sections 9 and 9.1 of the APCA (35 P.S. §§ 4009 and 4009.1) provide the statutory framework for assessing penalties. Penalties for violations of regulation are calculated by way of penalty assessment policies developed by the Department.

32. COMMENT: A couple of commentators stated that the Department should initiate an educational campaign regarding OWBs. (1862, 1909, 1917)

RESPONSE: The Department agrees with the comment and will develop an OWB educational outreach program.

33. COMMENT: A few commentators stated that OWB emissions may interfere with attaining the National Ambient Air Quality Standards (NAAQS). (1628, 1848, 1862, 1874, 1877, 1878, 2026, 2027)

RESPONSE: The installation of Phase 2 OWBs, which are 90% cleaner burning than conventional OWBs, will lessen the impact of OWB emissions and will allow the Commonwealth to make progress in attaining and maintaining the PM2.5 health-based standards.

34. **COMMENT:** Several commentators stated that setback distances should be greater. (340, 605, 908, 920, 1014, 1345, 1613, 1623, 1877, 1920)

RESPONSE: The Department appreciates the commentators' concern. Based upon review of the public comments, the Department revised the final-form setback requirement for new Phase 2 OWBs from 150 feet from the property line to 50 feet from the property line. There were no setback requirements for existing OWBs in the proposed rulemaking and there are none in the final-form rulemaking. The setback requirement in the final-form rulemaking is comparable with provisions established in OWB regulations adopted by surrounding states.

35. COMMENT: Several commentators stated that minimum stack height requirements should be greater. (1014, 1345, 1840, 1851, 1877, 1920)

RESPONSE: The final-form rulemaking establishes a stack height requirement of a minimum of 10 feet above the ground, and installation according to manufacturer's specifications, for OWBs installed on and after the effective date of the final-form regulation. Following the publication of the proposed rulemaking, the Department determined that the proposed stack heights would be problematic for stack stability and the proper operation of already installed OWBs.

36. COMMENT: A commentator stated that stringent standards should be included for commercial units. (1877)

RESPONSE: Commercial OWBs with a thermal output of 350,000 Btu per hour or greater are not covered by the EPA Phase 2 qualification program and, therefore, are beyond the scope of this program. Currently the Department routinely addresses commercial units through existing regulations. The EPA is developing new source performance standards (NSPS) requirements that will regulate the emission rate of the commercial units.

37. COMMENT: A few commentators stated that non-Phase 2 units should be phased out if they cannot meet the requirements. (340, 898, 1859, 1877)

RESPONSE: The final-form rulemaking has been revised to address concerns about the retroactive application of certain provisions in the proposed rulemaking. Consequently, the Department also believes that a mandatory phase-out of non-Phase 2 OWBs is not feasible. However, the Department is exploring the feasibility of an OWB change-out program to encourage owners of non-Phase 2 OWBs to replace their existing OWB with a cleaner-burning Phase 2 OWB.

38. COMMENT: A couple of commentators stated that it should be explicitly stated that local requirements can be more stringent. (908, 1877)

RESPONSE: The Order for the final-form OWB rulemaking will specifically state that, in accordance with section 12 of the APCA (35 P.S. § 4012), local municipalities may enact ordinances more stringent than the final-form regulation.

39. COMMENT: A commentator stated that the right to use common law remedies for harm by OWBs should be explicitly reserved. (1877)

RESPONSE: Nothing in the regulation prevents the Commonwealth, persons or municipalities from initiating a common law action to suppress nuisances or to address a harm arising out of the operation of an OWB.

40. COMMENT: A few commentators stated that the Board should affirm that the regulation does not limit tort remedies. (1862, 1874, 1878, 2026, 2027)

RESPONSE: There is nothing in the regulation to limit tort remedies as a result of the operation of an OWB.

41. COMMENT: A few commentators stated that Pennsylvania is less stringent than some regulations elsewhere. (1862, 1874, 1878, 2026, 2027)

RESPONSE: OWB laws and regulations in certain states are more stringent than the proposed or final-form rulemakings. Pennsylvania's final-form OWB rulemaking requires the sale of Phase 2 OWBs, which are 90% cleaner burning than conventional OWBs. In addition to setting minimum requirements for the installation and operation of OWBs in this Commonwealth, the adoption of a statewide regulation should relieve local municipalities that have not enacted ordinances from having to address and resolve nuisance complaints—the Department would be responsible for enforcing the regulation.

42. COMMENT: A few commentators stated that a strong rule is required to protect health and prevent nuisances. (1613, 1862, 1874, 1878, 2026, 2027)

RESPONSE: Mandating the sale of Phase 2 OWBs that are 90% cleaner burning than non-Phase 2 OWBs, with an emission limit of 0.32 pound per million Btu heat output for particulate matter, will reduce the amount of particle pollution emitted.

43. COMMENT: A few commentators stated that the proposed rule should be strengthened to account for benefits of reducing pollutants beside PM 2.5. (1851, 1862, 1874, 1878, 2026, 2027)

RESPONSE: Emissions from the combustion of wood include carbon monoxide (CO), fine particulate matter and toxic pollutants including aldehydes, phenols, benzoprene and cresols. In addition to reducing exposure to particle pollution, the allowed and prohibited fuel provisions in the final-form rulemaking should also result in reduced CO and hazardous air pollutant emissions.

44. COMMENT: A few commentators stated that Pennsylvania should initiate a buy-back for pre-Phase 1 OWBs. (1862, 1874, 1878, 2026, 2027)

RESPONSE: The Department is currently exploring the feasibility of an OWB change-out program to encourage owners of non-Phase 2 OWBs to replace their existing conventional OWB with a cleaner-burning Phase 2 unit.

45. COMMENT: A few commentators stated that you cannot rely strictly on stack heights to protect neighbors. (1613, 1862, 1874, 1878, 2026, 2027)

RESPONSE: The final-form rulemaking establishes emission limits and stack height and setback requirements for OWBs installed on and after the effective date of the final-form regulation, and fuel and regulatory requirements for all OWBs operating in this Commonwealth.

46. COMMENT: A few commentators stated that you cannot assume that regulating the fuel will resolve the problem. (1862, 1874, 1878, 2026, 2027)

RESPONSE: The final-form rulemaking establishes emission limits and stack height and setback requirements for OWBs installed on and after the effective date of the final-form regulation, and fuel and regulatory requirements for all OWBs operating in this Commonwealth.

47. COMMENT: A few commentators stated that setbacks from certain facilities, such as daycares, schools, hospitals and retirement communities should be much greater. (890, 1071)

RESPONSE: The final-form rulemaking requires that new Phase-2 OWBs, which are 90% cleaner burning than conventional units, be installed a minimum of 50 feet from the nearest property line.

48. COMMENT: A commentator stated that the owners of existing OWBs should apply for a permit within 30 days and comply within 60 days. (890)

RESPONSE: Section 6.1 of the APCA (35 P.S. § 4006.1) expressly prohibits the Department from issuing plan approvals or permits for any source, equipment or device used solely for supplying heat or hot water to one structure intended as a one-family or two-family dwelling.

49. COMMENT: A commentator stated that OWBs should only be installed by licensed installers. (890)

RESPONSE: The Department believes that requiring a license for the installation of OWBs is beyond the scope of the proposed rulemaking.

50. COMMENT: A commentator stated that the stack height should be 5 feet higher than any roof less than 300 feet. (890)

RESPONSE: The Department has determined that the proposed stack heights for existing OWBs may be problematic for stack stability and the proper operation of the OWB. Therefore, the final-form rulemaking establishes a stack height requirement of a minimum of 10 feet above the ground, and installation according to manufacturer's specifications, for OWBs installed on and after the effective date of the final-form regulation.

51. COMMENT: A commentator stated that an ash disposal location needs to be provided. (890)

RESPONSE: The owner or operator of an OWB must comply with all Commonwealth and local regulations, including waste disposal.

52. COMMENT: A commentator stated that a copy of the law and a fact sheet should be provided by the seller to the buyer. (890)

RESPONSE: The notice requirements were deleted from the final-form rulemaking due to numerous comments that the requirements were unduly burdensome. The Department intends to develop an educational outreach program

53. COMMENT: A commentator stated that industry installation and operating recommendations should be required retroactively. (1012)

RESPONSE: The final-form rulemaking does not include provisions requiring owners of existing OWBs to apply industry installation and operating recommendations retroactively to their units. Many concerns were raised during the public comment period about the retroactive requirements.

54. COMMENT: A commentator stated that legislators should be educated on the seriousness of health issues regarding OWBs. (1012)

RESPONSE: The Department's educational outreach program will also address the serious health issues that may result from exposure to OWB emissions.

55. COMMENT: A commentator stated that it should be spelled out in the definition of clean wood that no toxins are allowed. (1862)

RESPONSE: The final-form rulemaking clarifies that wood treated with chemicals is not considered "clean wood."

56. COMMENT: A few commentators stated that financial support should be provided to owners of OWBs to meet the requirements. (1071, 1867, 1877, 1878)

RESPONSE: The Department is exploring the feasibility of an OWB change-out program to encourage owners of non-Phase 2 OWBs to replace their existing OWB with a cleaner-burning Phase 2 unit.

57. COMMENT: A commentator stated that OWBs increase local and regional pollution. (1878)

RESPONSE: The Department agrees that OWBs can increase local and regional pollution. In addition to particulate matter, carbon monoxide and toxic air pollutants such as polycyclic aromatic compounds are released to the atmosphere from the combustion of wood in OWBs. New Phase 2 OWBs burn more efficiently and emit less pollutants.

58. COMMENT: A few commentators stated that misinformation is provided by OWB manufacturers. (20, 803, 892, 1557, 1866)

RESPONSE: The Department is not aware of the alleged misinformation provided by OWB manufacturers. It should be noted, however, that manufacturer specifications may vary depending on the model of the OWB.

59. COMMENT: A commentator stated that even when operating at specifications there are dangerous levels of pollutants. (803)

RESPONSE: OWBs are designed to burn wood, which results in the release of air pollutants including particulate matter, carbon monoxide and toxic air pollutants. The final-form rulemaking requires that all new OWBs installed in this Commonwealth on and after the effective date of the final regulation must meet the Phase 2 emissions standard. Phase 2 OWBs are 90% cleaner burning than non-Phase 2 OWBs.

60. COMMENT: A couple of commentators stated that the emission limits should be in grams per hour. (870, 890, 1877)

RESPONSE: The final-form rulemaking includes the 0.32 pounds per million Btu output limit for particulate matter, which is identical to the emission standard established under the EPA voluntary program for qualifying Phase 2 OWBs.

61. COMMENT: A commentator stated that there should be a moratorium on OWB installations during the drafting of legislation. (890)

RESPONSE: A moratorium on OWB installations is beyond the scope of this rulemaking.

62. COMMENT: Nuisance language should be included in the regulation. (864, 890)

RESPONSE: Subsection 123.14(h) of the final-form rulemaking requires compliance with applicable laws and regulations including existing nuisance provisions such as the prohibition on air pollution, certain fugitive emissions and visible emissions. The final-form regulation, in conjunction with existing regulations, would be used to address nuisance complaints.

63. COMMENT: The commentator stated that an application should be required, prior to permitting, to include consideration of topography. (890)

RESPONSE: The Department is prohibited from requiring permits for home heating devices at private residences by Section 6.1 of the APCA (35 P.S. § 4006.1).

64. COMMENT: The commentator stated that registration should be required. (890)

RESPONSE: The Department is prohibited from requiring permits for home heating devices at private residences by Section 6.1 of the APCA (35 P.S. § 4006.1).

65. COMMENT: A few commentators stated that it should be noted that wood smoke can contain toxic air pollutants. (916, 979, 1628, 1677, 1872)

RESPONSE: Wood smoke can contain toxic pollutants. The allowed and prohibited fuel provisions in the final-form rulemaking will reduce the emission of pollutants from

OWBs operating in this Commonwealth; these provisions apply to both new and existing OWBs.

66. COMMENT: A commentator stated that unlike wood and pellet stoves, OWBs are currently unregulated by the EPA. (1628)

RESPONSE: The Department agrees. This was one of the considerations when determining that the Department should develop regulatory requirements for OWBs.

67. COMMENT: Several commentators stated there should be no "grandfathering". (321, 605, 871, 934, 949, 1014, 1129, 1588, 1840, 1920)

RESPONSE: The final-form rulemaking has deleted the retroactive application of certain provisions to existing OWBs. Consequently, existing stacks on OWBs installed prior to the effective date of the final-form regulation would, in effect, be grandfathered—these units would, however be subject to other provisions of the regulation including the allowed and prohibited fuels provisions.

68. COMMENT: The effective date should be April 1, 2010, to be consistent with other states. (1878)

RESPONSE: The regulation will be effective upon publication in the *Pennsylvania Bulletin*, if adopted as a final-form regulation.

69. COMMENT: Several commentators support the stack height requirements with conditions to address undue burdens and safety concerns. (104, 568, 1878)

RESPONSE: The final-form rulemaking will establish a minimum stack height of 10 feet for OWBs installed on and after the effective date of the final-form regulation. The stack height requirements for existing OWBs were deleted because of the Department's determination that the proposed stack heights would be problematic for stack stability and the proper operation of certain existing OWBs.

70. COMMENT: There needs to be assurance that OWBs will not be installed in inappropriate locations. (1012)

RESPONSE: The setback requirements are designed to ensure that OWBs installed on and after the effective date of the final-form regulation are at least 50 feet from the nearest property line.

71. COMMENT: Several commentators stated that dry, seasoned wood should be required. (278, 568, 811, 871, 1129, 1345, 1605)

RESPONSE: The Department agrees that using dry, seasoned wood is beneficial and it is a recommended practice in the Department's OWB fact sheet. However, it would be difficult and administratively burdensome to enforce this type of requirement.

72. COMMENT: The installation of controls should be required (that is, catalytic converters) (86, 246, 247, 331, 603, 934, 1326, 1588, 1862, 1876)

RESPONSE: The final-form rulemaking requires the sale and installation of Phase 2 OWBs, which are 90 % cleaner burning than conventional OWBs.

73. COMMENT: The Department should conduct periodic inspections. (340, 603)

RESPONSE: With more than 2,500 municipalities in the Commonwealth, periodic inspections of OWB installations by the Department would be infeasible. Air quality staff, will, however, periodically visit suppliers and distributors to determine if Phase 2 OWBs are being sold in the Commonwealth. Inspections will continue to be conducted on a complaint-driven basis when the Department becomes aware of a problem.

74. COMMENT: A few commentators stated that the rights of the OWB operators should end when they infringe on the rights of others to clean air. (64, 95, 847, 849, 892, 1104, 1350, 1567, 1614, 1867)

RESPONSE: The final-form OWB rulemaking is designed to provide the protections afforded under the Pennsylvania Constitution and the Air Pollution Control Act.

75. COMMENT: Indoor wood-fired boilers should be included in the regulations because some people install OWBs indoors in garages, sheds, etc to avoid regulations. (1613)

RESPONSE: The regulation of indoor wood-fired boilers is beyond the scope of this proposed rulemaking**.**

76. COMMENT: The regulation of OWBs is not a political issue; the health and welfare of the majority, the general public, must be considered first and foremost. (1613)

RESPONSE: The final-form rulemaking, which includes an emissions standard, stack height and setback requirements for new OWBs and fuel and regulatory requirements for all OWBs operating in this Commonwealth, is designed to protect public health and the environment.

77. COMMENT: People are faced with a choice; either put up with the smoke and odors from OWBs or move. (1611)

RESPONSE: The particulate matter emission standard for Phase 2 OWBs, stack height and setback requirements for OWBs installed on and after the effective date of the final-form regulation, and fuel and regulatory requirements for all OWBs operating in this Commonwealth should lessen the impact of emissions from OWBs. Although certain types of pollutants are emitted from the combustion of wood, the allowed fuel requirements will reduce odors and emissions to the atmosphere.

78. COMMENT: All wood-burning appliances should be banned because of the adverse health effects from breathing wood smoke. (1614)

RESPONSE: The harmful effects from breathing wood smoke will be reduced by establishing an emissions standard for new, and fuel requirements for all, OWBs in this Commonwealth. Phase 2 OWBs, which are 90% cleaner burning units than non-Phase 2 OWBs, and compliance with the requirements of the final-form rulemaking, will decrease exposure to emissions from OWBs when properly maintained and operated. The Department also recognizes the value of heating with wood, including providing a lower-cost fuel option, which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel.

General Opposition

79. COMMENT: The commentators oppose the proposed amendments to 25 *Pa. Code* Chapters 121 and 123 (relating to general provisions; and standards for contaminants) that will control particulate matter emissions from the operation of OWBs. (1, 2, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 35, 36, 37, 38, 40, 41, 42, 43, 46, 47, 48, 49, 50, 51, 52, 53, 54, 57, 58, 59, 60, 61, 62, 63, 67, 68, 71, 74, 75, 76, 78, 79, 80, 84, 85, 87, 88, 93, 96, 98, 99, 100, 101, 102, 103, 105, 106, 110, 112, 113, 114, 118, 122, 124, 125, 126, 127, 128, 129, 132, 133, 135, 138, 139, 144, 145, 147, 148, 149, 151, 152, 154, 155, 156, 158, 159, 163, 174, 202, 204, 243, 248, 249, 250, 251, 254, 255, 256, 257, 258, 259, 260, 262, 263, 266, 267, 269, 271, 272, 279, 282, 289, 290, 293, 294, 295, 296, 297, 300, 301, 302, 303, 304, 307, 308, 309, 310, 311, 312, 313, 314, 315, 317, 324, 326, 329, 330, 333, 334, 335, 336, 337, 339, 341, 344, 346, 355, 374, 438, 478, 488, 511, 513, 536, 550, 587, 589, 593, 594, 595, 596, 598, 599, 600, 606, 607, 608, 609, 613, 614, 615, 617, 619, 620, 622, 625, 626, 628, 630, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 755, 756, 758, 762, 763, 764, 767, 768, 769, 772, 774, 778, 779, 789, 791, 794, 798, 800, 802, 804, 805, 808, 809, 810, 814, 815, 816, 819, 820, 821, 822, 823, 824, 825, 827, 828, 829, 830, 831, 832, 833, 834, 835, 837, 838, 839, 840, 841, 842, 845, 848, 851, 852, 853, 856, 857, 858, 860, 862, 863, 866, 867, 868, 869, 873, 874, 875, 876, 877, 878, 879, 881, 882, 886, 889, 891, 893, 894, 895, 896, 897, 899, 900, 901, 903, 905, 906, 912, 913, 914, 917, 921, 925, 926, 927, 928, 929, 932, 937, 939, 943, 944, 946, 954, 956, 978, 992, 999, 1001, 1002, 1009, 1016, 1017, 1019, 1020, 1021, 1022, 1023, 1024, 1026, 1027, 1028, 1040, 1043, 1056, 1063, 1067, 1069, 1109, 1117, 1119, 1133, 1137, 1147, 1149, 1151, 1152, 1156, 1165, 1177, 1206, 1229, 1232, 1238, 1242, 1279, 1278, 1281, 1283, 1285, 1291, 1304, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1328, 1329, 1331, 1333, 1334, 1335, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1347, 1348, 1355, 1356, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1370, 1372, 1373, 1375, 1379, 1383, 1385, 1397, 1553, 1555, 1556, 1558, 1559, 1561, 1570, 1571, 1572, 1573, 1575, 1576, 1578, 1580, 1581, 1582, 1583, 1584, 1590, 1593, 1595, 1599, 1600, 1601, 1604, 1606, 1681, 1682, 1683, 1684, 1685, 1706, 1707, 1710, 1845, 1846, 1850, 1857, 1860, 1865, 1873, 1880, 1931, 1935, 1936, 1938, 1939, 1940, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956,

1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971

RESPONSE: Because of the potential adverse health effects associated with exposure to emissions from OWBs, the Department believes it is appropriate to establish minimum statewide requirements for OWBs installed on and after the effective date of the final-form regulation. Based on comments received during the comment period, the final-form rulemaking has been revised as follows:

- Requirements for retrofitting the stacks of existing OWBs have been deleted from the final-form rulemaking.
- An OWB installed, sold or bought with the intention of being installed in this Commonwealth on and after the effective date of the final-form regulation must meet the Phase 2 OWB emission standards, except as provided in the sell-through provision described below.
- A Phase 2 OWB installed on and after the effective date of the final-form regulation must be installed with a setback of a minimum of 50 feet from the nearest property line
- A Phase 2 OWB installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications.
- The above three provisions do not apply to a permanently installed OWB that was installed prior to the effective date of the final-form regulation and transferred to a new owner as a result of a real estate transaction.
- A non-Phase 2 OWB can be sold for use in this Commonwealth, as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011.
- A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period established in final-form subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line. The permanently attached stack must extend a minimum of 10 feet above the ground and be installed according the manufacturer's specifications.
- All OWBs operated in this Commonwealth on and after the effective date of the final-form regulation must meet certain fuel requirements.
- All OWBs operated in this Commonwealth on and after the effective date of the final-form regulation must comply with all applicable state, county and local laws and regulations.

80. COMMENT: The commentators generally oppose the proposed OWB regulation but acknowledge that OWBs can be a problem in some areas, especially more densely populated areas, and when owner carelessness and irresponsibility causes a nuisance. (3, 36, 115, 121, 122, 150, 161, 274, 316, 348, 502, 592, 611, 620, 627, 631, 766, 771, 807, 813, 826, 843, 846, 854, 856, 883, 885, 887, 918, 923, 944, 947, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1092, 1130, 1132, 1135, 1138, 1140, 1141, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208,

1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1285, 1289, 1290, 1292, 1293, 1295, 1305, 1313, 1330, 1353, 1375, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1572, 1597, 1686, 1705, 1712, 1837, 1839, 1857, 1884, 1897, 1912, 1913, 1919, 1937, 1978, 2028)

RESPONSE: The Department agrees that OWBs can be a problem when the OWB is located too close to a neighboring residence and not operated properly. The final-form rulemaking establishes an emissions standard for new OWBs sold for use in this Commonwealth after May 31, 2011, and stack height and setback requirements for all OWBs installed on and after the effective date of the final-form regulation, and fuel requirements for all OWBs operated in this Commonwealth on and after the effective date of the final-form regulation. A local municipality has the ability to enact requirements that are more stringent.

STACK HEIGHT REQUIREMENTS

81. COMMENT: Numerous commentators were opposed to the proposed stack height requirements. (19, 22, 30, 44, 53, 65, 76, 96, 105, 110, 119, 122, 126, 144, 159, 199, 202, 256, 258, 262, 266, 274, 279, 282, 289, 290, 302, 323, 330, 333, 334, 337, 339, 355, 478, 502, 511, 513, 589, 596, 601, 608, 613, 614, 617, 620, 622, 625, 626, 627, 631, 675, 753, 754, 756, 758, 760, 762, 768, 769, 772, 773, 774, 775, 776, 778, 779, 781, 791, 795, 805, 807, 813, 816, 825, 844, 846, 848, 850, 856, 862, 873, 885, 887, 899, 905, 917, 918, 922, 923, 925, 932, 939, 944, 947, 950, 1001, 1002, 1010, 1017, 1019, 1021, 1027, 1028, 1039, 1040, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1063, 1069, 1080, 1087, 1114, 1117, 1130, 1132, 1133, 1135, 1137, 1138, 1140, 1149, 1151, 1152, 1153, 1154, 1155, 1157, 1159, 1163, 1164, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1229, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1246, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1281, 1285, 1289, 1290, 1292, 1293, 1295, 1313, 1332, 1341, 1343, 1348, 1352, 1355, 1375, 1381, 1382, 1383, 1387, 1389, 1390, 1391, 1395, 1554, 1556, 1561, 1571, 1573, 1575, 1582, 1583, 1594, 1597, 1595, 1602, 1604, 1606, 1679, 1686, 1698, 1706, 1710, 1712, 1837, 1845, 1857, 1865, 1880, 1881, 1883, 1884, 1897, 1911, 1912, 1913, 1918, 1919, 1921, 1923, 1925, 1927, 1935, 1970, 1972, 1976, 1977, 1978, 1981, 1982, 1984, 1976, 2025, 2028)

RESPONSE: The stack height requirements for existing OWBs have been deleted in the final-form rulemaking. To ensure adequate dispersion of emissions, an OWB installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications. A non-Phase 2 OWB can be sold for use in this Commonwealth, as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period established in final-form

subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line. The permanently attached stack must extend a minimum of 10 feet above the ground and be installed according the manufacturer's specifications.

82. COMMENT: Several commentators inquired if there is a stimulus package that could pay for the increased stack height. (918, 1027, 1698)

RESPONSE: The provision pertaining to the retrofitting of stack heights attached to existing OWBs has been deleted in the final-form rulemaking.

83. COMMENT: Does the Department provide information about what size stacks can be supported on each OWB model? (1027)

RESPONSE: The final-form rulemaking has been revised to establish a minimum stack height of 10 feet above the ground for OWBs installed on and after the effective date of the final-form regulation and installation according to manufacturer's specifications.

84. COMMENT: A few commentators questioned how raising the stack will help since the smoke will still contain the same amount of pollutants. (119, 589, 613, 772, 1707, 1865, 1883, 1911, 1918, 1919, 1980)

RESPONSE: The purpose of increasing the stack height is not to decrease the emissions, but rather to facilitate the dispersion of the pollutants. One of the concerns with OWBs is the short stack or chimney that emits pollutants near ground-level where people live. This increases the localized concentration of harmful pollutants to which people are exposed. Good dispersion will decrease the amount of emissions that build up at ground-level where people breathe.

85. COMMENT: What happens if someone moves into the area (500/150 ft). Do you then have to raise your stack? (1980)

RESPONSE: The stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The stack height requirement established for new Phase 2 OWBs is a minimum of 10 feet above the ground and is not based on distance from neighboring residences. A Phase 2 OWB installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground that is installed according to the manufacturer's specifications, and must be set back a minimum of 50 feet from the nearest property line. A non-Phase 2 OWB can be sold for use in this Commonwealth as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough established in final-form subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line. The permanently attached stack must extend a minimum of 10 feet above the ground and be installed according the manufacturer's specifications.

86. COMMENT: The Department should consider a maximum height requirement for OWBs. (44)

RESPONSE: The stack height requirements for existing OWBs have been deleted in the final-form rulemaking. A Phase 2 OWB installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications. A non-Phase 2 OWB can be sold for use in this Commonwealth, as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period established in final-form subsection 123.14(b)(3), must have a permanently attached stack that extends a minimum of 10 feet above the ground and be installed according the manufacturer's specifications. Any additional stack above 10 feet is at the discretion of the OWB owner and the recommendation made by the manufacturer of the OWB unit. The general rule is the higher the stack height, the better the dispersion of the emissions.

87. COMMENT: Three commentators inquired about the definition of a permanently attached stack? If it can't be removed from boiler, it couldn't be cleaned thus reducing efficiency and increasing chance of fire. (589, 1883, 1981)

RESPONSE: A permanently attached stack means that the stack is part of the firebox, remains in a fixed position and is a safe conduit for flue gas. It can still be taken apart for cleaning and repair.

88. COMMENT: The commentator suggests that catalytic converters be installed in non-Phase 2 OWBs rather than raising stacks (commentator does not know if this is feasible. (119)

RESPONSE: After review of the public comments, the Department does not believe that it is feasible to require add-on controls to existing OWBs.

SETBACK REQUIREMENTS

89. COMMENT: Many commentators opposed the proposed setback requirements. (44, 58, 60, 65, 76, 119, 122, 126, 132, 258, 262, 292, 301, 310, 334, 348, 355, 588, 768, 774, 790, 813, 887, 918, 944, 978, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1069, 1080, 1114, 1130, 1132, 1135, 1138, 1140, 1153, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1283, 1285, 1289, 1290, 1292, 1293, 1295, 1343, 1375, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1571, 1573, 1590, 1597, 1604, 1679, 1686, 1698, 1837, 1883, 1910, 1912, 1918, 1921, 1923, 2028)

RESPONSE: The setback requirements in the final-form rulemaking for new Phase 2 OWBs installed on and after the effective date of the final-form regulation have been reduced from 150 feet to 50 feet from the property line; the proposed rulemaking did not include setback requirements for existing OWBs. The revised 50 foot set-back is based on the recommendation of the OWB trade association.

90. COMMENT: Several commentators opposed the proposed OWB regulation because the setback requirement would be impossible to meet with the existing OWB or would be forced to move it. (76, 333, 337, 596, 611, 615, 771, 807, 838, 905, 922, 939, 954, 1010, 1385, 1582, 1881, 1911, 1912, 1939, 1951, 1981)

RESPONSE: Neither the proposed nor the final-form OWB rulemaking includes a setback requirement for existing OWBs

91. COMMENT: The commentator opposes the proposed OWB regulation because they think that new OWBs will have to be installed 500 feet from the nearest property line. (1028)

RESPONSE: The proposed rulemaking established a setback requirement for new Phase 2 OWBs of 150 feet from the property line, not 500 feet as indicated by the commentator. The revised setback requirement for new Phase 2 OWBs in the final-form rulemaking is 50 feet from the nearest property line. A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period established in final-form subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line.

92. COMMENT: The commentators suggested that the setback for Phase 2 OWBs be changed to read ”unless it is located in one of the following exclusionary setback locations that are classified as rural, woodland, conservation, agricultural areas, the setback for Phase 2 OWBs is a minimum of 50 feet to the nearest property line. (19, 1383)

RESPONSE: After reviewing the comments received during the public comment period, the Department has revised the setback requirement in the final-form rulemaking for Phase 2 OWBs installed on and after the effective date of the final-form regulation to 50 feet from the nearest property line. This revised setback distance is based on the recommendation of the OWB trade association.

93. COMMENT: A commentator inquires why is the EPA stating a 500 ft stand-off? (1332)

RESPONSE: The 500 ft stand-off, or setback, is based on EPA research. In the final-form rulemaking, the Department establishes a setback requirement of 50 feet for Phase 2 OWBs installed on and after the effective date of the final-form regulation. The 50 foot setback is based on our own research and outreach conducted for this rulemaking. A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period

established in final-form subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line.

GRANDFATHERING EXISTING OWBS

94. COMMENT: Many commentators stated that existing OWBs should be grandfathered unless they are causing a nuisance. (44, 58, 60, 76, 99, 112, 115, 119, 122, 126, 139, 145, 199, 204, 258, 274, 282, 289, 290, 302, 323, 330, 339, 355, 502, 589, 594, 601, 608, 613, 617, 620, 622, 625, 627, 675, 753, 755, 760, 769, 771, 773, 775, 776, 778, 781, 791, 795, 813, 816, 836, 844, 846, 850, 856, 877, 887, 897, 905, 915, 917, 918, 922, 932, 939, 944, 947, 950, 954, 1018, 1020, 1021, 1027, 1028, 1039, 1040, (1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1087, 1117, 1130, 1132, 1133, 1135, 1137, 1138, 1140, 1149, 1154, 1155, 1157, 1159, 1164, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1229, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1246, 1281, 1313, 1332, 1341, 1348, 1364, 1375, 1554, 1559, 1570, 1572, 1582, 1594, 1679, 1698, 1712, 1837, 1857, 1881, 1883, 1911, 1912, 1913, 1921, 1927, 1976, 1978, 1980, 1981, 1982, 1984

RESPONSE: The Department considered the many comments received during the public comment period about 'grandfathering' existing OWBs. The only requirements that apply to existing OWBs in the final-form rulemaking are the fuel requirements found in subsections (f) and (g) and the regulatory requirements found in subsection (h).

95. COMMENT: The commentator suggests that some people have given OWBs a bad name and only those responsible for the misuse should be held accountable; not every owner. (147, 199, 269, 289, 290, 302, 316, 339, 513, 601, 620, 622, 643, 753, 754, 773, 776, 778, 781, 791, 813, 816, 846, 850, 856, 885, 887, 896, 899, 901, 918, 923, 943, 944, 947, 950, 1021, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1117, 1130, 1132, 1135, 1138, 1140, 1149, 1154, 1155, 1157, 1159, 1164, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1246, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1353, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1597, 1606, 1679, 1686, 1698, 1712, 2028

RESPONSE: The final-form rulemaking establishes an emissions standard for new OWBs sold for use in this Commonwealth after May 31, 2011, and stack height and setback requirements for all OWBs installed on and after the effective date of the final-form regulation, and fuel requirements for all OWBs operated in this Commonwealth on and after the effective date of the final-form regulation. These final-form amendments will reduce PM pollution emissions from future OWBs installed in this Commonwealth, as well as require that only allowed fuel is burned.

96. COMMENT: A commentator suggests that it is unfair to the consumer that bought an OWB that now does not meet the standards. The EPA should require all OWB manufacturers that do not meet the standard to refund or retrofit the existing OWBs. If the manufacturer refuses then they should be banned from selling their product in PA. (1332)

RESPONSE: The emissions standard in the proposed rulemaking only applied to new installations. The final-form rulemaking establishes an emissions standard for new OWBs sold for use in this Commonwealth after May 31, 2011.

97. COMMENT: A commentator states that he will shut down his boiler if: 1) All existing boilers are grandfathered, 2) If DEP pays for the expenses of upgrading his current system including a replacement OWB that meets that Phase 2 OWB standards, and 3) DEP gives me a check for $143,498.95. (608)

RESPONSE: The stack height and setback requirements in the final-form rulemaking apply to OWBs installed on and after the effective date of the final-form regulation and not to existing OWBs. The only requirements in the final-form rulemaking that apply to existing OWBs are the fuel requirements found in subsections (f) and (g) and the regulatory requirements found in subsection (h).

ONE-SIZE-FITS-ALL REQUIREMENT

98. COMMENT: The commentator opposes the proposed OWB regulation because it is unnecessary to have a "blanket" regulation for the entire state. (3, 8, 15, 30, 31, 36, 76, 99, 126, 149, 152, 274, 333, 348, 589, 606, 614, 615, 630, 631, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 643, 762, 774, 789, 794, 800, 802, 807, 810, 813, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 833, 834, 836, 837, 840, 842, 845, 851, 852, 853, 860, 863, 866, 868, 874, 878, 879, 881, 882, 883, 886, 887, 889, 891, 894, 895, 897, 900, 901, 905, 906, 912, 914, 918, 921, 922, 926, 927, 928, 929, 937, 944, 946, 957, 999, 1009, 1010, 1016, 1022, 1023, 1039, 1041, 1044, 1045, 1047, 1050, 1056, 1057, 1061, 1067, 1080, 1092, 1114, 1130, 1132, 1133, 1135, 1137, 1138, 1140, 1141, 1147, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1165, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1238, 1240, 1241, 1242, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1328, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1361, 1362, 1364, 1365, 1366, 1367, 1368, 1375, 1379, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1397, 1553, 1555, 1559, 1581, 1593, 1595, 1596, 1597, 1604, 1686, 1698, 1705, 1710, 1839, 1845, 1860, 1880, 1881, 1883, 1913, 1918, 1931, 1948, 1982, 2028

RESPONSE: The Department has received over 200 complaints since 2005. The OWB issue is not just an urban/suburban/rural problem. The Department is establishing minimum statewide requirements for OWBs**.** These requirements will reduce PM

pollution from OWBs installed in this Commonwealth after May 31, 2011, as well as require that only cleaner fuels are burned in all existing and new OWBs. A local municipality has the ability to enact stricter requirements if they deem it necessary.

99. COMMENT: A few commentators opposed the proposed OWB regulation because the fine particulate nonattainment areas are typically south of I-80, so OWBs north of Route 80 should not be subject. (36, 126, 1163, 1375, 1860, 1881)

RESPONSE: The adverse health effects from PM2.5 are not confined to a particular region. PM levels from OWBs can rise dramatically in as little as 1 – 12 hours and cause high risk localized exposures resulting in hospital or emergency room visits and asthma or cardiovascular events.[15]

NUISANCES NEED TO BE REGULATED ON A CASE-BY-CASE BASIS

100. COMMENT: A few commentators suggested that the stack heights and setbacks need to be reasonable and looked at on a case-by-case basis. (890, 907, 1152, 1679, 1982)

RESPONSE: Because of the potential adverse health effects associated with exposure to emissions from OWBs, the Department believes it is in the best interest of all Pennsylvania citizens to establish minimum statewide requirements for OWBs installed on and after the effective date of the final-form regulation. A local municipality has the ability to enact stricter requirements if they deem it necessary. Based on comments received during the comment period, the final-form rulemaking has been revised as follows:

- Requirements for retrofitting the stacks of existing OWBs have been deleted from the final-form rulemaking.
- An OWB installed, sold or bought with the intention of being installed in this Commonwealth on and after the effective date of the final-form regulation must meet the Phase 2 OWB emission standards, except as provided in the sell-through provision described below.
- A Phase 2 OWB installed on and after the effective date of the final-form regulation must be installed with a setback of a minimum of 50 feet from the nearest property line
- A Phase 2 OWB installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications.
- The above three provisions do not apply to a permanently installed OWB that was installed prior to the effective date of the final-form regulation and transferred to a new owner as a result of a real estate transaction.

[15] (Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153-70.))

- A non-Phase 2 OWB can be sold for use in this Commonwealth, as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011.
- A non-Phase 2 OWB sold for use in this Commonwealth during the sell-thorough period established in final-form subsection 123.14(b)(3), must be installed a minimum of 150 feet from the nearest property line. The permanently attached stack must extend a minimum of 10 feet above the ground and be installed according the manufacturer's specifications.
- All OWBs operated in this Commonwealth on and after the effective date of the final-form regulation must meet certain fuel requirements.
- All OWBs operated in this Commonwealth on and after the effective date of the final-form regulation must comply with all applicable state, county and local laws and regulations.

101. COMMENT: A few commentators suggest that nuisances be dealt with on a case-by-case basis (115, 119, 594, 923, 1152, 1163, 1561, 1880, 1881, 1897, 1912, 1921, 1922, 1923, 1924, 1980, 1984)

RESPONSE: Enforcement of the OWB regulation by the Department would be on a complaint-driven basis. The first step in an enforcement action taken by the Department to apply the OWB regulation would be to encourage voluntary compliance with the OWB regulation. This effort would include education related to ensuring that the OWB is not operated in a manner that might cause a nuisance to surrounding property owners. Should voluntary compliance fail, the Department would then take a more traditional enforcement path.

102. COMMENT: Several commentators oppose the proposed OWB regulation because OWBs can be operated by responsible owners with no problems to the neighbors by taking into account wind direction, using proper fuel, etc. (3, 7, 8, 22, 23, 36, 44, 47, 76, 80, 87, 99, 122, 128, 133, 139, 147, 199, 250, 272, 279, 282, 316, 348, 478, 587, 589, 595, 613, 619, 620, 631, 639, 675, 766, 775, 805, 808, 835, 844, 846, 850, 853, 857, 883, 893, 896, 897, 925, 1056, 1137, 1141, 1229, 1246, 1273, 1278, 1285, 1313, 1372, 1379, 1554, 1561, 1572, 1580, 1604, 1681, 1685, 1698, 1705, 1706, 1707, 1837, 1850, 1880, 1881, 1912, 1915, 1918, 1921, 1922, 1925, 1981, 1982)

RESPONSE: The Department understands that units operate by responsible individual do not create problems. The final-form rulemaking establishes minimum requirements for all units across the Commonwealth that incorporates responsible operating procedures.

NUISANCES

103. COMMENT: The commentator states that they understand the underlying issues and situations leading up to the proposed regulation (smoke, neighbor's complaints, health issues, etc) (853)

RESPONSE: The Department agrees that smoke, neighbors' complaints and health issues are some of the underlying issues and situations leading up to the proposed rulemaking. Understanding that these issues exist would help to resolve many of the problems associated with OWB operation.

104. COMMENT: A few commentators stated that those that operate OWBs need to be conscientious and considerate of their neighbors, even to the point of removing nuisance OWBs or redirecting the smoke. (76, 923, 1152, 1372)

RESPONSE: The Department realizes that many OWB owners are conscientious, considerate and responsible. This, in addition to the minimum requirements established in the final-form rulemaking, will help resolve many of the problems associated with OWB operation.

105. COMMENT: The commentator states that irresponsible OWB owners who site their OWBs upwind and in close proximity of neighbors are wrong. The neighbors should consult an attorney or local nuisance ordinances should be strengthened. (589)

RESPONSE: The Department agrees that OWBs installed upwind and in close proximity to neighbors are not properly sited. The final-form rulemaking establishes minimum performance and operational requirements that incorporate responsible operating procedures for all units across the Commonwealth.

106. COMMENT: The commentators believe that complaints about OWBs are just nuisance complaints and are a means to get even with neighbors. There was probably trouble between the neighbors before the OWB was installed. (44, 511, 608, 1372, 1860, 1914, 1921, 1964, 2025)

RESPONSE: OWBs which are improperly installed and operated with fuels that are not "clean fuels" may cause a lot of smoke due to the incomplete combustion of fuels. Emissions from such units would adversely impact public health and safety. The Department investigates and confirms many complaints from people whose health, welfare and property are being negatively affected by the operation of a neighboring OWB.

107. COMMENT: The commentator states that the proposed regulations were written to appease a group of people who cannot get along with their neighbors. (608)

RESPONSE: The Department investigates and confirms many complaints from people whose health, welfare and property are being negatively affected by the operation of a neighboring OWB

LOCAL ISSUE

108. COMMENT: Many commentators oppose the proposed OWB regulation because regulating home heating units should be handled by local municipalities or the proposed regulation voids the authority of local municipalities in regulating OWBs. (1, 2, 3, 7, 9,

12, 14, 15, 22, 25, 26, 29, 35, 36, 44, 47, 58, 59, 60, 63, 71, 76, 98, 99, 103, 119, 122, 126, 127, 128, 132, 133, 138, 144, 147, 150, 151, 152, 156, 159, 161, 243, 258, 259, 262, 263, 274, 293, 297, 304, 307, 309, 311, 312, 333, 337, 589, 593, 599, 601, 606, 612, 615, 622, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 762, 764, 768, 769, 772, 774, 778, 789, 794, 800, 802, 807, 808, 809, 810, 813, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 833, 834, 837, 838, 840, 842, 845, 848, 851, 852 853, 854, 856, 858, 860, 863, 867, 868, 873, 874, 877, 878, 879, 882, 883, 886, 887, 889, 891, 893, 894, 895, 900, 905, 906, 912, 914, 917, 918, 921, 922, 923, 926, 927, 928, 929, 937, 943, 944, 946, 947, 956, 957, 992, 999, 1002, 1009, 1010, 1016, 1022, 1023, 1024, 1039, 1041, 1043, 1044, 1045, 1047, 1050, 1056, 1057, 1061, 1069, 1080, 1092, 1114, 1130, 1132, 1133, 1135, 1138, 1140, 1141, 1147, 1149, 1152, 1153, 1154, 1155, 1157, 1159, 1163, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1232, 1234, 1238, 1240, 1241, 1242, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1285, 1289, 1290, 1292, 1293, 1295, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1328, 1331, 1335, 1337, 1338, 1340, 1343, 1344, 1347, 1358, 1359, 1360, 1361, 1362, 1364, 1365, 1366, 1367, 1372, 1381, 1382, 1385, 1387, 1389, 1390, 1391, 1395, 1397, 1553, 1555, 1572, 1581, 1593, 1595, 1596, 1597, 1604, 1678, 1684, 1686, 1698, 1710, 1839, 1845, 1849, 1857, 1860, 1883, 1884, 1913, 1914, 1925, 1927, 1928, 1931, 1938, 1940, 1964, 1972, 1977, 1984, 2028

RESPONSE: The Department has received over 200 complaints statewide since 2005. The OWB issue is not just an urban/suburban/rural problem. The Department is establishing minimum statewide requirements for OWBs, including performance and operational requirements**.** These requirements will reduce PM pollution from OWBs installed in this Commonwealth after May 31, 2011, as well as require that only cleaner fuels are burned in all existing and new OWBs. A local municipality has the ability to enact stricter requirements if they deem it necessary.

109. COMMENT: The commentators oppose the proposed OWB regulation because their local municipality already has regulations for OWBs and it's unfair to those who have already met local ordinances. The proposed regulation should be modified to exempt local governments that already have enacted an ordinance. (1152, 1317, 1332, 1698)

RESPONSE: In accordance with Section 12 of the APCA (35 P.S. § 4012), existing ordinances which are more stringent than the final-form regulation will remain in effect. In addition, municipalities may adopt requirements more stringent than the final-form OWB rulemaking. The only requirements in the final-form rulemaking that apply to existing OWBs are the fuel requirements found in subsections (f) and (g) and the regulatory requirements found in subsection (h).

110. COMMENT: A commentator suggests that local municipalities be held more responsible. (805)

RESPONSE: The final-form rulemaking is designed to aid local municipalities and improve the Commonwealth's air quality. The statewide final-form OWB rulemaking would be effective upon publication in the *Pennsylvania Bulletin* as final-form regulation and implemented and enforced by the Department.

111. COMMENT: A commentator suggests that the Department should work with local municipalities south of I-80 to reduce pollution and allow those of us north of I-80 to continue to work with our own local municipalities to address our issues, such as Marcellus Shale. (785)

RESPONSE: The Department has received over 200 complaints statewide since 2005. The OWB issue is not just an urban/suburban/rural problem. The Department is establishing minimum statewide requirements for OWBs, including performance and operational requirements**.** These requirements will reduce PM pollution from OWBs installed in this Commonwealth after May 31, 2011, as well as require that only cleaner fuels are burned in all existing and new OWBs. A local municipality has the ability to enact stricter requirements if they deem it necessary.

112. COMMENT: The commentators suggest that the Department should work with local governments and manufacturers to make changes, instead of regulating. (502, 587, 620, 766, 1281)

RESPONSE: The Department agrees that working with local governments and manufacturers is part of the solution, but the OWB issue has become such a problem in this Commonwealth that a statewide regulation is necessary for the protection of public health and the environment. The Department has consulted with OWB manufacturers in Pennsylvania and will continue to work with interested stakeholders during the implementation of the OWB requirements, if adopted as a final-form regulation

113. COMMENT: The commentators suggest that large property owners be exempted from the proposed regulation. (115, 348, 1027, 1040, 1575)

RESPONSE: Large property owners are not exempt from these regulations.

114. COMMENT: A few commentators are concerned that their existing OWBs located on large properties would be affected by the requirements including stack heights, setbacks, and so on of the proposed OWB regulation. They are also concerned that their OWBs would be banned. (767, 805, 853, 862, 1912)

RESPONSE: The final-form rulemaking does not establish stack height or setback requirements for existing OWBs.

115. COMMENT: The commentator suggests that all municipalities should be required to issue permits for OWBs to ensure that they are properly installed. (881)

RESPONSE: Establishing permitting obligations for local municipalities is beyond the scope of the OWB rulemaking. A decision to require permits for OWBs would be made by individual municipalities.

116. COMMENT: A commentator stated that the Borough Council was advised by the Borough Solicitor not to get involved in a complaint between neighbors about an OWB. Subsequently, the complainant had to hire an attorney for at least $1,500 to get some relief from the affects of the OWB. (1964)

RESPONSE: The Borough Council should continue to seek the advice of counsel regarding such disputes.

117. COMMENT: A commentator cites Act 537 as a precedent to keep the Department out of people's backyards. (1698)

RESPONSE: The Department disagrees—the regulation of OWB operations is authorized under the APCA (35 P.S. §§ 4001-4015). On January 24, 1966, the Pennsylvania Sewage Facilities Act (Act 537, as amended) was enacted to correct existing sewage disposal problems and prevent future problems.

AGRICULTURAL USE OF OWBS

118. COMMENT: The commentators opposed the proposed OWB regulation because it will limit the use of OWBs for agricultural purposes. (78, 87, 149, 335, 374, 608, 760, 768, 873, 923, 944, 950, 1313, 1334, 1363, 1364, 1678, 1849, 1923, 1978)

RESPONSE: The final-form regulation would not apply to an OWB that is being used for the production of agricultural commodities, as defined in section 4.2 of the APCA (35 P.S. § 4004.2). If the OWB is being used exclusively to heat or provide hot water, or both, for a residence located on agricultural property, then the final-form regulation would apply.

SEASONAL PROHIBITION

119. COMMENT: Many commentators opposed the seasonal prohibition of May 1 through September 30. (19, 112, 119, 122, 139, 144, 145, 199, 274, 289, 290, 302, 330, 339, 348, 355, 478, 511, 593, 594, 596, 601, 608, 611, 617, 622, 627, 631, 675, 753, 754, 756, 760, 767, 773, 775, 776, 778, 781, 795, 813, 816, 856, 873, 881, 885, 887, 917, 918, 922, 932, 939, 944, 950, 1001, 1002, 1019, 1021, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1087, 1114, 1117, 1119, 1130, 1132, 1135, 1138, 1140, 1149, 1153, 1154, 1155, 1157, 1159, 1164, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1246, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272,

1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1348, 1353, 1355, 1381, 1382, 1383, 1387, 1389, 1390, 1391, 1395, 1554, 1570, 1594, 1597, 1686, 1698, 1712, 1837, 1857, 1860, 1883, 1912, 1913, 1977, 1982, 2028)

RESPONSE: Although not part of the proposed OWB rulemaking, the Board's Preamble requested specific comments about a seasonal prohibition of the operation of OWBs from May 1 through September 30. Due to concerns about the use of OWBs to provide hot water year-round, the final-form rulemaking does not include a seasonal prohibition, which would have prohibited the operation of OWBs from May 1 through September 30 each year.

120. COMMENT: A commentator supports a seasonal prohibition for non-Phase 1 or 2 OWBs. (1918)

RESPONSE: Due to concerns about the use of OWBs to provide hot water year-round, the final-form rulemaking does not include a seasonal prohibition, which would have prevented the operation of OWBs from May 1 through September 30 each year.

121. COMMENT: Use of my OWB from May through September was suspended because of a complaint; there have been no further complaints. (1010)

RESPONSE: The final-form rulemaking does not include a seasonal prohibition. One issue with the use of OWBs is that some operators use their OWBs year-round to heat hot water and swimming pools, in addition to home heating during the winter. The use of OWBs during the summer months creates a potential to interfere with neighbors who are more likely to be outdoors.

OPACITY

122. COMMENT: Several commentators opposed opacity requirements for residential sized appliances because opacity is a subjective visual observation. (112, 122, 144, 199, 289, 290, 302, 339, 589, 593, 596, 608, 617, 622, 627, 631, 675, 753, 754, 760, 773, 775, 776, 778, 781, 791, 795, 816, 856, 950, 1021, 1087, 1117, 1149, 1164, 1191, 1246, 1348, 1353, 1594, 1698, 1712, 1912)

RESPONSE: The opacity requirement is an existing statewide regulation limiting the visual emissions emanating from stacks. The opacity regulation applies to any stack, residential or commercial, in use in this Commonwealth. Since the proposed rulemaking would be applied statewide, the opacity requirement would be enforced by the Department's regional air quality program field staff. The field staff are certified annually to determine the percent opacity from stacks. Opacity observations are not a subjective visual observation for these certified field staff.

123. COMMENT: The commentators stated that the white smoke that comes from an OWB is condensation (steam). (1977, 1981)

RESPONSE: The air quality field staff are also certified annually to differentiate smoke from condensation (steam).

INCREASE TAXES/RECEIVE KICKBACKS

124. COMMENT: The proposed OWB regulation is opposed because it is a means for the Commonwealth to make money, increase taxes or receive kickbacks from gas and oil companies. (1, 7, 24, 33, 54, 68, 110, 139, 258, 617, 798, 839, 894, 918, 1291, 1328, 1873, 1881, 1980)

RESPONSE: The statewide regulation of OWBs is designed to protect public health and the environment. There are no fees associated with this rulemaking.

125. COMMENT: Since the state government cannot tax wood that is cut, transported, stacked and used by individuals, they would rather have people use expensive fuel oil, propane or electric heat which is easily measured and taxed. (258)

RESPONSE: The purpose of the rulemaking is to protect the health and welfare of Pennsylvania citizens, not to reduce or eliminate the use of wood as a fuel. The Department acknowledges the cost benefits of wood, while recognizing the potential health problems associated with the use of inefficient or poorly operated OWBs. The expected result of the final-form rulemaking will be to establish an emissions standard for all OWBs installed after May 31, 2011, and fuel requirements for all OWBs.

126. COMMENT: The proposed OWB regulation is opposed because the proposed regulation is a ploy for Big Energy to take over. (15, 1092, 1291)

RESPONSE: The purpose of the proposed rulemaking is to protect the health and welfare of citizens of this Commonwealth.

ENFORCEMENT ISSUES

127. COMMENT: Several commentators were concerned about enforcement issues (cost, difficulty, increased paperwork, increased burden on limited staff, increased taxes to pay for enforcement). (2, 3, 129, 282, 301, 589, 600, 631, 813, 841, 887, 918, 926, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1130, 1132, 1135, 1138, 1140, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1080, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1370, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1597, 1686, 1912, 1913, 1915, 2028)

RESPONSE: Enforcement of the OWB regulation will be conducted on a complaint-driven basis by the Department's air quality field staff. Because the Department's air quality field staff currently respond to OWB complaints, the OWB regulation is not expected to impose much of an impact.

128. COMMENT: A commentator inquires who will enforce the regulation. (618)

RESPONSE: The Department is responsible for enforcing regulations adopted by the Environmental Quality Board.

129. COMMENT: A commentator asks what the penalties are for noncompliance. (918)

RESPONSE: The Department does not include penalties in specific regulations. Penalties for violations of regulation are calculated by way of penalty assessment policies developed by the Department.

FUEL REQUIREMENTS

130. COMMENT: The commentators opposed the proposed OWB regulation because of the fuel requirements and believe that burning of household garbage in OWBs to produce heat and hot water is a good way to recycle the waste and keep it out of landfills, or opposed the proposed regulation because of the fuel restrictions, or both. (101, 129)

RESPONSE: Additional toxic and HAP emissions from burning these unknown substances increase the risk of potential adverse health effects of emissions from OWBs. The dangers are a concern for not only the neighbors, but also for the OWB owners and their families. Burning is not recycling. A far better way to keep materials out of landfills is to reuse them when possible or to recycle appropriate materials such as plastics, aluminum cans, steel cans, glass, newspapers and magazines. Hazardous wastes should be taken to collections sites and should never be burned, except in a permitted municipal incinerator that has the necessary air pollution control devices. The best way to dispose of some materials, such as treated or coated lumber, is to send them to the landfill where the dangerous chemicals can be managed appropriately.

131. COMMENT: The proposed OWB regulation is opposed because of the fuel requirements. (126, 905)

RESPONSE: One of the major complaints received by the Department about OWBs is regarding the burning of items that are not on the allowed fuel list under proposed subsection (f). Burning prohibited fuels increases the odors and toxic air emissions from OWBs, which increases the likelihood that neighbors, and the OWB owner or operator, will be adversely affected.

132. COMMENT: Several commentators stated that coal is not mentioned and wonder whether it will be allowed? (44, 147, 589, 625, 758, 768, 772, 922, 947, 1024, 1372, 1375, 1554, 1571, 1576, 1582, 1600, 1606, 1685, 1698, 1845, 1865, 1883, 1898, 1925, 1941)

RESPONSE: Burning coal in an outdoor furnace designed for burning coal is not within the scope of the proposed or final-form rulemaking. The rulemaking is for outdoor wood-fired boilers.

133. COMMENT: A commentator states that coal emissions are ten times greater than burning wood and wonders why coal emissions are allowed and burning wood is being penalized. (1332)

RESPONSE: Burning coal in an outdoor furnace is not within the scope of the proposed or final-form rulemaking. The rulemaking is for outdoor wood-fired boilers. At this time, coal burning appliances cannot be qualified under the EPA Phase 2 program.

134. COMMENT: Several commentators generally oppose the proposed OWB regulation but support the fuel requirements. (119, 330, 513, 596, 615, 620, 631, 790, 862, 873, 907, 923, 925, 944, 947, 1119, 1137, 1153, 1229, 1246, 1279, 1329, 1343, 1355, 1372, 1837, 1883, 1918, 1925, 1982)

RESPONSE: The Department acknowledges the support for the fuel requirements.

135. COMMENT: Three commentators want to know the definition of 'clean wood' and wonder if that is some new name for regular firewood that will allow it to be sold for twice as much. (762, 1595, 1922)

RESPONSE: Firewood that has not been treated with chemicals is considered "clean wood." Clean wood is defined in the final-form rulemaking as wood that contains no paint, stains or other types of coatings and wood that has not been treated with preservatives or chemicals, including copper, chromium arsenate, creosote and pentachlorophenol.

136. COMMENT: The commentators questioned why wood pellets are the only fuel mentioned in the proposed regulations and wonders if the Department has a financial stake in the wood pellet business. (31, 478)

RESPONSE: Wood pellets are just one of the allowed fuels specified under subsection (f) (relating to allowed fuels) of the proposed and final-form rulemaking. The list of allowed fuels is as follows:

- Clean wood.
- Wood pellets made from clean wood.
- Home heating oil, natural gas or propane that:
  - Complies with all applicable sulfur limits.
  - Is used as a starter or supplemental fuel for dual-fired OWBs
- Other fuel approved in writing by the Department upon receipt of a written request.

137. COMMENT: Subsection (f) should be rewritten to prohibit those items which the Department has just cause to prohibit, such as painted material, rubber, rubbish, etc. Subsection (f) is inherently flawed because if a boiler is designed to operate on a particular fuel then by definition that fuel is appropriate and must be permitted. (1860)

RESPONSE: If a new or existing OWB is designed to operate on a particular fuel, the manufacture, the distributor or the operator of the OWB may submit a request to use an

unlisted fuel. Subsection (f)(4) authorizes the Department to approve the use of other fuels, in writing, upon receipt of a written request.

138. COMMENT: Wood is a natural source of heat. (7, 27)

RESPONSE: The Department agrees.

139. COMMENT: A couple of commentators stated that, whereas only good dry hardwood can be burned in an indoor woodstove, an OWB can burn pine, hemlock and any wood that is on the ground. (258, 804)

RESPONSE: This comment speaks to one of the problems the Department encounters with OWBs. The fuel that burns the best with the least amount of smoke is dry, seasoned hardwoods. Softwoods or rotting wood found on the ground do not burn as well and create more smoke, and health and welfare concerns for people living in the vicinity of the OWB.

140. COMMENT: The garbage burned in the OWB is not tires, plastics or chemicals. Should we burn the tires, plastics or chemicals in a burn barrel or on the ground and risk causing a forest fire? (1575, 1706)

RESPONSE: While the Department does not support or encourage the use of burn barrels, open burning in the Commonwealth is subject to applicable provisions in the APCA (35 P.S. §§ 4001-4015), the Solid Waste Management Act (35 P.S. §§ 6018.101 et seq.), the Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§ 4000.101 et seq.), and to regulations adopted under the acts, including the open burning operations provisions in 25 *Pa. Code* § 129.14 (relating to open burning operations).

141. COMMENT: A commentator stated that it is ignorance, not the large firebox, that cause people to burn garbage in their OWBs. If they don't burn garbage in their OWB, they will burn it on the ground or in burn barrels. (1698)

RESPONSE: The burning of trash in either an OWB or a burn barrel can result in emissions of harmful pollutants. However, this regulation does not apply to burn barrels. The Department intends to develop an OWB educational outreach program to address the serious health concerns that can be created by burning prohibited fuels in OWBs.

142. COMMENT: Certain commentators stated that they do not burn garbage in their OWB; only wood (and coal). (13, 147, 502, 619, 620, 639, 755, 850, 1206, 1285, 1561, 1584, 1705, 1865, 1915)

RESPONSE: The Department appreciates the commentators' commitment to burning appropriate fuels in their OWBs.

143. COMMENT: A commentator states that if you burn garbage in OWBs it will rust your furnace. (1916)

RESPONSE: Not only is burning garbage bad for the environment, but it also reduces the life expectancy of a costly investment.

144. COMMENT: A few commentators questioned why burn barrels are not illegal unless there is a local ordinance, so why is there a provision in the proposed regulation prohibiting the burning of trash in an OWB? (279, 625, 1582, 1865)

RESPONSE: While the Department does not support or encourage the use of burn barrels, open burning in the Commonwealth is subject to applicable provisions in the APCA (35 P.S. §§ 4001-4015), the Solid Waste Management Act (35 P.S. §§ 6018.101 et seq.), the Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§ 4000.101 et seq.), and to regulations adopted under the acts, including the open burning operations provisions in 25 *Pa. Code* § 129.14 (relating to open burning operations).

145. COMMENT: Certain commentators suggested that the Department work on a regulation to ban burn barrels. (76, 618, 857, 877, 1554, 1865, 1898)

RESPONSE: Although the Department does not support or encourage the use of burn barrels, the use of burn barrels, with limited exceptions, is authorized under state law.

146. COMMENT: If the reason for the regulation is that garbage is being burned then this should be handled by the local municipalities. (1163)

RESPONSE: The Department is pursing the adoption of an OWB rulemaking to reduce exposure to fine particulate matter, carbon monoxide and toxic air pollutants. The use of cleaner burning fuels will reduce and abate pollution from these air contamination sources.

147. COMMENT: A commentator questioned whether or not other bio-energy crops (that is, switchgrass) could be burned? (1979)

RESPONSE: The Department is not aware of any OWB that is designed to burn bio-energy crops, such as switchgrass. However, if a unit is designed to solely burn bio-energy crops, a written request may be submitted to the Department for approval, in writing, to burn such fuels.

148. COMMENT: A commentator seeks clarification about burning tires since cement plants are allowed to burn tires. (147)

RESPONSE: When tires are burned in a cement plant, the plant goes through an extensive review by the Department. The cement plant must also install appropriate air pollution control devices on the exhaust stacks to limit the emissions. Strict permit

conditions imposed by the Department and frequent inspections ensure that the source and control devices continue to operate effectively to protect the health and welfare of Pennsylvania citizens. An OWB does not operate at the extreme temperatures necessary for complete combustion and many OWBs do not have any air pollution controls.

PROPOSED REGULATION WOULD BAN OWBs

149. COMMENT: Several commentators opposed the proposed OWB regulation because it would hinder or ban the ability to use wood for home heating. (1, 3, 17, 67, 74, 76, 85, 114, 115, 122, 138, 149, 204, 250, 251, 255, 258, 260, 266, 271, 300, 309, 311, 330, 348, 488, 513, 536, 589, 593, 608, 620, 758, 763, 767, 771, 800, 839, 844, 877, 905, 918, 947, 950, 1010, 1024, 1063, 1080, 1092, 1164, 1238, 1291, 1328, 1329, 1554, 1559, 1573, 1578, 1600, 1839, 1850, 1857, 1865, 1881, 1937, 1976, 1978, 1980)

RESPONSE: The Department's proposed rulemaking does not ban the use of OWBs. Instead it regulates some aspects of the operation of OWBs in order to reduce health impacts, air emissions and nuisances. The Department recognizes the value of heating with OWBs, including providing a lower-cost fuel option which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuels.

150. COMMENT: The commentator opposes the proposed OWB regulation because they think they will have to replace their OWB. (1554)

RESPONSE: The proposed and final-form OWB rulemakings do not require owners to replace their existing OWBs.

WOOD IS A RENEWABLE FUEL SOURCE THAT REDUCES DEPENDENCY ON FOSSIL FUEL

151. COMMENT: Many commentators stated that wood is a renewable source of fuel. (19, 31, 35, 99, 119, 251, 255, 258, 260, 274, 591, 613, 627, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 789, 794, 802, 810, 814, 815, 819, 820, 821, 822, 823, 825, 827, 828, 829, 830, 831, 832, 834, 836, 837, 840, 842, 844, 845, 851, 852, 858, 860, 863, 866, 868, 869, 874, 876, 878, 879, 882, 886, 889, 891, 894, 895, 897, 900, 905, 906, 912, 914, 921, 926, 927, 928, 929, 937, 944, 946, 999, 1009, 1016, 1022, 1023, 1056, 1063, 1087, 1092, 1133, 1147, 1165, 1177, 1238, 1242, 1246, 1285, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1334, 1335, 1337, 1338, 1340, 1344, 1347, 1358, 1359, 1360, 1362, 1364, 1365, 1366, 1367, 1368, 1397, 1555, 1584, 1593, 1596, 1604, 1683, 1883, 1897, 1937, 1972, 1976, 1978, 1981

RESPONSE: Wood is a renewable resource; however, wood smoke is made up volatile organic compounds, polycyclic aromatic hydrocarbons, metals, dioxins and furans. The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer.

152. COMMENT: Many commentators opposed the proposed OWB regulation because it would promote increased use of oil and natural gas, which results in greater fuel dependency. Using renewable resources makes sense (it's Green) and the proposed regulation seems to punish people for trying to conserve fossil fuel. (19, 33, 87, 96, 99, 115, 118, 125, 138, 145, 151, 243, 263, 274, 316, 589, 593, 595, 613, 625, 642, 844, 885, 906, 918, 943, 944, 947, 1009, 1024, 1040, 1056, 1087, 1092, 1114, 1119, 1251, 1278, 1304, 1334, 1355, 1356, 1372, 1555, 1573, 1581, 1582, 1584, 1596, 1600, 1604, 1681, 1845, 1883, 1910, 1913, 1915, 1937, 1972, 1976, 1977)

RESPONSE: The Department agrees that it is important to encourage the use of renewable fuels, including wind, solar, geothermal and wood, and thereby reduce our country's dependency on fossil fuels. The final-form rulemaking would regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances.

153. COMMENT: A few commentators stated that the government is supporting alternative energy and the proposed regulation seems to condemn it. (848, 1040, 1232, 1343)

RESPONSE: This rulemaking does not condemn the use of alternative energy. The Department encourages the use of renewable fuels, including wind, solar, geothermal and wood, thereby reducing our country's dependency on fossil fuels. The final-form rulemaking would regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances.

154. COMMENT: A few commentators stated that wood burning conserves, and reduces dependency on, fossil fuels. (598, 915, 957, 1353, 1370)

RESPONSE: The Department agrees that it is important to encourage the use of renewable fuels, including wind, solar, geothermal and wood, and thereby reduce our country's dependency on fossil fuels.

155. COMMENT: A commentator stated that heating an average home with wood can save enough fossil fuel to operate an automobile for a full year. (1883)

RESPONSE: The Department agrees that it is important to encourage the use of renewable fuels, including wind, solar, geothermal and wood, when the emissions are properly controlled, and thereby reduce our country's dependency on fossil fuels.

156. COMMENT: A few commentators stated that they chose wood and coal because they are produced in PA, unlike expensive polluting foreign oil that comes from other countries and may even fund terrorism (or other enemies). (66, 355, 807, 825, 939, 944, 950, 1114, 1152, 1153, 1206)

RESPONSE: The Department agrees that it is important to encourage the use of renewable fuels, including wind, solar, geothermal and wood, and thereby reduce our

country's dependency on fossil fuels. The final-form rulemaking would regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances.

157. COMMENT: A couple of commentators stated that the proposed regulation would be like taxing other renewable energy such as solar or wind. (906, 1056)

RESPONSE: The rulemaking establishes an emissions standard for particulate matter for all OWBs installed in this Commonwealth after May 31, 2011, and fuel requirements for all Phase 2 and non-Phase 2 OWBs.

158. COMMENT: A commentator opposed the proposed regulation because it will result in a decrease of the use of the only renewable resource available. (1069)

RESPONSE: The Department expects no decrease in the use of wood as a home heating fuel as a result of the final-form rulemaking.

159. COMMENT: A few commentators opposed the proposed OWB regulation because the total amount of emissions should be considered when you look at the emissions from fossil fuels compared with the emissions from locally obtained wood: exploration, drilling, extraction, transportation, refining, transportation again, distribution. (1020, 1339, 1596, 1698)

RESPONSE: The Environmental Quality Board adopts regulatory requirements to reduce emissions from all types of air contamination sources; these measures, including the OWB rulemaking, are reasonably necessary to achieve and maintain the NAAQS.

REGULATION INFRINGES ON PERSONAL FREEDOM

160. COMMENT: Many commentators opposed the proposed OWB regulation because it is a government intrusion that infringes on personal freedom. (2, 3, 5, 11, 13, 16, 17, 26, 30, 31, 33, 41, 43, 46, 48, 52, 59, 79, 80, 88, 110, 112, 113, 114, 121, 138, 144, 147, 150, 151, 163, 249, 251, 258, 293, 294, 296, 304, 308, 309, 311, 312, 313, 314, 315, 326, 329, 333, 334, 344, 348, 355, 478, 488, 550, 587, 593, 594, 595, 600, 613, 617, 766, 773, 779, 800, 839, 841, 856, 873, 901, 922, 923, 944, 957, 1024, 1043, 1063, 1087, 1092, 1109, 1114, 1117, 1149, 1273, 1279, 1283, 1317, 1328, 1342, 1363, 1370, 1571, 1573, 1578, 1583, 1590, 1599, 1684, 1839, 1845, 1860, 1884, 1928, 1935, 1938, 1942, 1949, 1950, 2025

RESPONSE: The intent of the proposed rulemaking is to find a balance between the rights of the OWB owner and the rights of the neighbors and residents that are affected by smoke and odors from the OWB operation.

USE EXISTING REGULATIONS

161. COMMENT: A few commentators opposed the proposed OWB regulation because there are already enough Department or Federal regulations, or both, that cover OWBs. (1, 600, 785, 1982)

RESPONSE: Existing regulatory and statutory requirements can be used by Department field staff to enforce against a nuisance OWB, but they do not address specific OWB issues, such as short stack height, inappropriate fuels that produce harmful emissions, and problems with placement of an OWB too close to neighbors' residences, daycares, schools, hospitals, nursing homes and the like. There are no Federal requirements for OWBs. The EPA administers a voluntary program for the certification of OWBs, provided the qualifying units meet certain emission standards.

Another other issue of concern that the existing regulatory and statutory requirements do not address is an emissions standard for OWBs. A number of states have passed regulations mandating that after a certain date only Phase 2 OWBs can be sold. Without an emissions standard, Pennsylvania could become a dumping ground for non-Phase 2 OWBs.

162. COMMENT: The Department should be concerned with existing regulations and keep busy with coal and other industries that wreak havoc on the environment. (1109)

RESPONSE: The Department is concerned about all pollution, including from coal and other industries. To address pollution from OWBs, the Department developed a program to establish particulate emission limits, setback and stack height requirements for new Phase 2 OWBs and prohibited fuels for all OWBs. The final-form rulemaking is reasonably necessary to attain and maintain the PM2.5 NAAQS.

EMISSIONS FROM BURNING WOOD

163. COMMENT: The commentator mentioned that heating with wood results in no net increase in global warming gas emissions (because it's carbon neutral). Heating with oil, coal and natural gas is a significant source of global warming gas emissions. (The electric heat that warmed our home before using the OWB originated from these latter sources of energy). (119, 199, 289, 290, 302, 339, 593, 596, 601, 617, 622, 627, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 643, 675, 753, 754, 760, 773, 775, 776, 778, 781, 789, 791, 795, 802, 809, 810, 814, 815, 816, 819, 820, 821, 822, 823, 825, 827, 828, 829, 830, 831, 832, 834, 837, 840, 842, 845, 851, 852, 856, 860, 863, 866, 868, 874, 878, 879, 882, 885, 886, 889, 891, 894, 895, 897, 900, 901, 906, 912, 914, 917, 921, 927, 928, 929, 937, 944, 946, 950, 999, 1016, 1018, 1022, 1023, 1056, 1087, 1114, 1117, 1133, 1147, 1149, 1164, 1165, 1177, 1191, 1232, 1238, 1242, 1246, 1278, 1285, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1329, 1331, 1335, 1337, 1338, 1340, 1344, 1347, 1348, 1358, 1359, 1360, 1362, 1364, 1365, 1366, 1367, 1368, 1397, 1553, 1572, 1581, 1593, 1594, 1682, 1683, 1698, 1712, 1857, 1883, 1925, 1982)

RESPONSE: There are other emissions of concern involved with operating an OWB, including non-greenhouse gas (GHG) air pollutants such as PM and PM2.5, nitrogen oxides, sulfur oxides, carbon monoxide and hazardous air pollutants. Epidemiological studies have shown a significant correlation between elevated PM2.5 levels and premature mortality. Other important adverse health effects associated with PM2.5 exposure include aggravation of respiratory and cardiovascular disease (as indicated by

increased hospital admissions, emergency room visits, absences from school or work and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems. Individuals particularly sensitive to PM2.5 exposure include older adults, people with heart and lung disease and children.

164. COMMENT: Three commentators mentioned that the proposed regulation will dramatically increase greenhouse gas emissions. (642, 1009, 1555**)**

RESPONSE: The proposed rulemaking will not dramatically increase GHG emissions. There is no net increase in GHG emissions when wood is used to fuel OWBs. The Department has no intention of eliminating or banning OWBs as a method of home heat and thereby shifting heating sources to oil, coal and natural gas, which are significant sources of GHG. Instead the intent is to regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances.

165. COMMENT: Many commentators mentioned that wood is cleaner burning and does not harm the environment, but burning fossil fuels does harm the environment. (7, 24, 93, 301, 330, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 789, 802, 809, 810, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 834, 837, 840, 842, 845, 851, 852, 926, 860, 863, 866, 868, 874, 878, 879, 882, 885, 886, 889, 891, 894, 895, 900, 906, 912, 914, 921, 927, 928, 929, 937, 946, 999, 1016, 1022, 1023, 1056, 1114, 1133, 1147, 1165, 1177, 1232, 1238, 1242, 1278, 1285, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1362, 1364, 1365, 1366, 1367, 1368, 1397, 1553, 1572, 1575, 1593, 1682, 1706, 1712, 1976)

RESPONSE: Although wood smoke emits fewer GHG than emitted by fossil fuels, the burning of wood emits far greater amounts of other pollutants such as PM including PM2.5, nitrogen oxides, sulfur oxides, carbon monoxide and hazardous air pollutants.

166. COMMENT: A few commentators stated that wood decays naturally in the forest and more pollutants are emitted this way than when wood is burned. (825, 917, 944, 1334, 1913, 1925, 1977, 1981)

RESPONSE: Many pollutants are created in the quick combustion process when wood is burned that are not created in the slow natural decay process. Wood smoke from OWBs is made up of PM2.5, volatile organic compounds, polycyclic aromatic hydrocarbons, metals, dioxins and furans. The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer. Upwards of 50% of the general population is susceptible to acute and chronic PM2.5 exposure including children, asthmatics, persons with respiratory or heart disease, diabetics and the elderly.[16]

[16] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007), 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 – 208.

167. COMMENT: A commentator suggested that the Department exempt some OWB models. (1559)

RESPONSE: The final-form rulemaking establishes minimum statewide requirements for OWBs installed on and after the effective date of the final-form regulation. The final-form rulemaking does not include exemption language because any unit sold for use in Pennsylvania after May 31, 2011, will need to meet the Phase 2 criteria developed by the EPA.

SMOKE COMMENTS

168. COMMENT: A commentator suggested that concern about emissions from OWBs is being used as a cover-up for regulating a smoky problem. Perhaps the regulation should regulate the actual smoke drifting onto neighboring property. (591)

RESPONSE: The smoke and odors that emanate from OWBs are a concern. The final-form rulemaking establishes minimum statewide requirements for all OWBs installed on and after the effective date of the final-form regulation, which include stack height and setback requirements, and an emissions standard for all units installed installed in this Commonwealth after May 31, 2011, and allowed fuel provisions for all existing and new units.

169. COMMENT: A commentator proposed that a smoke standard, such as smoke from an OWB, must be above inhabited buildings as it passes across neighboring properties. (612)

RESPONSE: Pennsylvania already has visible emission standards; the final-form rulemaking establishes requirements to further reduce the potential impact of emissions from OWBs.

170. COMMENT: In rural PA, wood smoke is acceptable and even smells pleasant. (248, 1067, 1604)

RESPONSE: Studies prove that wood smoke is high in PM2.5 emissions, as well as a variety of hazardous air pollutants. For this reason, it is important for wood-burning appliances to be as efficient as possible. Because of the potential health concerns, the Department developed that the proposed rulemaking to control emissions from wood-burning appliances.

171. Comment: OWB owners have seen the benefits and drawbacks – yes they do smoke, especially if they are not operated correctly. (591, 794, 854, 1919, 1937)

RESPONSE: The Department agrees that OWBs smoke when they are not operated correctly. Unfortunately, when an OWB that is not operated correctly is located near another home, the neighbors often suffer from smoke and odors emanating from the poorly operated OWB.

172. COMMENT: Certain commentators opposed the proposed OWB regulation because there are days (especially when it's windy or rainy) when smoke will linger no matter what you do and no matter how high the stack is. (36, 355, 502, 923, 1010, 1911, 1912)

RESPONSE: A stack height of a minimum of 10 feet above the ground for Phase 2 OWBs should provide better overall dispersion and would provide relief to neighboring residences impacted by the operation of an OWB.

173. COMMENT: A couple of commentators stated that they don't understand how operating an OWB in the winter can bother people since they aren't outside and they don't open their windows. (1865, 2025)

RESPONSE: Studies have shown that particles in wood smoke emitted from chimneys have been found to be a major source of indoor particles and accordingly a source of exposure to residents, even in homes without woodstoves. This is attributed to the ability of outdoor PM2.5 to infiltrate residential structures, remain suspended indoors, and contribute significantly to indoor particle levels as a result of normal air exchange. Studies have found that indoor fine particles are comprised from an average of 20% to 80% of outdoor fine particles. Because most people spend up to 90% of their time indoors, individuals receive a substantial fraction of their exposure to outdoor-generated particles while they are indoors. [17]

174. COMMENT: The proposed OWB regulation is opposed because there are (industrial) plants that emit more smoke than an OWB, even the old ones, and the Department does not do anything because it's a business and they have a permit. It's all about money. (1910)

RESPONSE: Smoke complaints for smoke from large industrial sources must be investigated to ensure that the facility owner is complying with the permit terms and conditions. If the commentator believes that an industrial plant is in violation of Federal or state requirements, the Department urges concerned citizens to file a complaint with the DEP regional office that inspects and enforces requirements for sources located in their area.

175. COMMENT: A commentator questions why some people aren't bothered by smoke and some people are. (1910)

[17] (Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153-70.))

RESPONSE: Upwards of 50% of the general population is susceptible to acute and chronic PM2.5 exposure including children, asthmatics, persons with respiratory or heart disease, diabetics and the elderly.[18]

176. COMMENT: A distributor of Wood Doctor OWBs stated that many new models emit very little smoke, and only when ignited. (1918)

RESPONSE: Phase 2-certified OWBs burn 90% more efficiently than current non-Phase 2 units. This will result in the use of less fuel and will also reduce the overall amount of smoke and particulate that the unit will emit.

RELATIONSHIP TO OTHER FORMS OF HEAT, WOOD-BURNING APPLIANCES, BURNING, ETC

177. COMMENT: Several commentators opposed the proposed OWB regulation because the Department will develop regulations for fireplaces, campfires, barbecue grills, burn barrels, kerosene heaters and the like next. (78, 80, 110, 488, 587, 754, 795, 1002, 1092, 1356, 1372, 1881, 1884, 1924)

RESPONSE: There are many differences between OWBs and other sources of wood smoke. The EPA has already established mandatory emission standards for new indoor wood stoves and pellet stoves sold or distributed in the United States. OWBs are not subject to these EPA requirements. Emission testing of a conventional model OWB suggests that PM emissions from OWBs are higher than pre-certified indoor woodstoves manufactured before 1990, as well as EPA-certified indoor woodstoves manufactured after 1990.[19] Indoor wood stoves, fireplaces and pellet stoves generally have chimneys that are higher than OWB chimneys, usually venting through a home's roof. This allows for the emissions to be dispersed more efficiently. Also, indoor wood stoves, fireplaces and pellet stoves are generally not operated during the summer months. Lastly, indoor wood stoves, fireplaces and pellet stoves are less likely to be used to burn household garbage and hazardous wastes because of their indoor location and smaller fireboxes.

178. COMMENT: Many commentators stated that OWBs are being targeted and do not smoke more than indoor woodstoves or fireplaces. This is discrimination against OWB operators. (250, 279, 591, 594, 608, 613, 615, 620, 763, 769, 804, 824, 826, 838, 875, 876, 901, 906, 915, 917, 918, 950, 1010, 1021, 1040, 1056, 1087, 1229, 1285, 1553, 1556, 1561, 1570, 1572, 1582, 1583, 1698, 1706, 1707, 1712, 1865, 1883, 1884, 1898, 1912, 1976, 1914, 1915, 1918, 1977, 1981)

RESPONSE: There are many differences between OWBs and other sources of wood smoke. The EPA has already established mandatory emission standards for new indoor wood stoves and pellet stoves sold or distributed in the United States. OWBs are not subject to these EPA requirements. Emission testing of a conventional model OWB

[18] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007) 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 - 208

[19] Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153–70

suggests that PM emissions from OWBs are higher than pre-certified indoor woodstoves manufactured before 1990, as well as EPA-certified indoor woodstoves manufactured after 1990.[20] Indoor wood stoves, fireplaces and pellet stoves generally have chimneys that are higher than OWB chimneys, usually venting through a home's roof. This allows for the emissions to be dispersed more efficiently. Also, indoor wood stoves, fireplaces and pellet stoves are generally not operated during the summer months. Lastly, indoor wood stoves, fireplaces and pellet stoves are less likely to be used to burn household garbage and hazardous wastes because of their indoor location and smaller fireboxes.

179. COMMENT: A few commentators stated that if the Department wants to regulate OWBs, all wood burning appliances and all heating devices should be regulated. (341, 1063, 1349, 1698)

RESPONSE: There are many differences between OWBs and other sources of wood smoke. The EPA has already established mandatory emission standards for new indoor wood stoves and pellet stoves sold or distributed in the United States. OWBs are not subject to these EPA requirements. Emission testing of a conventional model OWB suggests that PM emissions from OWBs are higher than pre-certified indoor woodstoves manufactured before 1990, as well as EPA-certified indoor woodstoves manufactured after 1990.[21] Indoor wood stoves, fireplaces and pellet stoves generally have chimneys that are higher than OWB chimneys, usually venting through a home's roof. This allows for the emissions to be dispersed more efficiently. Also, indoor wood stoves, fireplaces and pellet stoves are generally not operated during the summer months. Lastly, indoor wood stoves, fireplaces and pellet stoves are less likely to be used to burn household garbage and hazardous wastes because of their indoor location and smaller fireboxes.

180. COMMENT: A few commentators stated that OWBs are no different that campfires. (310, 591, 615, 881, 1581, 1884, 1977)

RESPONSE: There are many differences between OWBs and other sources of wood smoke. The EPA has already established mandatory emission standards for new indoor wood stoves and pellet stoves sold or distributed in the United States. OWBs are not subject to these EPA requirements. Emission testing of a conventional model OWB suggests that PM emissions from OWBs are higher than pre-certified indoor woodstoves manufactured before 1990, as well as EPA-certified indoor woodstoves manufactured after 1990.[22] Indoor wood stoves, fireplaces and pellet stoves generally have chimneys that are higher than OWB chimneys, usually venting through a home's roof. This allows for the emissions to be dispersed more efficiently. Also, indoor wood stoves, fireplaces and pellet stoves are generally not operated during the summer months. Lastly, indoor

[20] Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153–70
[21] Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153–70
[22] Johnson PRS 2006. In-field ambient fine particle monitoring of an outdoor wood boiler: exposure and public health concerns. Human Ecol Risk Assess 12:1153–70

wood stoves, fireplaces and pellet stoves are less likely to be used to burn household garbage and hazardous wastes because of their indoor location and smaller fireboxes.

181. COMMENT: The Department should consider the consequences of not including indoor woodstoves and coal-fired boilers in the proposed regulations. If owners just burn coal to circumvent the regulations then particulates will not be reduced. (170)

RESPONSE: The EPA has already established emission standards for new indoor wood stoves. At this time, coal-fired boilers cannot be qualified for the Phase 2 emissions standard.

182. COMMENT: A commentator inquired 1) Why OWB emissions were compared to oil and gas furnaces, but not indoor woodstoves and coal stoves, and 2) Why the Background and Summary posted in the *Pennsylvania Bulletin* addresses PM2.5 emissions when the stack testing was for PM emissions. (1698)

RESPONSE: OWB emissions were compared to oil and gas furnaces because they are used most frequently by Pennsylvania citizens. The PM emissions in wood smoke are composed primarily of PM2.5.

183. COMMENT: Many commentators mentioned that OWBs are safer than indoor woodstoves because the risk of home fires and carbon monoxide poisoning is reduced while operating an OWB. (8, 13, 33, 76, 78, 80, 96, 112, 115, 159, 199, 255, 256, 258, 259, 260, 289, 290, 302, 330, 339, 589, 593, 594, 596, 601, 613, 617, 622, 627, 642, 643, 675, 753, 754, 756, 758, 760, 769, 771, 773, 775, 776, 778, 781, 791, 794, 795, 804, 807, 808, 816, 824, 825, 836, 850, 856, 869, 873, 877, 897, 901, 905, 915, 917, 925, 944, 950, 1001, 1009, 1010, 1019, 1043, 1087, 1114, 1117, 1149, 1164, 1176, 1191, 1229, 1246, 1279, 1285, 1348, 1372, 1373, 1375, 1555, 1570, 1575, 1590, 1594, 1604, 1698, 1706, 1712, 1845, 1881, 1883, 1914, 1915, 1927, 1976, 1977, 1978, 1981, 1982)

RESPONSE: The Department agrees that OWB operations can reduce the risk of home fires and accidental carbon monoxide poisoning as compared with in-home heating systems. The Department has no intention of eliminating this form of home heat; rather, the intent is to regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances. While operating an OWB may reduce the risk of home fires and accidental carbon monoxide poisoning compared to in-home heating systems, OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making uncontrolled OWB emissions a major health threat. OWBs are typically equipped with a very short stack, many times only 8 – 12 feet high, leading to poor dispersal of the stack emissions and causing smoky conditions at or near ground-level, where people are readily impacted.

184. COMMENT: Three commentators mentioned that the proposed regulation will expose the Board and Commonwealth to legal liabilities associated with deaths and injuries resulting from carbon monoxide poisoning and house fires. (642, 1009, 1555)

RESPONSE: The Department respectfully disagrees.

185. COMMENT: Several commentators stated that operating an OWB is cleaner than operating an indoor wood-burning device – no wood debris, smoke or insects inside the home. (258, 617, 619, 850, 869, 905, 915, 925, 1010, 1043, 1114, 1279, 1285, 1845, 1883, 1915, 1976, 1981)

RESPONSE: The Department agrees that operating an OWB outside can reduce the wood debris and insects inside the home as compared with indoor wood-heating systems.

186. COMMENT: A commentator stated that indoor woodstoves are less efficient than OWBS and often an auxiliary heat has to be used. (639)

RESPONSE: The regulation of indoor woodstoves is beyond the scope of this rulemaking. The final rulemaking would establish a particulate matter emissions standard and setback and stack height requirements for OWBs installed on and after the effective date of the final-form regulation and prohibit the use of certain fuels. The OWB rulemaking is designed to reduce adverse health impacts, air emissions and nuisances.

FINANCIAL BURDEN

187. COMMENT: Many commentators opposed the proposed OWB regulation because it will cause a financial burden and times are tough enough already. (1, 3, 5, 9, 18, 19, 36, 44, 53, 76, 85, 87, 98, 110, 118, 125, 126, 129, 135, 139, 145, 147, 151, 159, 202, 204, 243, 249, 251, 254, 257, 267, 269, 279, 295, 301, 303, 304, 307, 310, 313, 324, 326, 334, 337, 374, 511, 536, 589, 594, 598, 601, 606, 607, 611, 627, 631, 643, 675, 755, 756, 762, 766, 769, 771, 775, 809, 810, 816, 836, 838, 843, 873, 875, 894, 897, 905, 913, 917, 925, 932, 947, 950, 957, 999, 1092, 1114, 1119, 1151, 1164, 1238, 1279, 1285, 1291, 1305, 1313, 1330, 1332, 1329, 1333, 1344, 1370, 1379, 1383, 1385, 1571, 1575, 1578, 1590, 1595, 1601, 1606, 1679, 1681, 1682, 1683, 1706, 1846, 1857, 1865, 1880, 1881, 1884, 1897
1972)

RESPONSE: In order to address the concerns raised during the public comment period, the stack height requirements will not apply retroactively to existing OWBs. However, existing units must comply with the fuel and regulatory requirements.

188. COMMENT: Several commentators stated that OWBs provide a steady, comfortable heat which is good for the elderly and ill people, whereas it is too costly to keep the house warm using other forms of heat. (121, 258, 589, 594, 615, 755, 836, 915, 925, 1119, 1153, 1707, 1845, 1850, 1880, 1897, 1926, 1927, 1978)

RESPONSE: The Department agrees that OWBs can provide a steady comfortable heat. The Department also recognizes the value of heating with wood, including providing a lower-cost fuel option, which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel The regulation does not ban this form of home heat or require the replacement of existing

OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. The Department is also exploring the feasibility of an OWB change-out program where a monetary incentive will be paid to people who retire their conventional model OWB and replace it with a Phase 2-compliant model.

189. COMMENT: Several commentators opposed the proposed OWB regulation because wood is the only source of heat for many in rural areas. If you take away OWBs you take away the ability of many residents to heat their homes and they may have to choose between adequate heat, food or medical care. (19, 125, 274, 511, 601, 608, 611, 675, 758, 771, 836, 843, 905, 925, 932, 1114, 1246, 1305, 1330, 1373, 1383, 1558, 1573, 1580, 1599, 1707, 1839, 1845, 1850, 1953)

RESPONSE: The Department agrees that OWBs can provide a lower-cost fuel option. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. The Department is also exploring the feasibility of an OWB change-out program where a monetary incentive will be paid to people who retire their conventional model OWB and replace it with a Phase 2-compliant model.

190. COMMENT: A commentator opposed the proposed OWB regulation because the Preamble estimates that costs to upgrade OWBs to these new standards will increase the unit pricing by 15%, which would be difficult for people in the current economy. (126)

RESPONSE: The Department agrees that the cleaner units may be more expensive, about 15% more, because of the changes made to improve the efficiency of these units and reduce their emissions. According to an EPA fact sheet, OWBs fueled by wood, pellets and other biomass cost between $8,000 and $18,000, depending on the size of the unit. The initial investment in a unit is not the only cost. It is difficult to document the costs of fuel savings due to the variety of sizes of OWBs and the variation in amount of use between homeowners. However, most of these new models are significantly more efficient – meaning they will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[23] Some Phase 2-compliant OWB models qualify for the energy tax credits from the Federal government.

191. COMMENT: A few commentators opposed the proposed OWB regulation because it will force people to use more expensive, less efficient fuels and they may have to go on assistance. (154, 250, 271, 513, 769, 905, 926, 1043, 1285, 1578)

[23] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

RESPONSE: The Department disagrees that the regulation will force people to use other fuels. The Department recognizes OWBs can provide a lower-cost fuel option. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

192. COMMENT: Many commentators opposed the proposed OWB regulation because it would be cost prohibitive to comply with the proposed regulation. (36, 199, 289, 290, 302, 334, 339, 346, 589, 598, 599, 614, 622, 625, 627, 642, 643, 675, 753, 754, 760, 762, 764, 773, 775, 776, 778, 781, 791, 795, 813, 816, 841, 846, 875, 883, 887, 897, 905, 918, 926, 943, 1009, 1017, 1027, 1028, 1039, 1040, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1063, 1080, 1087, 1092, 1117, 1130, 1132, 1135, 1138, 1140, 1141, 1149, 1154, 1155, 1157, 1159, 1164, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1191, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1246, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1341, 1372, 1381, 1382, 1385, 1387, 1389, 1390, 1391, 1395, 1555, 1575, 1594, 1597, 1686, 1698, 1706, 1712, 1880, 1883, 1912, 1914, 1972, 1976, 1978, 1984, 2028)

RESPONSE: The Department disagrees that compliance will be cost prohibitive. Certain provisions of the proposed OWB rulemaking have been revised in the final-form rulemaking as a result of the large number of comments received about costs. The only requirements that apply to existing OWBs are the fuel requirements found in subsections (f) and (g) and the requirements found in subsection (h). Subsection (h) states that "A person may not use or operate an OWB in this Commonwealth unless it complies with all applicable Commonwealth, county and local laws and regulations. These are not "cost prohibitive" requirements. The Department believes that the final-form rulemaking amendments will reduce the costs associated with complying with the requirements.

193. COMMENT: A couple of commentators opposed the proposed OWB regulation because using oil, gas or electricity would be more expensive. (589, 779)

RESPONSE: The Department agrees that OWBs can provide a lower-cost fuel option. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

194. COMMENT: A couple of commentators opposed the proposed OWB regulation because rural PA does not qualify for assistance programs to pay for gas/electric heat. (1, 257)

RESPONSE: The Department agrees that OWBs can provide a lower-cost fuel option. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. In addition, most of the Phase 2-compliant OWB models are significantly more efficient – meaning they will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[24] Some Phase 2-compliant OWB models qualify for the energy tax credits from the Federal government.

195. COMMENT: Many commentators opposed the proposed OWB regulation because it will increase the heating cost of many homeowners by 400%. (630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 789, 802, 810, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 834, 837, 840, 842, 845, 851, 852, 860, 863, 866, 868, 874, 878, 879, 882, 886, 889, 891, 894, 895, 900, 906, 912, 914, 921, 927, 928, 929, 937, 946, 999, 1009, 1016, 1022, 1023, 1056, 1133, 1147, 1165, 1238, 1242, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1361, 1362, 1364, 1365, 1366, 1367, 1368, 1397, 1555, 1593)

RESPONSE: The Department disagrees. Since there was no accompanying data, the Board is unable to respond quantitatively to this comment. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. In addition, most of the Phase 2-compliant OWB models are significantly more efficient – meaning they will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[25] Some Phase 2-compliant OWB models qualify for the energy tax credits from the Federal government.

WOOD IS ECONOMICAL

196. COMMENT: Many commentators opposed the proposed OWB regulation because wood is an economical choice for many rural people that saves thousands of dollars, while other forms of heat are cost prohibitive. (1, 3, 8, 13, 17, 19, 27, 30, 33, 35, 36, 48, 49, 51, 52, 53, 74, 78, 80, 84, 85, 99, 112, 113, 115, 121, 133, 135, 147, 150, 159,

[24] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).
[25] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

163, 199, 202, 204, 248, 249, 258, 259, 271, 274, 279, 282, 289, 290, 292, 302, 326, 333, 339, 511, 550, 589, 594, 595, 596, 601, 606, 607, 608, 611, 613, 615, 617, 622, 625, 626, 627, 642, 643, 675, 753, 754, 755, 756, 758, 760, 762, 763, 772, 773, 775, 776, 778, 781, 791, 794, 795, 807, 816, 826, 836, 839, 854, 856, 875, 876, 897, 944, 947, 950, 957, 1001, 1009, 1018, 1067, 1087, 1114, 1117, 1119, 1149, 1153, 1164, 1191, 1206, 1246, 1283, 1333, 1341, 1348, 1370, 1372, 1554, 1555, 1570, 1571, 1584, 1590, 1594, 1595, 1698, 1705, 1707, 1712, 1837, 1846, 1850, 1857, 1865, 1880, 1881, 1884, 1897, 1912, 1916, 1918, 1922, 1927, 1937, 1966, 1976, 1978)

RESPONSE: The Department agrees that OWB operations can be an economical means to heat homes. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

197. COMMENT: Many commentators opposed the proposed OWB regulation because wood is plentiful and cheap in rural PA while other fuel choices are not readily available. (3, 138, 271, 337, 536, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 789, 794,802, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 834, 837, 840, 842, 845, 851, 852, 860, 863, 866, 868, 874, 878, 879, 882, 886, 889, 891, 895, 900, 912, 914, 921, 927, 928, 929, 937, 944, 946, 1016, 1022, 1023, 1092, 1147, 1165, 1283, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1362, 1364, 1365, 1366, 1367, 1397, 1593, 1897, 1976)

RESPONSE: The Department agrees that OWB operations can be an economical means to heat homes. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

198. COMMENT: Three commentators stated that using wood is cheaper and more reliable than oil and gas. (36, 869, 1884)

RESPONSE: The Department agrees that OWB operations can be an economical means to heat homes. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

JOBS

199. COMMENT: A commentator opposes the proposed OWB regulation because it would impact businesses since the commentator uses wood to heat three businesses. (337)

RESPONSE: The Department disagrees that this regulation will impact businesses that have existing OWBs. The final-form rulemaking does not retroactively apply stack height and setback requirements to existing OWBs. The only requirements that apply to existing OWBs are the fuel requirements found in subsections (f) and (g) and the regulatory requirements found in subsection (h). Commercial OWBs that have a rated thermal output of 350,000 Btu per hour or greater are not regulated under the OWB regulation.

200. COMMENT: A commentator opposes the proposed OWB regulation because if the law passes too soon, her company (Mahoning Outdoor Furnaces) of 30 employees will be out of business. They are field testing their new Phase 2 OWB (1679)

RESPONSE: Currently, Mahoning Outdoor Furnaces is field testing their new Phase 2 OWB and the anticipated effective date of the final-form regulation is not until Fall 2010. Once final, the regulation will give manufacturers with a Phase 2 model a distinct market advantage. The final-form rulemaking also specifically states that non-Phase 2 OWBs can be manufactured in this Commonwealth if the manufacturer can demonstrate that the non-Phase 2 OWB is intended for shipment and use outside of this Commonwealth. The final-form rulemaking also establishes a sell-through period whereby a non-Phase 2 OWB can be installed for use in this Commonwealth through May 31, 2011, as long as it was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011.

201. COMMENT: A few commentators stated that the timber industry in PA will be affected by the proposed regulation and timber related jobs will be lost. (1, 836, 950, 1010, 1206, 1372)

RESPONSE: The Department disagrees. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to control some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

202. COMMENT: Many commentators opposed the proposed OWB regulation because it would damage PA's economy by killing jobs. (70, 258, 337, 589, 598, 613, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 789, 802, 809, 810, 813, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 834, 836, 837, 840, 842, 845, 851, 852, 860, 863, 866, 868, 874, 878, 879, 882, 886, 887, 889, 891, 894, 895, 900, 906, 912, 914, 918, 921, 926, 927, 928, 929, 937, 946, 999, 1009, 1010, 1016, 1022, 1023, 1039, 1041, 1044, 1045, 1047, 1050, 1056, 1057, 1061, 1080, 1130, 1132, 1133, 1135, 1138,

1140, 1147, 1154, 1155, 1157, 1159, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1238, 1240, 1241, 1242, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1361, 1362, 1364, 1365, 1366, 1367, 1368, 1381, 1382, 1385, 1387, 1389, 1390, 1391, 1395, 1397, 1555, 1593, 1597, 1600, 1682, 1683, 1686, 1978, 2028)

RESPONSE: There are three Pennsylvania manufacturers of OWBs. The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. Some Phase 2 OWB models may qualify for the energy tax credits from the Federal government. The tax credits and emissions standard in the regulation should stimulate the market for Phase 2 OWBs.

203. COMMENT: A few commentators stated that they are helping the local economy by purchasing the OWB from local distributors, buying firewood from local people who sell wood, hiring locals to service their unit, etc. (642, 755, 758, 1009, 1555, 1596, 1883, 1916)

RESPONSE: The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances. Some Phase 2 OWB models may qualify for the energy tax credits from the Federal government.

REGISTRATION/PERMITTING OWBs

204. COMMENT: A commentator opposed the proposed regulation because the Air Pollution Control Act specifically states that "no written approval (plan approval or permit) shall be necessary for any such source, equipment or device used solely for the supplying of heat or hot water to one structure intended as a one-family or two-family dwelling." (1698)

RESPONSE: The Department disagrees that the regulation requires written approval for OWBs. Section 6.1 of the APCA (35 P.S. § 4006.1), expressly prohibits the Department from issuing plan approvals or permits for any source, equipment or device used solely for supplying heat or hot water to one structure intended as a one-family or two-family

dwelling. The final-form rulemaking contains no plan approval, permits or record-keeping requirements for OWBs.

205. COMMENT: Many commentators opposed the proposed regulations because they were concerned that the intent was to permit or register OWBs. (30, 46, 813, 839, 887, 918, 923, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1130, 1132, 1135, 1138, 1140, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1597, 1686, 1924 2028)

RESPONSE: The Department disagrees that the intent of the regulation was to permit or register OWBs. Section 6.1 of the APCA (35 P.S. § 4006.1), expressly prohibits the Department from issuing plan approvals or permits for any source, equipment or device used solely for supplying heat or hot water to one structure intended as a one-family or two-family dwelling. The final-form rulemaking contains no registration or record-keeping requirements for OWBs.

NOTIFICATION AND PAPERWORK REQUIREMENTS

206. COMMENT: Three commentators opposed the proposed OWB regulation because the notification and paperwork requirements are burdensome for small business distributors. (126, 873, 1375)

RESPONSE: The Department agrees. The proposed notification and paperwork requirements have been deleted in the final-form rulemaking.

207. COMMENT: A commentator states a concern for subsections (i) and (j) and thinks that the subsections will be used to access properties for inspection without complaint or warrant. The commentator states that this section needs to be revised and justified. (262)

RESPONSE: The Department disagrees that this was the intent of the proposed subsections. However, the proposed notification and paperwork requirements in subsections (i) and (j) have been deleted in the final-form rulemaking.

PA BULLETIN SCHEDULE AND PUBLICITY

208. COMMENT: A few commentators noted that public hearings were scheduled during the first three days of deer hunting season and many OWB owners are deer hunters. It was terrible timing. (35, 98, 258, 279, 589, 918, 1910, 1913, 1914, 1919, 1981)

RESPONSE: Hearings were scheduled as soon as possible after approval of the proposed rulemaking by the Board and an additional hearing was subsequently scheduled

when requested. The proposed OWB rulemaking was approved by the Board at its September 15, 2009, meeting and published in the *Pennsylvania Bulletin* on October 17, 2009. As required under subsections 7(c) and (d) of the APCA (35 P.S. §§ 4007(c) and 4007(d)), the public must be provided 30 days notice before a hearing and must be given 30 days after the hearings take place to submit comments in writing. When the Department was requested to schedule a fifth hearing due to concern about the conflict with deer season, an additional hearing was immediately scheduled for January 13, 2010. The deadline for written public comments was therefore extended from January 4, 2010, to February 12, 2010, a total public comment period of almost four months.

209. COMMENT: A commentator, a township supervisor in very rural southwest PA, states that it was disappointing that the government tried to pass laws without notifying the people it will affect and that there were no close public hearings. (608)

RESPONSE: The Department disagrees. On October 17, 2009, the full Preamble, proposed rulemaking Annex A and opportunity for public comment was published in the official journal of the Commonwealth, the *Pennsylvania Bulletin*. At the same time, notices describing the proposed rulemaking and the public comment and hearing opportunities were published in 11 newspapers across this Commonwealth, including major newspapers in the Allentown-Bethlehem-Easton area, the Wilkes-Barre/Scranton area, the Philadelphia and suburban area, central Pennsylvania (State College, Harrisburg, Reading and Williamsport), northwest Pennsylvania and the Pittsburgh area. In addition, this information was posted on the Department's website under Public Participation and on the National website, myPublicNotices.com. On December 12, 2009, a second public notice was posted in the same newspapers advertising an additional public hearing and extending the public comment period.

The Department schedules public hearings in a variety of locations across the state to maximize potential attendance of the interested public. The public hearings for the proposed OWB regulations took place in Harrisburg, Wilkes-Barre, Cranberry Township (near Pittsburgh), Williamsport and Coudersport.

In addition, written comments were accepted by mail or electronically between October 17, 2009 and February 12, 2010.

210. COMMENT: A couple of commentators question why there were no newspaper announcements for the public hearings. (1019, 1918)

RESPONSE: Please refer to the Department's response to Comment No. 209.

211. COMMENT: A commentator suggests that except for email I can't talk with you. (279)

RESPONSE: Contact information, including names and telephone numbers for Department staff, was listed in the newspaper notices and *Pennsylvania Bulletin* notice described in the Department's response to Comment No. 209.

RESALE OF OWBS

212. COMMENT: Many commentators suggested that used OWBs should be allowed for resale within the Commonwealth. (589, 594, 813, 846, 848, 853, 887, 918, 923, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1130, 1132, 1135, 1138, 1140, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1206, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1343, 1355, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1597, 1686, 1845, 2028)

RESPONSE: The intent of the proposed rulemaking is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation. The final-form rulemaking allows an exemption from the prohibition on the purchase, receipt, lease, sale, ownership, use and operation of a non-Phase 2 OWB when the OWB is permanently installed and transferred to a new owner as a result of a real estate transaction.

REQUIREMENTS FOR PHASE 2 OWBs

213. COMMENT: A commentator opposes the proposed OWB regulation because setback, stack height and seasonal prohibition requirements are not needed for the Phase 2 OWBs. There were no regulations for old OWBs, so why are regulations being proposed for the new ones when they don't cause a problem and manufacturers are working to make even better ones? (1910)

RESPONSE: The stack height and setback requirements for new Phase 2 OWBs in the final-form rulemaking are those recommended by the OHHC for the Phase 2 boilers. The final-form rulemaking establishes that Phase 2 OWBs installed on and after the effective date of the final-form regulation must have a permanently attached stack that extends a minimum of 10 feet above the ground, be installed according to the manufacturer's specifications, and be set back 50 feet from the property line. The Department also believes that requiring new OWBs sold and installed in the Commonwealth to meet the Phase 2 particulate matter standard is necessary to prevent this Commonwealth from becoming a dumping ground for non-Phase 2 OWBs that cannot be sold in nearby states that have already enacted law or adopted regulations establishing the Phase 2 emission standard for newly installed OWBs.

214. COMMENT: A commentator inquires, where was EPA when dozens of manufacturers flooded the market with OWBs to set the standard protocol on what was the expectable emission? (1332)

RESPONSE: When OWBs became an issue of concern, the United States Environmental Protection Agency (EPA) negotiated a voluntary program that encourages manufacturers of OWBs to improve air quality through developing and distributing

cleaner-burning, more efficient OWBs. Phase 1 of the program was in place from January 2007 through October 15, 2008. Phase 1 Partnership Agreements ended when the Phase 2 Partnership Agreements were initiated on October 15, 2008. To qualify for Phase 2, manufacturers must develop an OWB model that is 90% cleaner burning than non-Phase 2 OWBs and meet the EPA emissions standard of 0.32 pounds of particulate matter per million Btu heat output as tested by an independent accredited laboratory. As of April 2010, there are 13 models that meet the Phase 2 emission levels.

215. COMMENT: A commentator opposes the proposed OWB regulation because he is concerned about a complainant that complains about his new Phase 2 OWB that only has a puff of smoke when it shuts off and only creates a haze that you can see. (1910)

RESPONSE: The commentator's concern is beyond the scope of this comment/response document and must be officially investigated by Department field staff.

216. COMMENT: A couple of commentators stated that if EPA has approved the Phase 2 OWBs then regulations are not necessary for PA. (1343, 1355)

RESPONSE: The EPA does not have regulations that cover OWBs. The Federal Phase 2 emission standard is part of a voluntary program.

217. COMMENT: Some commentators stated that Phase 2 OWBs are 80 – 100% more expensive than standard models, not 15% as stated in the Preamble. (642, 873, 1009, 1555)

RESPONSE: According to an EPA fact sheet, OWBs fueled by wood, pellets and other biomass cost between $8,000 and $18, 000, depending on the size of the unit. The cleaner units may be more expensive –about 15% more – because of the changes made to improve the efficiency of these units and reduce their emissions. However, most of these new models are significantly more efficient – meaning they will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[26]

218. COMMENT: A commentator states that Phase 2 OWBs have several drawbacks – double the cost, unproven track record, shorter life, more frequent loading intervals, and less availability. (873)

RESPONSE: The Department's research indicates that the increase in cost is 15%, not double the cost. The Department has found no evidence of a shorter life span. Availability will increase as Pennsylvania and other states require that new OWBs meet Phase 2 standards. Phase 2 units offer the distinct advantage of being 90% cleaner burning. This results in less fuel consumed due to increased combustion efficiency, and so load intervals are likely to be less frequent.

PHASE 2 EMISSION STANDARDS

[26] United States Environmental Protection, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

219. COMMENT: A couple of commentators opposed the proposed OWB regulation because their existing OWB won't meet the emission standard and they will have to buy a new OWB. (337, 905)

RESPONSE: Neither the proposed nor the final-form rulemaking requires the replacement of existing OWBs. The emissions standard in the proposed and final-form rulemaking only apply to newly installed Phase 2 OWBs.

220. COMMENT: Some commentators stated that they would support a state or Federal regulation at the manufacturer level where emission standards should be set – but they may need longer time frame. (99, 292, 348, 502, 768, 932, 1010, 1027, 1040, 1137, 1582, 1596, 1837, 1883, 1918, 1981, 1982, 1984)

RESPONSE: The Department appreciates the comment in support of a statewide regulation for newly manufactured OWBs. The Department is also encouraging National consistency in that the requirement for new OWBs is the voluntary Phase 2 emission standard established by the EPA in collaboration with the manufacturers. Several northeast and mid-Atlantic states have already adopted regulations that include emission standards for OWBs, which has encouraged additional manufacturers to develop and offer Phase 2 OWBs. As of April 20, 2010, there are 13 Phase 2 OWB models to choose from.

221. COMMENT: A commentator stated that they would welcome an efficient stove design if the cost increase is not too great. (858)

RESPONSE: The Department appreciates the comment. The EPA estimated that Phase 2 OWBs cost approximately 15% more than non-Phase 2 OWBs. Most of these new models are significantly more efficient – meaning they will use less wood to produce the same amount of heat. Please refer to the Department's response to Comment No. 190 for additional information.

222. COMMENT: A commentator suggests allowing for exemptions for cleaner-burning units that may be manufactured in the future. (1698)

RESPONSE: The Department disagrees that an exemption would be necessary. The final-form rulemaking has been revised to define the term "Phase 2 OWB" as an OWB that meets an emission limit of 0.32 pounds per million Btu output or lower. The setback and stack height requirements are those that have been recommended by the OHHC and the installation requirement is that the OWB be installed according to the manufacturer's specifications.

223. COMMENT: Two commentators stated that they have no problem promoting the technical advances to OWBs as set forth in the Phase 2 partnership agreement as long as the requirements are applied prospectively from a date certain and as long as some accommodation is made to avoid drastic financial impacts. (1883, 1975)

RESPONSE: The Department agrees. The Phase 2 emissions standard in the proposed and final-form rulemakings only applies to OWBs installed on and after the effective date of the final-form regulation, except as exempted under the sell-through period. According to the EPA, OWBs fueled by wood, pellets and other biomass cost between $8,000 and $18, 000, depending on the size of the unit. The cleaner units may be more expensive –about 15% more – because of the changes made to improve the efficiency of these units and reduce their emissions. However, most of these new models are significantly more efficient – meaning they will use less wood to produce the same amount of heat, reducing the cost of wood purchases.[27] Some Phase 2 OWB models qualify for the energy tax credits from the Federal government. The Department is also exploring the feasibility of an OWB change-out program where a monetary incentive will be paid to people who retire a conventional model OWB and replace it with a Phase 2 model.

224. COMMENT: Many commentators stated that over time, OWB manufacturers will produce more efficient boilers which will be phased in as old OWBs are replaced and the problem will take care of itself. (589, 762, 813, 824, 838, 887, 918, 1010, 1039, 1040, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1130, 1132, 1135, 1138, 1140, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1595, 1597, 1686, 1918, 2028)

RESPONSE: The Department agrees that OWB manufactures are starting to produce cleaner-burning OWBs. As of April 20, 2010, there are 13 EPA-qualified Phase 2 OWB models. As more states adopt requirements for the use of cleaner-burning OWBs, more manufacturers will have the incentive to provide compliant and consumers will have more choices. As older conventional model OWBs are replaced by the newer models, the problem will start to correct itself.

225. COMMENT: Several commentators stated that the Federal government will likely mandate emission standards for OWBs in the next several years and wonders why PA needs the proposed regulation. (813, 887, 918, 1039, 1041, 1044, 1045, 1047, 1050, 1057, 1061, 1080, 1130, 1132, 1135, 1138, 1140, 1154, 1155, 1157, 1159, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1181, 1182, 1183, 1184, 1185, 1187, 1188, 1189, 1190, 1194, 1200, 1201, 1202, 1207, 1208, 1209, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1230, 1234, 1240, 1241, 1243, 1244, 1245, 1250, 1251, 1252, 1253, 1254, 1259, 1260, 1262, 1263, 1264, 1265, 1266, 1268, 1271, 1272, 1273, 1274, 1275, 1277, 1289, 1290, 1292, 1293, 1295, 1381, 1382, 1387, 1389, 1390, 1391, 1395, 1597, 1686, 1923, 2028)

[27] United States Environmental Protection, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

RESPONSE: The EPA has initiated the development of a regulation to require new Phase 2 OWBs Nationally but encourages states to provide incentives, including regulation, for their use. There is no guarantee that a Federal rule will be developed or an estimate of when this could be in place. The EPA is only considering an emissions standard. The final-form rulemaking has also established fuel requirements for all OWBs and stack height and setback requirements for Phase 2 OWBs installed on and after the effective date of the final-form regulation.

TAX CREDITS FOR PHASE 2 OWBS

226. COMMENT: Three commentators stated that PA should have had regulations years ago. Now DEP is going against the Federal Government because the commentator received a tax break for his new Phase 2 OWB. (1114, 1570, 1910)

RESPONSE: Phase 2 OWBs qualify for the tax credit and the Department is requiring that only Phase 2 OWBs be installed in this Commonwealth on and after the effective date of the final-form regulation, except as provided under the sell-through period.

227. COMMENT: A commentator states that last year there were tax credits for wood and pellet stoves – Why this? (768)

RESPONSE: The Department disagrees that there is a conflict between the regulation and tax credits for wood and pellet stoves. The EPA issued standards of performance for new wood stoves in 1988. Under these standards, only EPA-certified indoor wood and pellet stoves can be sold in the United States. EPA-certified wood stoves and especially pellet stoves are cleaner burning than non-Phase 2 OWBs.

228. COMMENT: A few commentators suggested that Pennsylvania should seek Federal money to help pay for upgrades like "Cash for Clunkers". (45, 119, 589, 853, 1080)

RESPONSE: Some Phase 2 OWB models qualify for the energy tax credits already in existence from the Federal government. The Department is also exploring the feasibility of an OWB change-out program where a monetary incentive will be paid to people who retire a non-Phase 2 OWB and replace it with a Phase 2-compliant model.

PRESCRIBED FIRES AND FOREST FIRES

229. COMMENT: Three commentators find it ironic that the Governor signed a bill for Prescribed Burning even though there is a lot of smoke that is emitted from burning a field or forest. (1027, 1372, 1581)

RESPONSE: House Bill 262, the Prescribed Burning Practices Act, was signed into law by Governor Rendell in July 2009. Prescribed burning is a land management tool that helps maintain the health of forest and grassland in this Commonwealth. A prescribed burn is conducted for a short period of time under very controlled conditions. The burn is hot and fast. Therefore, prescribed burning does not create as much pollution, compared to an OWB which operates continually and frequently smolders due to incomplete

combustion, thereby emitting the particulates that are of concern for public health and welfare.

230. COMMENT: A commentator states that the Nature Conservancy will use prescribed burning to burn entire mountain tops to artificially maintain scrub oak. (950)

RESPONSE: Please refer to the Department's response to Comment No. 229.

231. COMMENT: Three commentators said that there is more PM 2.5 emitted in one day from forest fires than all the OWBs in PA in an entire heating season. Why doesn't the government control them? (753, 1027, 1918)

RESPONSE: A forest fire is a Natural occurrence and is beyond the scope of this rulemaking.

PROVISIONS OF PROPOSED REGULATION

232. COMMENT: A commentator suggests that Section H - Pollution Prevention of the Preamble is questionable. (262)

RESPONSE: The Department disagrees. While the regulation will not have a huge pollution prevention impact, the reduced levels of PM2.5 will benefit water quality by reducing sediment, just as other measures to reduce particulate matter have done.

233. COMMENT: The commentator suggests that Section F – Compliance Costs is incomplete. (262)

RESPONSE: The Department disagrees. The final-form rulemaking does not include stack height requirements for existing OWBs.

234. COMMENT: A commentator inquired how the Department came up with the provisions for the proposed regulation. (1698)

RESPONSE: The Department evaluated the requirements found in other states' regulations (proposed and final), the NESCAUM model ordinance, the EPA research related to their voluntary Phase 2 Partnership Program, and research in technical journals.

REGULATION VS LEGISLATION

235. COMMENT: A commentator opposed the proposed OWB regulation because the Environmental Quality Board is not a law maker. (894)

RESPONSE: Section 5(a)(1) of the APCA (35 P.S. § 4005(a)(1)) grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Section 4.2 of the APCA (35 P.S. § 4004.2) authorizes the Board to adopt regulations more stringent than Federal requirements when the control measures are reasonably necessary to achieve and maintain the ambient air quality standards.

236. COMMENT: A few commentators opposed the proposed OWB regulation because they are against anything coming out of Harrisburg unless it comes through the legislators. (1681, 1947, 1950, 1965)

RESPONSE: The Board was created by the General Assembly, the legislative body of the Commonwealth, through enactment of the Pennsylvania Air Pollution Control Act, Act of 1959 (35 P.S. §§ 4001-4015). Section 5(a)(1) of the APCA (35 P.S. § 4005(a)(1)), grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Section 4.2 of the APCA (35 P.S. § 4004.2) authorizes the Board to adopt regulations more stringent than Federal requirements when the control measures are reasonably necessary to achieve and maintain the ambient air quality standards.

NESCAUM STACK TEST RESULTS

237. COMMENT: A commentator questions the use of *Assessment of Outdoor Wood-Fires Boilers* prepared by NESCAUM (Northeast States For Coordinated Air Use Management) on March 2006 due to stack test results from testing that did not meet PA DEP stack testing requirements. (1698)

RESPONSE: The Department accepts the results of the NESCAUM report which includes the methodology for testing. The purpose of the NESCAUM report was to demonstrate the total particulate emissions that included the organic condensable portion. The relative accuracy of the testing accomplished that goal.

The specific test report and raw test data is not presented in the NESCAUM report but the results of each test run and analyzer results from the test data are included. While the Department would agree that a number of stack testing runs did not meet an isokininetic rate between 90% and 110% for Method 17, this testing was done to demonstrate a relationship between the Method 17 stack test results and an instrument test method that was used to determine the PM 2.5 particulate emissions from the outdoor wood-fired boiler. It should also be noted that Method 17 is not a PM 2.5 test method and was being used to collected filterable particulate and only a limited part of the condensable particulates that make up part of the PM 2.5 emissions. The total particulate emissions, including condensable emissions, were collected using a continuous monitor that captures filterable and the organic portion of the condensable fraction. Method 17 results addressed in this comment were used as a verification that the filterable portion was lower than the total results measured by the instrumental continuous method.

OTHER

238. COMMENT: The commentator admits that he did not read the proposed regulation, but suggests that state efforts should be directed to more productive ways of impacting the environmental and energy concerns such as buildings that are properly detailed for insulation and air sealing measures. (82)

RESPONSE: The purpose of the proposed rulemaking is to protect the health and welfare of citizens of this Commonwealth. The health effects associated with exposure to fine particulate matter (PM2.5) emitted from OWBs can be significant.

239. COMMENT: The commentator supports a sell-through provision for old inventory. (1679 & 1923).

RESPONSE: The Department agrees. The final-form rulemaking has been revised to include a sell-through provision. The sell-through provision specifies that a person may not sell, offer for sale, distribute or lease a non-Phase 2 OWB in this Commonwealth unless the OWB was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. This exemption shall remain in effect through May 31, 2011. Non-Phase 2 OWBs installed during the sell-through period must meet the following requirements: the OWB must be installed a minimum of 150 feet from the nearest property line, and a permanently attached stack must extend a minimum of 10 feet above the ground and be installed according to the manufacturer's specifications.

240. COMMENT: A commentator inquired why Pennsylvania wishes to impose onerous rules and regulations on its citizens even if the Federal government doesn't find it necessary. (1163)

RESPONSE: The health effects associated with exposure to fine particulate matter (PM2.5) emitted from OWBs are significant. The Federal government has developed a voluntary program to manufacture cleaner-burning OWBs because of the health risk. The EPA has stated that "Many outdoor wood heaters are significantly more polluting than other home-heating devices. They can create heavy smoke, which can be a nuisance, in addition to posing risks to public health in populated areas. This is most likely when heaters are used improperly or located too close to homes. Heaters that are qualified under EPA's voluntary hydronic heaters program are significantly cleaner."[28] Because particulate matter pollution may not be a problem in all states, The EPA has not made development of a regulation to require new Phase 2 OWBs nationally but encourages states to provide incentives, including regulation, for their use. There is no guarantee that a federal rule will be developed or an estimate of when this could be in place. The EPA is only considering an emissions standard. The final-form rulemaking has also established fuel requirements for all OWBs and stack height and setback requirements for new Phase 2 OWBs.

241. COMMENT: Several commentators mentioned that people who operate OWBs clean up the forest and encourage the growth of healthy trees by using inferior trees and wood that is already down. (27, 80, 84, 87, 99, 112, 310, 639, 758, 771, 825, 826, 836, 885, 915, 918, 923, 944, 957, 1010, 1018, 1114, 1191, 1232, 1334, 1606, 1681, 1883, 1915, 1926, 1927, 1937)

[28] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

RESPONSE: The Department recognizes the value of heating with wood, including providing a lower-cost fuel option which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

242. COMMENT: A couple of commentators stated that global warming is a hoax and that this winter will be bad. (9, 24)

RESPONSE: The purpose of this rulemaking is to reduce emissions of particulates. Global warming is beyond the scope of this rulemaking.

243. COMMENT: A commentator inquires how much was spent on the proposed regulation. (918)

RESPONSE: Department staff are already in place to evaluate and develop strategies to reduce air pollution threats to health and the environment. No additional costs were incurred to develop the proposed regulation.

244. COMMENT: Several commentators opposed the proposed OWB regulation because it was prepared using grossly flawed data. (630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 789, 802, 809, 810, 814, 815, 819, 820, 821, 822, 823, 827, 828, 829, 830, 831, 832, 834, 837, 840, 842, 845, 851, 852, 860, 863, 866, 868, 874, 878, 879, 882, 886, 889, 891, 894, 895, 900, 906, 912, 914, 921, 927, 928, 929, 937, 946, 999, 1009, 1016, 1022, 1023, 1056, 1133, 1147, 1165, 1177, 1238, 1242, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1358, 1359, 1360, 1361, 1362, 1364, 1365, 1366, 1367, 1368, 1397, 1555, 1593)

RESPONSE: The Department disagrees with the comment. The commentators did not give any indication as to what data was grossly flawed; therefore, the Department cannot specifically address the comment.

245. COMMENT: A few commentators opposed the proposed OWB regulation because no direct connection has been made to health impacts, only implied. (30, 642, 1009, 1019, 1555)

RESPONSE: The Department disagrees with the commentator's opinion that no direct connection has been made to health impacts. Smoke from OWBs contains at least 75% PM2.5, measuring 2.5 microns in size (one millionth of a meter or 1/70th of a human hair). PM2.5 levels from OWBs can rise dramatically in as little as 1 to 6 hours and cause high risk exposures resulting in hospital or emergency room visits and asthma or

cardiovascular events.[29] Particularly at risk are people with asthma, diabetes, and heart and lung disease; all older adults and all children under 4 years old. This accounts for approximately 50% of the American population. The Department has received numerous comments urging the adoption of the proposed OWB regulation, due to health concerns of citizens who are exposed to smoke from neighboring OWB operations.

246. **COMMENT:** A commentator wonders if the Department is going to regulate diesel truck idling? (147)

RESPONSE: On October 9, 2008, Governor Rendell signed the Diesel-Powered Motor Vehicle Idling Act into law (Act 124). Taking effect 120 days from enactment, the law restricts most diesel-powered motor vehicles over 10,000 pounds from idling more than five minutes in any continuous 60-minute period, with a number of exemptions. More information on the law can be found on the Department's web site, www.depweb.state.pa.us, search for "diesel idling."

247. COMMENT: A commentator wonders if the Department really feels that anyone is truly helped by this kind of rulemaking. (31)

RESPONSE: The Department believes that the final-form regulation will reduce the health effects associated with exposure to PM2.5 and benefit all residents of Pennsylvania.

248. COMMENT: Some commentators suggested that the Department spends its resources monitoring the Marcellus Shale drilling sites. (35, 896, 1002, 1027, 1109, 1881, 1884)

RESPONSE: The commentators' suggestion is beyond the scope of this rulemaking.

249. COMMENT: A couple of commentators suggested that the proposed regulation include 'Best Burn Practices.' (1343, 1355)

RESPONSE: The Department disagrees that 'Best Burn Practices' should be included in the proposed regulation. The Department has developed a fact sheet entitled Outdoor Wood-Fired Boilers that includes best burn practices. For more information, visit www.depweb.state.pa.us, keyword: Open Burning.

250. COMMENT: Three commentators suggested that properties that qualify for "Clean and Green" tax laws be exempted. (592, 881, 1040)

RESPONSE: The Department disagrees that "Clean and Green" properties be exempted from the proposed regulations. The Clean and Green (PA Farmland and Forest Land

[29] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007) 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 - 208

Assessment Act) program is designed to preserve agricultural and forest land. It provides a tax benefit to owners of agricultural or forest land by taxing that land on the basis of its "use value" rather than its "fair market value." The act provides preferential assessment to any individuals who enroll in the program and agree to maintain their land solely devoted to agricultural use, agricultural reserve, or forest reserve use.

251. COMMENT: A commentator suggests that the Department should spend time approving natural gas and natural gas pipelines in Pennsylvania so that people would have the option to use natural gas instead of wood. (1601)

RESPONSE: The commentator's suggestion is beyond the scope of this rulemaking.

252. COMMENT: A commentator states that cutting wood is family time and good physical exercise. (825)

RESPONSE: The Department acknowledges the comment.

253. COMMENT: A couple of commentators stated that they have destroyed numerous large wood boring insect colonies by burning the wood that they live in. (147, 825)

RESPONSE: The Department acknowledges the comment.

254. COMMENT: Three commentators stated that the allergy symptoms, heart conditions or other illnesses in their families have been mitigated since the family has changed from indoor wood heating to an OWB, an action which has removed smoke from their house. (282, 589, 1018)

RESPONSE: The Department agrees that this may be a benefit for some families.

255. COMMENT: A commentator states that DEP should confine its regulatory scope to commercial and industrial entities. (1860)

RESPONSE: The health effects associated with exposure to PM2.5 emitted from OWBs can be significant. The APCA grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. The statutory authority is not limited to commercial and industrial entities.

256. COMMENT: A commentator states that studies suggest that OWBs can emit pollutants equaling 2 – 6 diesel trucks. While there are initiatives to reduce new truck emissions there is no initiative to reduce emissions from or ban existing diesel truck as there is with OWBs. Why? (1880)

RESPONSE: The Commonwealth has a number of provisions to reduce emissions from diesel vehicles. On October 9, 2008, Governor Rendell signed the Diesel-Powered Motor Vehicle Idling Act into law (Act 124). The Pennsylvania Heavy-Duty Diesel Emission

Control Program (25 Pa. Code Chapter 126, Subchapter E) ensures that new heavy-duty vehicles meet stringent emission standards. The Commonwealth has also provided funds from various sources to enable existing diesel fleets to retrofit or repower their vehicles to reduce emissions.

257. COMMENT: A commentator states that OWBs are self-regulating: First there is a high initial investment and, second, it is hard work gathering, cutting, and splitting the wood and then feeding it into the OWB (about 170 hrs/year of backbreaking labor). (1937)

RESPONSE: The number of OWBs operating in the United States and in this Commonwealth is increasing. According to NESCAUM, there were 195 OWBs operating in the United States in 1990 and in 2005, only 15 years later, there were 155,834. In this Commonwealth there were 11,836 OWBs operating in 2005. According to HPBA, there were at least 15,000 OWBs operating in this Commonwealth in late 2009.

258. COMMENT: Three commentators suggested that resources should be put toward research that will assist manufacturers in improving the efficiency of OWBs. (74, 620, 1845)

RESPONSE: The process of improving the efficiency of OWBs is well underway. There are many models of Phase 2 OWBs already available.

259. COMMENT: Many commentators stated that using wood as a fuel is a long tradition in this country. (74, 93, 110, 112, 199, 289, 290, 302, 326, 339, 596, 601, 613, 622, 627, 630, 632, 633, 634, 635, 636, 637, 638, 640, 641, 642, 675, 753, 754, 760, 773, 775, 776, 781, 789, 791, 795, 802, 804, 809, 810, 814, 815, 816, 819, 820, 821, 822, 823, 824, 825, 827, 828, 829, 830, 831, 832, 834, 837, 840, 841, 842, 845, 851, 852, 856, 858, 860, 863, 866, 868, 873, 874, 878, 879, 882, 886, 889, 891, 894, 895, 897, 900, 906, 912, 914, 921, 927, 928, 929, 937, 946, 950, 999, 1009, 1016, 1022, 1023, 1056, 1087, 1092, 1114, 1117, 1133, 1147, 1149, 1164, 1165, 1177, 1191, 1232, 1238, 1242, 1246, 1279, 1285, 1307, 1308, 1309, 1310, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1325, 1327, 1331, 1335, 1337, 1338, 1340, 1347, 1356, 1358, 1359, 1360, 1362, 1364, 1365, 1366, 1367, 1368, 1372, 1397, 1385, 1555, 1593, 1594, 1682, 1683, 1698, 1712, 1912, 1915, 1937, 1978, 1981

RESPONSE: The Department recognizes that using wood as a fuel is a long tradition in this country. Wood heat can provide a lower-cost fuel option which is particularly important in the present economy, use of a renewable and plentiful fuel, and reduction of our country's dependency on fossil fuel The regulation does not ban this form of home heat or require the replacement of existing OWBs. The Department's intention is not to ban the use of OWBs; rather, it is to ensure that only the cleanest-burning OWB units are sold in this Commonwealth after the effective date of the final-form regulation, and to regulate some aspects of the operation of both existing and new OWBs in order to reduce future health impacts and air emissions and nuisances.

260. COMMENT: A commentator stated that municipalities not located in a PM2.5 non-attainment area or that have less than 1% of OWBs in their population should be exempted from the regulations. (1698)

RESPONSE: The Department disagrees. The number of OWBs in a particular area and attainment/non-attainment designations are subject to change. EPA is required by the Clean Air Act to review NAAQS every five years. Such a periodic review of the fine particulate NAAQS is currently underway; EPA is currently consider revising the current $PM_{2.5}$ primary standards to provide increased public health protection from the effects of both long- and short-term exposures.[30] Should that occur, additional nonattainment areas in Pennsylvania could be created.

261. COMMENT: A commentator states that he operates an OWB in the middle of town and no one has complained. (804)

RESPONSE: The Department acknowledges the comment.

262. COMMENT: A commentator stated that PM was not defined. (1913)

RESPONSE: "Particulate matter" is defined in 25 *Pa. Code* § 121.1 (relating to definitions) as "A material except uncombined water which is or has been airborne and exists as a solid or liquid at 70 degrees F and 14.7 pounds per square inch absolute pressure."

263. COMMENT: A commentator suggests that carbon dioxide is biodegradeable and used by green plants that produce oxygen. (1913)

RESPONSE: The Department agrees that carbon dioxide is used by green plants to produce oxygen.

264. COMMENT: A commentator questions the estimate of 1.5 tons PM per year per unit. (274)

RESPONSE: The Department used the estimates of particulates from the NESCAUM report. NESCAUM estimates that conventional, non-Phase 2 OWBs have the potential to emit 1.5 tons of particulate per year.[31]

265. COMMENT: A commentator refers to the PADEP model ordinance that states "where home heating is concerned the Department believes that local municipalities can respond to and resolve these issues more effectively and swiftly than state agency."

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[30] Policy Assessment for the Review of the Particulate Matter National Ambient Air Quality Standards, First External Review Draft, EPA, March 2010

[31] NESCAUM. Northeast States for Coordinated Air Use Management. Assessment of Outdoor Wood-fired Boilers. P. viii. March 2006 (revised June 2006); available at: http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers.

Nothing has occurred since 1/2009 to reverse this decision. Why are we changing? (1975)

RESPONSE: The Department disagrees that there is a conflict between the proposed regulation and the PADEP model ordinance. The Department continues to believe that local governments can respond to home heating issues more swiftly than a state agency. Certain local municipalities may encounter difficulties in attempts to enact local ordinances regulating OWBs. The Department received many comments stating both that the regulation of OWBs should be managed by local governments and that local governments are not able or willing to adequately manage the OWB issue. The final-form rulemaking, if adopted, would apply statewide and would be implemented and enforced by the Department. However, local governmental entities are not precluded from adopting more stringent requirements in accordance with section 12 of the APCA (35 P.S. § 4012).

266. COMMENT: A commentator inquired why the Department isn't focusing on the bigger issues by regulating OWB manufacturers and requiring additional controls on OWBs. (1698)

RESPONSE: The Department is regulating the OWB manufacturers and requiring additional controls on OWBs by establishing a Phase 2 emissions standard for new OWB installations.

267. COMMENT: A commentator stated that proposed regulation will put a lot of people out of work and they won't be eating. The commentator wonders what the difference is if a kid is starving on the street or if you've got people that have to breathe a little wood smoke, which is not harmful to your health. (1080)

RESPONSE: The Department respectfully disagrees with the commentator that wood smoke from OWBs is not harmful to your health, as discussed in many previous responses in this document.

268. COMMENT: The commentator objects to the "even if" clauses, such as even if you do this, there may still be violations. (1080)

RESPONSE: Written notice and recordkeeping, respectively, have been deleted in the final-form rulemaking.

269. COMMENT: The commentator suggested that OWBs are being blamed for pollution in populated areas that is caused by other sources – traffic, etc. In areas where you find the most OWBs, the air quality is relatively good. (1972)

RESPONSE: The Department disagrees that OWBs are being blamed for pollution in populated areas that is caused by other sources. The Department has and is continuing to address pollution from a diverse category of sources, including traffic. The Department agrees that air quality is usually better in rural areas. However, certain characteristics of

OWBs cause adverse effects even in these less-polluted areas. OWBs generally have relatively low stack heights which prevent efficient dispersion of pollution, are often operated year-round, and may be used to burn household garbage and hazardous wastes.

270. COMMENT: The commentator supports regulations on new OWBs; but no fuel requirements. (161)

RESPONSE: The Department appreciates the commentator's support of the regulations for new OWBs. However, the department disagrees that there should be no fuel requirements. Additional toxic and hazardous air pollutant (HAP) emissions from burning unknown substances increase the risk of potential adverse health effects of emissions from OWBs. The Department believes that the final-form rulemaking requirements should reduce the effects of the problems associated with the operation of OWBs, including smoke, odors and emissions from the burning of painted or treated wood and wastes including garbage, tires, hazardous waste and the like.

271. COMMENT: A few commentators support both fuel requirements for all OWBs and emission standards for newly installed OWB. (65, 612, 1678, 1716, 1849)

RESPONSE: The Department agrees that there should be both fuel requirements for all OWBs and emission standards for newly installed OWBs.

272. **COMMENT:** The commentator states that "If passed as currently written, I believe that the regulation will adversely impact my rights and the rights of existing OWB owners that use these appliances in a responsible manner." (950)

RESPONSE: The final-form rulemaking will have minimal effects on owners of existing OWBs. The final-form rulemaking limits the setback and stack height requirements to Phase 2 OWBs installed after the effective date of the rulemaking; the Phase 2 OWBs are 90% cleaner than conventional units. The final-form rulemaking retains the proposed allowed fuels requirements of subsection 123.14(f) and the applicable regulatory requirements of subsection 123.14(h) for both new and existing OWBs. The Department believes that the final-form rulemaking requirements will reduce the effects of the problems associated with the operation of OWBs, including smoke, odors and emissions from the burning of painted or treated wood and wastes including garbage, tires, hazardous waste and the like. The final-form amendments will help assure that all of the citizens of this Commonwealth will benefit from reduced emissions of PM2.5 and air toxics from OWBs.

273. **COMMENT:** Several commentators stated that "I am supportive of a state regulation requiring existing furnace owners to comply with proper fuel use requirements and for regulations regarding new installations to be reasonable". (199, 601, 627, 675, 753, 754, 760, 773, 775, 776, 781, 795, 816, 836, 844, 850, 915, 950, 1018, 1087, 1164, 1191, 1246, 1594, 1698, 1712)

RESPONSE: The Department appreciates the support.

COMMENTS FROM INDUSTRY AND ORGANIZATIONS

1. COMMENT: Dean Zook, Smokeless Heat LLC, specifically questions whether wood gasification boiler technology will be included in the definition of OWBs. The commentator sells indoor wood gasification boilers that are certified to have an 86% + burn efficiency. Generally, these units are installed in the basement, but sometimes they are installed in side buildings, utility spaces, barns or adjacent buildings "not intended for habitation by humans or domestic animals". Because of this, they may fit in the definition of OWBs. Specifically the commentator is concerned about the potential Seasonal Prohibition from May 1 through September 30 because many wood gasification boilers are used to heat hot water. (77)

RESPONSE: An indoor gasification boiler does not fit within the scope of the EPA Phase 2 voluntary program and is therefore not regulated under the proposed rulemaking.

2. COMMENT: A commentator, John Albright, Total Energy Solutions LLC, inquired if the proposed legislation was designed to address OWBs that are used only to supply hot water/heat to households and residences. (83)

RESPONSE: The proposed regulation is designed to address OWBs that have a rated thermal output capacity of up to 350,000 Btus.

3. COMMENT: The commentator is concerned that every residential and commercial wood boiler would fall under the definition of OWBs because boiler rooms in a commercial setting are not normally "intended for habitation by humans or domestic animals". For clarification, the commentator specifically asked what the definition is for commercial wood/ biomass boilers and inquired whether the proposed regulation applies to commercial wood/biomass boilers. (83)

RESPONSE: The definition of a commercial wood/biomass boiler is a boiler that has a rated thermal output of 350,000 Btu per hour or more. The proposed regulation does not apply to commercial wood/biomass boilers

4. COMMENT: The commentator inquired if agricultural applications are exempt from the proposed regulation. (83)

RESPONSE: As per Section 4.1 of the Air Pollution Control Act (APCA), the Environmental Quality Board does not have the authority to adopt rules and regulations relating to air pollution arising from the production of agricultural commodities, unless the regulations are required by the Clean Air Act. Since there are no Clean Air Act requirements, the Department is prohibited from regulating an OWB that is being used exclusively for agricultural activities. This is also the case if an OWB that is being used for both agricultural and residential activities. However, if the OWB is being used exclusively to heat and/or provide hot water for a residence located on agricultural property, then the proposed regulation would apply.

5. COMMENT: The commentator asked if municipalities would still have the right to make their own rules or would everything state-wide fall under this legislation? (83)

RESPONSE: In accordance with section 12 of the APCA (35 P.S. § 4012), local municipalities may enact ordinances more stringent than the final-form regulation.

6. COMMENT: The commentator asked if there is a time frame that dealers of non-compliant units will have to liquidate their inventory. (83)

RESPONSE: The final-form rulemaking has been revised to include a sell-through provision. The sell-through provision specifies that a person may not sell, offer for sale, distribute or lease a non-Phase 2 OWB in this Commonwealth unless the OWB was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. This exemption shall remain in effect through May 31, 2011. Further, non-Phase 2 OWBs installed during the sell-through period must meet the following requirements: the OWB must be installed a minimum of 150 feet from the nearest property line, and a permanently attached stack must extend a minimum of 10 feet above the ground and be installed according to the manufacturer's specifications.

7. COMMENT: The commentator asked how manufacturers of OWBs both in PA and out-of-state will be notified of this regulation should it be enacted? (83)

RESPONSE: The Department will rely on the Home, Patio & Barbecue Associations and other organizations to notify OWB manufacturers. The Department will also contact known OWB manufacturers directly.

8. COMMENT: The commentator asked who will handle the enforcement of the proposed regulation. (83)

RESPONSE: The air quality field staff will handle the enforcement of this regulation on a complaint-driven basis. As they are doing currently, the air quality field staff would follow an enforcement procedure similar to other citizen vs. citizen complaints. Once the complaint is received, an air quality field inspector would investigate the complaint to determine if there is a violation. If a violation is observed enforcement action would be initiated. The first step in an enforcement action taken by the Department would be to try and assure voluntary compliance. This effort would include education related to ensuring that the OWB is not operated in a manner that might cause a nuisance to surrounding property owners. In complaints such as these, the most important goal is resolving the complaint. If voluntary compliance fails, the Department would then take a more traditional enforcement path.

9. COMMENT: The Pennsylvania Farm Bureau and the Agricultural Advisory Board suggested that stack heights and setbacks should be regulated by local governments. If stack height and setback requirements remain in the final regulation, the Farm Bureau and the Agricultural Advisory Board suggest that setbacks be measured from residences not property lines with personal residences and property exempted. The Farm Bureau

and the Agricultural Advisory Board also suggest that the stack height requirements for existing be changed from "2 feet above the highest peak of the highest house within 500 feet" to "2 feet above the highest peak of the highest house within 150 feet". (1678, 1716, 1849)

RESPONSE: The Department agrees that the stack height requirements in the proposed regulation need to be changed. The stack height requirements for existing OWBs have been deleted in the final-form rulemaking. The final-form regulation requires that new Phase 2 OWBs have a permanent stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications. The final form regulations require that new Phase 2 OWBs are installed 50 feet from the property line.

10. COMMENT: The commentators stated that all wood products from residential and agricultural operations should be allowed fuels unless they contain creosote. These products need to be disposed of and if they are not allowed to be burned in OWBs, then they will be burned in areas that have no particulate matter emission controls. (1678, 1716, 1849)

RESPONSE: The Department disagrees. The fuel requirements for all OWBs operating in this Commonwealth in the final-form regulation have not changed from the proposed regulation. The Department requires clean wood only, because wood that has been treated, stained and painted, as well as wood containing creosote, release hazardous air pollutants when burned.

11. COMMENT: The commentators stated that prohibited fuels in section 123.14 (g) – Prohibited Fuels should be listed, as follows: Wood containing creosote, tires, rubber, plastics, non-paper products, etc. (1678, 1716, 1849)
RESPONSE: The Department elected not to list prohibited fuels in subsection (g) because it is impossible to think of all the contingencies that may occur.

12. COMMENT: The Agricultural Advisory Board and Pennsylvania State Grange suggests researching technologies that would allow an "after burn" of OWB stack exhaust that would act similar to a catalytic converter. Since the technology would emit a clean exhaust, stack heights would no longer be important and OWBs could burn prohibited fuels. (1710, 1716)

RESPONSE: The Department does not have plans to research technologies that would allow an "after burn" of OWB stack exhaust that would act similar to a catalytic converter. This kind of research is better left up to the OWB manufacturers. The technology would have to be quite advanced to burn prohibited fuels in a way that is safe enough for health, welfare and the environment.

13. COMMENT: The Hearth, Patio & Barbecue's (HPBA) Outdoor Hydronic Heater Caucus (OHHC), Randy Roth – Central Boiler distributor, and Whiteman, Osterman & Hanna – Attorneys at Law on behalf of Central Boiler stated reasonable regulations of

emissions for OWBs are supported; but unreasonable regulations are opposed. (170, 1568, 1838)

RESPONSE: Thank you for your comment regarding the proposed OWB regulation. The Department reviewed and considered all comments that were received during the public comment period. There are many differences between the proposed regulation and the final-form regulation. The provisions for the final form rulemaking are as follows:

- Existing OWBs are not affected except for clean fuel requirements.
- An OWB installed, or sold or bought with the intention of installing, in this Commonwealth after the date of adoption must meet the Phase 2 OWB emission standards, except for the sell-through provision as described below.
- A Phase 2 OWB installed after the effective date of the final-form regulation must be installed with a setback of at least 50 feet from the nearest property line
- A Phase 2 OWB installed after the effective date of the final-form regulation must have a permanently installed stack that extends a minimum of 10 feet above the ground and be installed according to the manufacturer's specifications.
- The above three provisions do not apply to a permanently installed OWB that was installed prior to the date of adoption and transferred to a new owner as a result of a real estate transaction.
- All OWBs operated in this Commonwealth after the date of adoption must meet certain fuel requirements.
- All OWBs operated in this Commonwealth after the date of adoption must comply with all applicable state, county and local laws and regulations.

14. COMMENT: The commentators stated that a sell-through exemption is recommended for PA dealers to sell their existing inventory. (170, 1568, 1838)

RESPONSE: The Department agrees. The final-form rulemaking has been revised to include a sell-through provision. The sell-through provision specifies that a person may not sell, offer for sale, distribute or lease a non-Phase 2 OWB in this Commonwealth unless the OWB was manufactured, distributed, purchased or leased and received in this Commonwealth before May 31, 2011. This exemption shall remain in effect through May 31, 2011. Further, non-Phase 2 OWBs installed during the sell-through period must meet the following requirements: the OWB must be installed a minimum of 150 feet from the nearest property line; and a permanently attached stack must extend a minimum of 10 feet above the ground and be installed according to the manufacturer's specifications.

15. COMMENT: The commentators stated that a unnecessarily long setbacks and unreasonable stack heights for Phase 2 OWBs are opposed. (170, 1568, 1838)

RESPONSE: The final-form rulemaking revised the stack height and setback requirements for new Phase 2 OWBs. The stack height for new OWBs in the final-form rulemaking requires that the OWB have a permanent stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications. The

setbacks for new OWBs in the final-form rulemaking require that the OWB be installed at least 50 feet from the property line.

16. COMMENT: The commentators stated that stack height requirements for all non-Phase 2 OWBs are opposed and should only apply to OWBs that are verified to be creating a nuisance. (170, 1568, 1838)

RESPONSE: Stack height requirements for existing OWBs have been eliminated in the final-form regulation.

17. COMMENT: The commentators stated that opacity should not be applicable to residential OWBs. (170, 1568, 1838)

RESPONSE: The Department disagrees. The opacity regulation, as defined in Pa. Code 25 Section 123.41 (relating to limitations), is an existing state-wide regulation limiting the visual emissions emanating from stacks. The opacity regulation applies to any stack, residential or commercial, in use in this Commonwealth, whether or not it is specifically mentioned in the OWB regulation. Since the proposed regulation would be a state regulation, it would be enforced by the Department's regional air quality program field staff. The field staff is certified annually to determine the percent opacity from stacks. Therefore, opacity is not a subjective visual observation for these certified individuals. The use of the opacity regulation would only be used when there is a complaint submitted to the Department about the operation of an OWB. The ability to use an objective visual test to determine if there is an actual nuisance could be helpful both to the complainant and the OWB owner.

18. COMMENT: The commentators stated that local municipalities should be prevented from establishing unreasonable requirements. (170, 1568, 1838)

RESPONSE: Under section 12 of the APCA (35 P.S. § 4012), local municipalities have the authority to pass ordinances as long as they are more stringent than the regulations of this Commonwealth. Local municipalities are often responding to complaints when they enact OWB ordinances. Educating present and future OWB owners regarding stack heights, setbacks, appropriate fuels, appropriate citing procedures, 'Best Management Practices' would be helpful in reducing complaints.

FORM LETTER – SUPPORT FOR A REVISED REGULATION

Over 700 commentators submitted a form letter that opposed many of the provisions of the proposed regulation, but supported a state regulation requiring existing OWB owners to have to comply with proper fuel requirements and for regulations regarding new installations to be reasonable. The list of commentators that submitted the form letter can be found at the end of this section. Following are the specific comments in this form letter.

1. COMMENT: Over 700 commentators opposed the proposed OWB regulation because wood is an economical choice for many rural people that saves thousands of dollars, while other forms of heat are cost prohibitive.

RESPONSE: The Department agrees that OWB operations can be an economical means to heat homes. For this reason, the Department has no intention of eliminating this form of home heat. Instead the intent is to control some aspects of the operation of OWBs in order to reduce health impacts, air emissions and nuisances.

2. COMMENT: Over 700 commentators mentioned that indoor woodstoves are safer than OWBs and that the risk of home fires and carbon monoxide poisoning is reduced while operating an OWB.

RESPONSE: The Department agrees that OWB operations can reduce the risk of home fires and accidental carbon monoxide poisoning as compared with in-home heating systems. The Department has no intention of eliminating this form of home heat; rather, the intent is to regulate some aspects of the operation of OWBs in order to reduce adverse health impacts, air emissions and nuisances. While operating an OWB may reduce the risk of home fires and accidental carbon monoxide poisoning compared to in-home heating systems, OWBs are a widespread source of PM, including approximately 75% PM2.5, and toxic air pollutant emissions in this Commonwealth, making uncontrolled OWB emissions a major health threat. OWBs are typically equipped with a very short stack, many times only 8 – 12 feet high, leading to poor dispersal of the stack emissions and causing smoky conditions at or near ground-level, where people are readily impacted. The PM2.5 from wood smoke is linked to asthma, chronic obstructive pulmonary disease, cardiac effects and lung cancer.[32] Wood smoke from OWBs can contain potentially cancer-causing compounds including volatile organic compounds, polycyclic aromatic hydrocarbons, benzene, formaldehyde, metals, dioxins and furans.[33] The large firebox and outdoor location of the OWB render it tempting for persons to also use the OWB as a receptacle to burn household garbage, hazardous waste and other materials. Additional toxic and HAP emissions from burning these unknown substances increase the risk of potential adverse health effects of emissions from OWBs. For more information, please see the response to Comment No. 185.

3. COMMENT: Over 700 commentators mentioned that heating with wood results in no net increase in global warming gas emissions it's carbon neutral). Heating with oil, coal and natural gas is a significant source of global warming gas emissions. (The electric heat that powered our home before originated from these latter sources of energy).

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[32] Brown, David R., Callahan, Barbara G. and Boissevain, Andrea L. (2007), 'An Assessment of Risk from Particulate Released from Outdoor Wood Boilers', Human and Ecological Risk Assessment, 13:1, 191 – 208.

[33] United States Environmental Protection Agency, Frequently Asked Questions EPA's Phase 2 Voluntary Partnership Program: Hydronic Heaters (October 15, 2008).

RESPONSE: The Department agrees with the commentators that heating with oil, coal and natural gas is a significant source of greenhouse gas (GHG) emissions, while heating with wood results in no net increase of GHG emissions. There are, however, other emissions of concern involved with operating an OWB, including non-GHG air pollutants such as PM and PM2.5, nitrogen oxides, sulfur oxides, carbon monoxide and hazardous air pollutants. Epidemiological studies have shown a significant correlation between elevated PM2.5 levels and premature mortality. Other important adverse health effects associated with PM2.5 exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems. Individuals particularly sensitive to PM2.5 exposure include older adults, people with heart and lung disease and children. See 74 FR 58688 (November 13, 2009).

4. COMMENT: Numerous commentators were opposed to the proposed stack height requirements.

RESPONSE: The stack height requirements for existing OWBs have been deleted in the final-form rulemaking. Any new Phase 2 OWB installed on and after the effective date of the final-form regulation must have a permanently installed stack that extends a minimum of 10 feet above the ground and is installed according to the manufacturer's specifications. Any non-Phase 2 OWB sold during the six-month sell-thorough period, established in subsection 123.14(b)(3) must be installed a minimum of 150 feet from the nearest property line. The permanently attached stack must extend a minimum of 10 feet above the ground and be installed according the manufacturer's specifications.

5. COMMENT: Over 700 commentators opposed the seasonal prohibition of May 1 through September 30.

RESPONSE: Although not part of the proposed OWB regulation, the Preamble requested comments about a seasonal prohibition of the operation of OWBs from May 1 through September 30. A seasonal prohibition is not included in the final-form rulemaking.

6. COMMENT: Over 700 commentators opposed opacity requirements for residential sized appliances because opacity is a subjective visual observation.

RESPONSE: The opacity regulation, as defined in Pa. Code 25 Section 123.41 (relating to limitations), is an existing state-wide regulation limiting the visual emissions emanating from stacks. The opacity regulation applies to any stack, residential or commercial, in use in this Commonwealth, whether or not it is specifically mentioned in the OWB regulation. Since the proposed regulation would be a state regulation, it would be enforced by the Department's regional air quality program field staff. The field staff is certified annually to determine the percent opacity from stacks. Therefore, opacity is not a subjective visual observation for these certified individuals. The use of the opacity regulation would only be used when there is a complaint submitted to the Department

about the operation of an OWB. The ability to use an objective visual test to determine if there is an actual nuisance could be helpful both to the complainant and the OWB owner

7. COMMENT: Over 700 commentators stated that "If passed as currently written, I believe that the regulation will adversely impact my rights and the rights of existing OWB owners that use these appliances in a responsible manner."

RESPONSE: The proposed regulation has been significantly revised at final rulemaking and, except for the clean fuel requirement, has no effect on people who currently own and use OWBs.

8. COMMENT: Over 700 commentators acknowledge that OWB owners that create a verifiable nuisance may need to increase the stack height to alleviate complaints, but disagrees that it be made a retroactive, "one-size-fits-all" requirement.

RESPONSE: The Department agrees with the acknowledgement that OWB owners that create a nuisance may need to increase stack heights to alleviate complaints. The retroactive stack height requirements for existing OWBs have been eliminated from the final-form regulation.

9. COMMENT: Over 700 commentators support a state law requiring existing OWB owners to have to comply with proper fuel use requirements and for regulations regarding new installations to be reasonable.

RESPONSE: The Department appreciates the commentators' support for a state regulation requiring existing OWB owners to have to comply with proper fuel use requirements and for regulations regarding new installations to be reasonable.

109, 116, 117, 119, 120, 123, 130, 131, 134, 137, 140, 141, 146, 157, 162, 164, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 200, 201, 203, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 232, 233, 234, 235, 236, 237, 238, 239, 240, 244, 252, 253, 261, 264, 265, 268, 273, 275, 276, 277, 280, 284, 286, 287, 288, 291, 298, 318, 319, 320, 327, 328, 332, 339, 342, 343, 350, 351, 352, 353, 354, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 392, 393, 394, 395, 396, 397, 398, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 456, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 479, 481, 482, 483, 484, 485, 486, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 503, 505, 506, 507, 508, 509, 510, 512, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 563, 564, 565, 566, 567, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578,

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Outdoor Wood-Fired Boilers Rulemaking #7-444
(IRRC #2802)

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79. Lori Duttry, DuBois, PA
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102. Luke Berg
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105. Shirley Lican, James City, PA
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129. Kale Postlewat
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177. Derric Allen, New Tripoli, PA
178. Mark Campbell, Galeton, PA
179. Dennis Wettlaufer
180. Dan Wettlaufer
181. Ernest Christman, Kunkletown, PA
182. William Mall, Morris Plains, NJ
183. Mr. Nijenhuis, Bulger, PA
184. John Geiter, Narvon, PA
185. Angela Cromley, Turbotville, PA
186. Margaret Christman, Kunkletown, PA
187. Glen Smith, Tamaqua, PA
188. Butt
189. Richard Price, Tunkhannock, PA
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191. Chris Hosgood, North Wales, PA
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193. Kris and Vickie Stiely, Sacramento, PA
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206. Charles Baker
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210. William Kenjora, Philipsburg, PA
211. Ronald Hikes, Friedensburg, PA
212. John Zimmerman, Pine Grove, PA
213. Jerry Fetter, New Paris, PA
214. Ronald
215. David Andrezze, Nescopeck, PA
216. Kim Zimmerman, Mifflinburg, PA
217. Colleen Bollinger, Palmerton, PA
218. Neal Fenstermaker, Kempton, PA
219. William Eaton, Bath, PA
220. Robert Mudie, Wellsboro, PA
221. Joseph Inhoff, Wind Gap, PA
222. Glenn Titman, Bloomsburg, PA
223. Mistie Snyder, Liverpool, PA
224. Robert Wolfe, Kane, PA
225. Bruce Thomas, Windber, PA
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227. Wendell Martin, Beaver Springs, PA
228. Steve Keller, Trout Run, PA
229. Emmett Reynolds, Watsontown, PA
230. Nancy Giannone, Coudersport, PA
231. Kaye Guthridge, DuBois, PA
232. John Osborne, Rouseville, PA
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234. Robert Kurten, Reynoldsville, PA
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236. Mark Zimmerman, Narvon, PA
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242. Marcella Ball, Ramey, PA
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265. Wanda L. Beegle
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273. Norman Miller
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276. Shirley A. Challingsworth, Stillwater, PA
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288. Timothy Haring
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303. Larry Anderson

304. Orie and Beverly Hawkes, Mainesburg, PA
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310. Mary Lauffenburger
311. Wayne Dobson, Douglassville, PA
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315. Donald Sintic, Clarks Summit, PA
316. David Fink
317. John Carmen
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322. Senator Mary Jo White, Harrisburg, PA; 21st District, Franklin, PA
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330. Tabitha Barshinger, Shinglehouse, PA
331. Kenneth E. Miller
332. Tina and Troy Everett, New Tripoli, PA
333. Benn Gehman, Knoxville, PA
334. Jason Gehman
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337. Grant Gehman
338. Mark Marukus, Ridgway, PA
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342. Perry S. Swanson
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345. Joyce Weaver, Columbia Crossroads, PA
346. Calvin Cobb
347. Mitchell Goldwater, Tioga County, PA
348. Dennis M. Porter, Williamsport, PA
349. Will Novitske
350. Francis and Kimberly Fischer, Flinton, PA
351. Dawn Persing, Montgomery, PA
352. John J. Walters, Weatherly, PA
353. Larry L. Boyer, Richland, PA
354. F. Beishline, Stillwater, PA
355. Joseph & Deborah McChessney, Williamsburg, PA
356. Georgene Spotts, Antes Fort, PA
357. Larry B. Wright, Canton, PA
358. Marvin Roberts, Coudersport, PA
359. Eric and Debra Sindlinger, Osceola, PA
360. Dennis J. Barner, Cross Fork, PA
361. Joyce Ashley, Cross Fork, PA
362. Natalie Koppenhaver, Hegins, PA
363. Harry Huntsinger, Valley View, PA
364. Michael Koppenhaver, Hegins, PA
365. F. Wayne Koppenhaver, Hegins, PA
366. Karen Koppenhaver, Hegins, PA
367. Robert Tomko, Bangor, PA
368. Peter and Gail Korszniak, Red Hill, PA
369. Dale E. Smeltz, Mt. Pleasant M, PA
370. James E. Stettler, Manheim, PA
371. Brant W. Woodhouse, Cross Fork, PA
372. Charles W. Woodhouse, Cross Fork, PA
373. Elvin and Darlene Zimmerman, Mifflintown, PA
374. Gerald Hassenplug, Mifflinburg, PA
375. Dana Hartley, Fairview, PA
376. Barry and Korri Walker, Central City, PA
377. James E. Edinger, Saylorburg, PA
378. H.D. Swisher, Bunola, PA
379. Troy DeHavon, Brodheadsville, PA
380. Robert Dzadony, Jackson Ctr., PA
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387. Glenn Thomas, Grindstone, PA
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389. Brian Walters, Weatherly, PA
390. Kendra Murphy, North Wales, PA
391. Madalene and Thomas, Wellsboro, PA
392. Donald Wales, Millerton, PA
393. William Burton, Harrison Valley, PA
394. Florence Mudie, Wellsboro, PA
395. Richard Steich, Pitman, PA
396. Henry Abma, Troy, PA
397. Lee Mellott, Warfordsburg, PA
398. James Nye, Fairfield, PA
399. Rep. Matthew E. Baker, Harrisburg, PA; 68th District, Wellsboro, PA

400. Angela Barentine, Coudersport, PA
401. Lew Shreckengast, Avis, PA
402. Ronald J. Moss, Wellsboro, PA
403. Tina Huntington, Westfield, PA
404. Michelle Barkley, Rochester, PA
405. Brian Wettlaufer, Dushore, PA
406. Mtn View Hardwoods Timber Mgmt Svcs, Equinunk, PA
407. Carl Buehring, Moscow, PA
408. James A. Neitz, Northumberland, PA
409. The Borders Family
410. Reynold and Caroline Lackey, Tunkhannock, PA
411. Martin and Jeanette Clouse, Martinsburg, PA
412. Marlin Harnish, Stevens, PA
413. Hyde Berkstresser, Wood, PA
414. Dean Seighman, Connellsville, PA
415. Larry Alvord, Dalmatia, PA
416. Donald Kriner, Lawrenceville, PA
417. Betty Wagner, Loganton, PA
418. Steve Filipowski, Oil City, PA
419. Leroy Yoder, Mifflintown, PA
420. Andrew T. York, Shamokin, PA
421. Timothy Hampton, Muncy, PA
422. Kit Pascarella, Tibioutte, PA
423. Brian Swanson, Sheffield, PA
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425. Joe and Cheryl Helsley, Erie, PA
426. Justin Edwards, Lewistown, PA
427. Bill Hillman, Kane, PA
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431. George Manatakis, Cresco, PA
432. Eugene and Veronica Miller, New Derry, PA
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465. Savidge Farms–Autumn Adventure, Mertztown, PA
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487. Dalmatia, PA
488. Edgar B. Burris, Tidioute, PA
489. Samuel C. Boyle, Waterford, PA
490. Kevin and Karen Fenstermacker, Montoursville, PA
491. (Name Unknown)
492. Charles Young, Hughesville, PA
493. Karal Taft
494. Jon A. Federovich, Pottsville, PA
495. Rahn Maurer, Hegins, PA
496. Jack Insinger, Dushore, PA
497. Brandon and Sara Flynn, Lakewood, PA

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500. Alan Edmiston, McClure, PA
501. Roger Wintersteen, Danville, PA
502. Craig Zerby, Blain, PA
503. (Name Illegible)
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505. Monica Deena, Muncy, PA
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508. Karen Bollinger, Palmerton, PA
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516. Keith Daugherty, Brogue, PA
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519. Stacey Clark, New Cumberland, PA
520. (Name Illegible)
521. Lou Nemer
522. Richard Getz
523. Mark Yetter, Bangor, PA
524. David Sincavage, Blakeslee, PA
525. William Dennis, Corry, PA
526. Mark Huth, Tionesta, PA
527. Wesley Rector
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531. Joe Insinger, Dushore, PA
532. Daniel and Suzanne Dunmire, McVeytown, PA
533. Scott Vandine, Muncy Valley, PA
534. Greg Vandine, Picture Rocks, PA
535. Kathleen Vandine, Muncy Valley, PA
536. Marcia Martin, Granville Summit, PA
537. Chris Armstrong, Galeton, PA
538. James C. Moist, Beavertown, PA
539. Kellie Succowich, Galeton, PA
540. Dana Halle, Roulette, PA
541. Todd and Heike Mills, Claysville, PA
542. Matthew Leidtke, Kintnersville, PA
543. Doug and Erin Megonnell
544. Gordon L. Bonney, Butler, PA
545. David Will, Erie, PA
546. Rick and Darla Blystone, Apollo, PA
547. Jason Reitz, Bedford, PA
548. (Name Illegible)
549. Jerry Vandine, Muncy Valley, PA
550. Arlita Feldbauer, St. Marys, PA
551. Jordan Schmader, Sheffield, PA
552. James Succowich, Galeton, PA
553. William Walters, Monongahela, PA
554. Joe Wanderlich, Genesee, PA
555. Nancy Imgrund, Lewisburg, PA
556. Ralph Daugherty, Brogue, PA
557. Robert and Becky Helpler, Conneautville, PA
558. Eric Imgrund, Lewisburg, PA
559. RESERVED
560. RESERVED
561. John W. Shaner, Unityville, PA
562. RESERVED
563. Rodney Parks
564. Tyson E. Manning, McClure, PA
565. (Name Illegible)
566. Keith Hauger, Stahlstown, PA
567. Richard Marcheleovich, Greensbury, PA
568. Chris J. Magoc, Erie, PA
569. Allan Carson, Kane, PA
570. Jay T. Fisher, Austin, PA
571. Michael Luciano, Bradford, PA
572. Walter M. Spichiger, North East, PA
573. Robert Evans, Hellam, PA
574. Dale Esbin, Cresco, PA
575. Milton and Debra Smith, Lehighton, PA
576. James I. Smoker, Genesee, PA
577. Jeffrey Drescher, Hawley, PA
578. James Short
579. Thomas Wakefield, Blairs Mills, PA
580. Jay Burkholder, Danville, PA
581. Kristin M. Haring, Mertztown, PA
582. Timothy Haring, Mertztown, PA
583. Thurston M. Manchester, Harrisburg, PA
584. Glenn Falls, Gettysburg, PA
585. Dan Twaroski, Wattsburg, PA
586. Jack E. Adams
587. Dave Swanson, Kane, PA
588. Galen Musselman, Bedford, PA
589. David L. Flick, Somerset, PA
590. Jeremy Hudson, Tidioute, PA
591. Carl Wentworth
592. Louis Karija, Austin, PA
593. Traci Lower, Gettysburg, PA
594. Dennis Kuhn, Fairhope, PA
595. Stephen and Victoria Roe, Hallstead, PA
596. Dave Mikula, North East, PA
597. RESERVED
598. John W. Schwanke, Russell, PA

599. Glenn Shrom
600. Thomas and Brenda Fitch, Rew, PA
601. Teresa Livingston, Lehighton, PA
602. RESERVED
603. Greg Henton, Bradford, PA
604. Bob and Jan Bird, Gillett, PA
605. John S. Kovac, Nazareth, PA
606. Susan Lerch, Smethport, PA
607. Jack and Bessie Patterson
608. Christopher L. Lawrence
609. Daniel G. Brackbill
610. Darrell Ruth
611. Melissa M. Pentz, Renovo, PA
612. James Yannaccone, Turbotville, PA
613. Terry Martin, Cresco, PA
614. Charles Brackman, Granville Summit, PA
615. Glen and Cindy Hulings, James City, PA
616. Robert Senick, Hazleton, PA
617. James M. Snyder, Spring Glen, PA
618. Mark Urner
619. Herbert Rinkel, Milford, PA
620. William L. Ferrick, McKean, PA
621. Stanley Kotala, Altoona, PA
622. Chris Bourne, Spruce Creek, PA
623. Lori Weber, Halifax, PA
624. David W. Miller, Halifax, PA
625. Dan Ames, Mifflintown, PA
626. L G. Camping
627. James Hall
628. Brian Hollern
629. Stephen Hartle, Oil City, PA
630. Autumn Timko, Monongahela, PA
631. Chad Tarr, Oil City, PA
632. Samantha Swartz, Waynesburg, PA
633. Lawrence Kraft, Seven Valleys, PA
634. Raymond J. Roccon, Harmony, PA
635. John Rieg, Eighty Four, PA
636. Rod Shyda, Wernersville, PA
637. David N. Yoder, Allensville, PA
638. Christopher Lent
639. Kathy Brown
640. Jeremiah Hain, Fleetwood, PA
641. Melanie Sibley, Elizabeth, PA
642. Neil Hollabaugh
643. Scott Sanfort, Towanda, PA
644. Jerry Lauver, Mifflintown, PA
645. Richard
646. Richard
647. Lori Meth
648. Jack Insinger, Dushore, PA
649. Jack Insinger, Dushore, PA
650. Chris Insinger, New Albany, PA
651. Louis
652. Richard, Lehighton, PA
653. Marha J. Showman, Waterford, PA
654. Steven Ritchey, Martinsburg, PA
655. Richard Croner
656. Troy A. Everett, New Pripoli, PA
657. RESERVED
658. Louis Stouder
659. Harold and Holly Dauer, Leeper, PA
660. Roman Satlizahn, Fredericksburg, PA
661. RESERVED
662. Jeff Vogels, Kempton, PA
663. Robert Hoover, Spring Glen, PA
664. Frank Schneck, Pine Grove, PA
665. Terry Taylor, Trout Run, PA
666. Anna Cleveland
667. Pat A. Colarusso, Andreas, PA
668. John Pavela
669. Ronald C. Allison, Chambersburg, PA
670. Marianne H. Lundy, Williamsport, PA
671. Julie and Thomas Bryner, Mifflintown, PA
672. Craig A. Brashear, Green Park, PA
673. Flint W. Harlacker, East Berlin, PA
674. Raymond E. Winter, Cogan Station, PA
675. Scott Sandfort, Towanda, PA
676. RESERVED
677. Timothy M. Shaw, Fairfield, PA
678. John O. Nevil, Benton, PA
679. James and Donna Roemer, Hartstown, PA
680. Douglas A. Kasper, Murrysville, PA
681. Donald Wingard, St. Mary's, PA
682. Donald Wingard, St. Mary's, PA
683. Robert E. Heatley, Roaring Branch, PA
684. Nancy C. Myers, Bartonsville, PA
685. Robert E. Weber, Coudersport, PA
686. James and Sylvia Robertson, Gillet, PA
687. Henry Myers, Nelson, PA
688. Gerard W. Houp, Oley, PA
689. Jerry Hoffman
690. Walter R. Smeltz, Lykens, PA
691. James H. Burkholder
692. Donald E. Kreider, Elizabethtown, PA
693. John Jarmoski, Morgantown, PA
694. Michael D. DuBois, Equinunk, PA
695. Marvin Helfrich, Lehighton, PA
696. Brian E., Kunkletown, PA
697. Joseph Mesler, Shinglehouse, PA
698. Jack S. Keafer, Austin, PA
699. Robert Uguccini, Canadensis, PA
700. RESERVED
701. Earl Leinbach, Selinsgrove, PA

702. Barry Eckelbarger, Emlenton, PA
703. M. Dale Kerr, Punxsutawney, PA
704. Jay E. Weaver, New Holland, PA
705. Larue E. Hall, Montoursville, PA
706. Raymond Snyder, Mt. Pleasant Mills, PA
707. David and Ellen M. Moon, Westfield, PA
708. Timothy J. Wolfe, Pine Grove, PA
709. Jerry E. Auber, McAllisterville, PA
710. Norma W. Shearer, Halifax, PA
711. Richard Kern, Stoystown, PA
712. William J. Wingard, Saint Marys, PA
713. Jason A. Barner, Kane, PA
714. Susan Himes, Union City, PA
715. Jeff Bluesdell
716. Robert M. Leskanic, Albion, PA
717. Wilbur Stacknick, Nicholson, PA
718. Robert J. Tritsch, Sellersville, PA
719. Robert W. DeCroo, Fayette City, PA
720. Walter D. Sutton, Laceysville, PA
721. Nick and DeAnne Bergstrom, Benton, PA
722. Robert J. Newman
723. RESERVED
724. Leonard Steigerwalt, Walnutport, PA
725. Robert Dubs, Gettysburg, PA
726. Stanley Swash, Austin, PA
727. Robert W. DeCroo, Fayette City, PA
728. Gary Laucks, Myerstown, PA
729. B & M Sweeney, Oil City, PA
730. Spiering, Leechburg, PA
731. Tammy Bercaudo, Leechburg, PA
732. S & L Portale, Carlisle, PA
733. Dorman Long, Sweet Valley, PA
734. Lozette Apgar, Sweet Valley, PA
735. James E., Sweet Valley, PA
736. James M. May, Sweet Valley, PA
737. E. Miller, Weatherly, PA
738. Arthur E. Gardner, Meshoppen, PA
739. Michael Phelan, Locustdale, PA
740. Tim Copus, Girard, PA
741. Kenneth E. Tuft
742. Jason M. Vegas
743. James A. Walters, Kunkletown, PA
744. Gary Haydt, Palmerton, PA
745. William Fleming, Bangor, PA
746. Edward J. Cass, Union City, PA
747. Clarence Cramer, E Stroudsburg, PA
748. Steve Kimbush, Greenwoth, PA
749. John Albert, Philipsburg, PA
750. Keith A. Flaharty, York, PA
751. Eric Maryott, Monroeton, PA
752. Walter R. Smeltz, Lykens, PA
753. Jason Armstrong, Stoneboro, PA
754. Connelly, Saylorsburg, PA
755. Joe Pulizzi, Williamsport, PA
756. Jeff and Joan Wragg, Mills, PA
757. Phyllis E. Kent, Elkland, PA
758. Michael and Laurie Judd, Harrison Valley, PA
759. No Info Given
760. Glenn Batson, Coudersport, PA
761. Ken & Norma Teats, Russell, PA
762. Gerry & Carmel-Ann Mletzko, Gillett, PA
763. Lloyd Dunbar, Columbia Cross Rds, PA
764. Glenn Shrom, Chartlesville, PA
765. Willard and Gail Sickles, Dalton, PA
766. Craig Jernigan, Lewisburg, PA
767. Edward D. Rea, Franklin, PA
768. Larry A. Kaufman, Halifax, PA
769. LaRue S. VanZile, Mainesburg, PA
770. William Weasner, Kunkletown, PA
771. Earnest and Margaret Christman, Kunkletown, PA
772. Robert Purvis, Evans City, PA
773. Robert Coleman, Susquehanna, PA
774. Douglas P. Kaufman, Halifax, PA
775. David Long, Schuylkill Haven, PA
776. Rodney L. Betz, Pine Grove, PA
777. Gregory L. Cook, Chambersburg, PA
778. Chris Bourne, Spruce Creek, PA
779. Charles H. Brackman, Granville Summit, PA
780. Richard B. Fritz, Friedens, PA
781. Nancie Humes, Union City, PA
782. Kennett Bayle, Sweet Valley, PA
783. Joseph R. Sabaloski, Sweet Valley, PA
784. Roger E. Kishbough, Sweet Valley, PA
785. Rep. Garth D. Everett, Harrisburg, PA; 84th District, Muncy, PA
786. Rep. Scott E. Hutchinson, Harrisburg, PA; 64th District, Oil City, PA
787. Rep. Mark Longietti, Harrisburg, PA; 7th District, Hermitage, PA
788. Senator Elder Vogel, Jr., Harrisburg, PA; 47th District, Rochester, PA
789. Linda McGrath, Shickshinny, PA
790. Thomas W. Gustafson
791. Karen Johnson, Roulette, PA
792. Chuck Latwinski, Montrose, PA
793. Keith Potter, Warfordsburg, PA
794. Marty Kemp, Salisbury, PA
795. Terry Hanselman, Washington, DC
796. Kevin R. Brown, Pine Grove, PA

797. Rebecca Obleski, Austin, PA
798. Diane Weeks
799. Dewayne C. Cunningham, Cochranton, PA
800. Richard W. Albaugh, Meadville, PA
801. Daniel Wert
802. Paul Ehrgott, Meadville, PA
803. Roger Soldano, Pleasant Lake, MI
804. Josh Hart
805. Lori Klinger, Hegins, PA
806. Barry Peters
807. Corey L. Norris, Berlin, PA
808. Anthony Olseski, Coatesville, PA
809. Joseph G. Eglesia, Spring Brook Twp., PA
810. Mary Ann Kriner, Reynoldsville, PA
811. William Colton, Wellsboro, PA
812. Maryfrances Dobron
813. Tim Clouser
814. Gary Zack, Mountain Top, PA
815. Chad Martin, Hanover, PA
816. Gene Carpenter, New Milford, PA
817. Adam Wieckowski, Jim Thorpe, PA
818. Bruce Baver
819. Frank Maletto, Wilcox, PA
820. Allen Branthafer, Mapleton Depot, PA
821. Charles S. McMillen, Waynesburg, PA
822. David Gesuale, Export, PA
823. Richard J. Minnick, Robertsdale, PA
824. Dale Musser
825. Craig B. Stine, Schuylkill Haven, PA
826. Robert Craver
827. Alpha Roofing & Heating, Brookville, PA
828. Christie L. Straub, Greenville, PA
829. Heather London, Mayport, PA
830. Brittany Stewart, Brookville, PA
831. Brian Urbanovitch, Mountaintop, PA
832. Tony Presti, Sellersville, PA
833. W. B. Reilly
834. Kimberly Cummins, Etters, PA
835. Tony Olseski
836. Rich Curfman, Roulette, PA
837. David Troutman, Montgomery, PA
838. Linda Moyer, Julian, PA
839. Ed Stevenson, Meadville, PA
840. Samuel Yarger, Allport, PA
841. Bruce Lallier, Conneaut Lake, PA
842. Ron Geer, Brookville, PA
843. Donna Alter
844. Jason Barreca, Bloomsburg, PA
845. Carl H. Meiss, York Haven, PA
846. Joe Zaffuto, Centre Hall, PA
847. Tom McKinney, West Pittsburg, PA
848. Jim Butler, Frenchville, PA
849. Daniel Alward, Franklin, PA
850. Beverlee T. Forster, Danville, PA
851. Susan Tau, Saegertown, PA
852. Albert Root, Jonestown, PA
853. Thomas R. Olliver
854. Levi J. Yoder
855. Joseph M. Kapura, Mammoth, PA
856. Shawn Hostetler, Stoneboro, PA
857. Gerald E. Starks
858. Kevin Kenyon, Coudersport, PA
859. Sue Williams, St. Marys, PA
860. Jason London, Mayport, PA
861. Raymond Evans, New Kensington, PA
862. Peter Simonetta
863. Chester Tau, Springboro, PA
864. George Forcino, Conshohocken, PA
865. RESERVED
866. Kathy Hugo, Forksville, PA
867. dweaver@plucianobuilders.com
868. Mark Graham, Meadville, PA
869. Chris Curtis
870. Steve Charette, Foster, RI
871. Walter Colton, Wellsboro, PA
872. Robert Reed
873. Stephen E. Wacker, Loysville, PA
874. LeRoy A. Warner, Effort, PA
875. Garry Vroman, Macungie, PA
876. Jeanne A. Myers, Starford, PA
877. Ray Carver, Berlin, PA
878. James Dubina, Canonsburg, PA
879. Desiree Dubina, Canonsburg, PA
880. Lisa Reichard, Danville, PA
881. Diana Hoffman
882. Carl Hugo, Forksville, PA
883. John Hewett
884. Dave Maggio, Erie, PA
885. George Anderson, Tunkhannock, PA
886. Kevin Harding, Nescopeck, PA
887. Danny Greendoner
888. Reacelyn Quinn, Pennsville, NJ
889. George White, Lehighton, PA
890. Rhode Islanders for Clean Air
891. Eric Peters, Waterford, PA
892. Steve Jones, Mechanicsburg, PA
893. Todd Jones
894. Christine J. Greig, Linesville, PA
895. David Acker

896. Gloria Kerr, Punxsutawney, PA
897. John Price, Saylorsburg, PA
898. Andrew Smith, Mercersburg, PA
899. Mark Hottel, Kane, PA
900. Gregory Edmiston, Erie, PA
901. Terry Payne, Nescopeck, PA
902. David Sverduk, Lake Ariel, PA
903. Gary Radzinski
904. Gregory Fenno, Corry, PA
905. John Bradley, Shinglehouse, PA
906. John Hoch, Transfer, PA
907. James Fitzpatrick, Wellsboro, PA
908. Susan Chandler, Glen Mills, PA
909. Samuel F. Weidner, Friedens, PA
910. Deborah Putman, Lake Ariel, PA
911. Scott Robinson
912. Ronni J. Shick, Sligo, PA
913. Bonnie B. Bradish
914. Tim Focklet, Six Mile Run, PA
915. Keith Yorks, New Cumberland, PA
916. John Lichak, Nassau, NY
917. Timothy Mock, Davidsville, PA
918. Jeffrey Kuhns, Middleburg, PA
919. Larry Boorech, Knox, PA
920. Victoria Valentine
921. Stacey Sayers, Meadville, PA
922. Scott Bittner, Somerset, PA
923. Joel C. Myers, Spring Mills, PA
924. Michael C. Witmer
925. Michael R. Wilson
926. William Pyle
927. William Polley, Lake Ariel, PA
928. Roseann Polley, Lake Ariel, PA
929. Nicole Polley, Lake Ariel, PA
930. Virginia Hemmler, Moscow, PA
931. Gayle Hemmler, Moscow, PA
932. Rosemary Bezy, Monongahela, PA
933. Carolyn Taylor, Brandon, VT
934. Linda Pacheco, Stroudsburg, PA
935. Jerry Mizanty, Eynon, PA
936. Ronald Gaskey, Greensburg, PA
937. Linda McGrath, Shickshinny, PA
938. Daniel Mosteller, New Ringgold, PA
939. Maurice L. Connor, Kempton, PA
940. Wayne Shuman, Bloomsburg, PA
941. Myrl Kibbe, Trout Run, PA
942. Bruce C. Lambert, Bath, PA
943. Warren M. Fenstermacher, Muncy, PA
944. David E. Hagan, West Alexander, PA
945. Senator Robert D. Robbins, Harrisburg, PA; 50th District, Greenville, PA
946. Kurt Malmberg, Boyertown, PA
947. Don Schrock, Meyersdale, PA
948. Jeff Drescher, Hawley, PA
949. S.W.
950. Jim Ritter, Jefferson Twp., PA
951. John D. Herr, Catawissa, PA
952. Virginia Boling, Grove City, PA
953. Jeffrey D. Boling, Grove City, PA
954. Ronald Walker, Reynoldsville, PA
955. Lee Williams, Corry, PA
956. John Lehman, Harrison Valley, PA
957. William R. Payne, Blossburg, PA
958. William R. Arkwright, Cranesville, PA
959. Malcolm Ballard, Towanda, PA
960. Scott Brewer, Coudersport, PA
961. Barry E. Mann, Troy, PA
962. Randy Sickler, Coudersport, PA
963. Thomas M. Roy, Lewisberry, PA
964. Mark A. DeLong, Milton, PA
965. Harry L. Rebuck, Herndon, PA
966. Michael R. Nemshick, Hazleton, PA
967. David Wright, New Tripoli, PA
968. Debbie Anuszowski, Mohnton, PA
969. Robert Williamson, New Castle, PA
970. Larry Drake, Factoryville, PA
971. Leonard Steigerwalt, Walnutport, PA
972. Barbara A. Hosgood, Lansdale, PA
973. Barry L. Hosgood, Lansdale, PA
974. Robert J. Russ, Erie, PA
975. Michelle Russ, Erie, PA
976. Ron Russ, Erie, PA
977. Marvin Neff, North East, PA
978. Dann H. Thompson, Genesee, PA
979. Alice M. Laskaris, Claysburg, PA
980. David Swanson, Kane, PA
981. Ronald Whitney, Sugar Grove, PA
982. Michael Stimmell, Tionesta, PA
983. (Name Illegible)
984. Paul Padula, Henryville, PA
985. Klaus D. Gessat, Summit Hill, PA
986. Rep. Gary Haluska, Harrisburg, PA
987. Rep. Dick L. Hess, Harrisburg, PA; 78th District, Bedford, PA
988. Walter T. McPeak, Harrisburg, PA
989. (Name Illegible)
990. W. Kinsman, Honesdale, PA
991. Marilyn Baker, Milton, PA
992. Richard A. Wilson, Wyalusing, PA
993. James Hall, Edinboro, PA
994. Dana N. Whitman, Cooperstown, PA
995. Misty Meadows Cabinetree, Inc., Littlestown, PA
996. Timothy Wachob, Wilcox, PA
997. D. Armstrong, Stoneboro, PA
998. Terry C. Zeigler, Landisburg, PA

999. Rodney Shyda, Wernersville, PA
1000. Matthew Mitchell, Lanse, PA
1001. Clayton Merrill, Montoursville, PA
1002. William L. Emick, Williamsport, PA
1003. Loren Martin, Harrison Valley, PA
1004. Lori Parker, Millville, PA
1005. Harold Wise, Everett, PA
1006. Robert B. Nafey, Honesdale, PA
1007. (Name Illegible)
1008. Gary Huff, Sugarloaf, PA
1009. Warren W. Walborn, Shelby, MI
1010. J. Dennis Grube, Meyersdale, PA
1011. Pauline Koch, Petersburg, PA
1012. Ron Johnson, Tioga, PA
1013. Karl K. Swanson, Kane, PA
1014. Harry Rawluk, Pennsburg, PA
1015. Steve Miller
1016. Francisco Gil, Huntingdon Valley, PA
1017. Jason Hanna, Warrington, PA
1018. Jim Swartley
1019. Carl Lehman
1020. David G. Zavetsky, Wellsboro, PA
1021. Sheldon Piepenburg, Bradley Junction, PA
1022. Troy D. Jochems, Pottsville, PA
1023. Daniel Munch, East Stroudsburg, PA
1024. Rex Huffman, Carmichaels, PA
1025. Jennifer Lee, Wexford, PA
1026. Marilyn Brody
1027. Mark Storms
1028. Lanny E. Dickinson, Rew, PA
1029. Andrew Robbins, Bloomsburg, PA
1030. Harold Kemmerer, Saylorsburg, PA
1031. Wyatt Shipwash, Lehighton, PA
1032. Nathan Smith, Portage, PA
1033. Malcolm Baccus, Columbus, PA
1034. Eugene Lamparter, Dover, PA
1035. Lorri A. Amos, Wind Ridge, PA
1036. Rodney E. Scherich, Wind Ridge, PA
1037. RESERVED
1038. Raymond Martin, Lewistown, PA
1039. Randy M. Johnson, Spring Mills, PA
1040. Jacob Eppley, Lewisberry, PA
1041. Kevin H. Rider, Spring Mills, PA
1042. David C. Kohr, Pine Grove, PA
1043. Linda Dunbar, Columbia Cross Rs., PA
1044. Boyd A. Musser, Spring Mills, PA
1045. Christopher J. Cole, Centre Hall, PA
1046. Kenneth C. Wallace, Westfield, PA
1047. Charles H. Foust, Spring Mills, PA
1048. Robert Porter, Tioga, PA
1049. Bob Bernhardy, Wellsboro, PA
1050. Todd J. Stitzer, Spring Mills, PA
1051. David Nelson, Erie, PA
1052. Donald Schwenk, Waterford, PA
1053. Sue A. Kreamer, Troxelville, PA
1054. Christopher Fedei, Girard, PA
1055. Tammy J. Wyland, Williamsburg, PA
1056. Jeremy Hann, Needmore, PA
1057. Rick Vonada, Mifflinburg, PA
1058. name not given
1059. Shawn M. Graham, Morris, PA
1060. Robert A. Wagner, Beaver Springs, PA
1061. Robert Creasy, Mifflinburg, PA
1062. Robert Bonser, Saylorsburg, PA
1063. Charles E. Mills, Dimock, PA
1064. Judith Koza, Kane, PA
1065. (Name Illegible)
1066. Mark J. Kuhns, Northampton, PA
1067. Irvan Brown, Coudersport, PA
1068. R. Paul Emerson, Westfield, PA
1069. Scott W. Schreffler, Emlenton, PA
1070. PSATS - Elam M. Herr, Enola, PA
1071. John Ackerly, Takoma Park, MD
1072. Russell Heiges, Dillsburg, PA
1073. James D. Fellenz, Slippery Rock, PA
1074. Shane Williams, Wilcox, PA
1075. Rodney McFarland, Lehighton, PA
1076. Steven Hill, Lehighton, PA
1077. Frederick Kibbe, Trout Run, PA
1078. Renae Metz, Schuylkill Haven, PA
1079. Daniel E. Haring, Dillsburg, PA
1080. Brian Vonada, Aaronsburg, PA
1081. Helena D. Kotala, Altoona, PA
1082. John Venuto, Lehighton, PA
1083. Lyle Riegel, Kempton, PA
1084. Beverly Riegel, Kempton, PA
1085. Steven Eisenharf, Kempton, PA
1086. Gary Schweppenheiser, Nicholson, PA
1087. William H. Buselli, Beach Lake, PA
1088. Matthew Holevinski, Moscow, PA
1089. Harold Hoffman, Kunkletown, PA
1090. Duane M. Harer, Rebersburg, PA
1091. Steve MacElhaney, Hillsgrove, PA
1092. Kathi Eager, Westport, PA
1093. Albert L. Phillips, Millville, PA
1094. Dan Mosteller, New Ringgold, PA
1095. Russell I. Lynch, Susquehanna, PA
1096. Cord C. Meyer, Tyler Hill, PA
1097. John Farrell, Erie, PA
1098. Ronald Weller, Macungie, PA
1099. Millard L. Hall, New Milford, PA
1100. Dwight E. Schoener, Tamaqua, PA
1101. Allan T. Bullard, Waynesburg, PA
1102. RESERVED
1103. Donald L. Beamer, Biglerville, PA

1104. Ruth C. Miller, Williamsport, PA
1105. Dave Gadley, Lucinda, PA
1106. George Wilson, Mt. Jewett, PA
1107. Ron Mattern, Gratz, PA
1108. Arlen Payne, Nescopeck, PA
1109. Donna J. Shankle, Shelocta, PA
1110. Gregory S. Bowser, Ford City, PA
1111. Thomas Koza, Jamestown, PA
1112. (Name Illegible)
1113. Craig Herrold, Julian, PA
1114. Raymond E. Scrivener, Sayre, PA
1115. Shane P. Keller, Quakertown, PA
1116. John Hendricks, McVeytown, PA
1117. Dwayne K., Pine Grove, PA
1118. Carlton Michaels, Nazareth, PA
1119. Charles Eck, Danville, PA
1120. Richard Moser, Watsontown, PA
1121. Bryan Wickard, Carlisle, PA
1122. Donna K. Mattive, Penns Creek, PA
1123. Terrance T. Mattive, Penns Creek, PA
1124. Jennifer Mattive, Penns Creek, PA
1125. T.T. Mattive, Penns Creek, PA
1126. G. Elvin Schmeltz, Klingerstown, PA
1127. Allen, Altoona, PA
1128. Robert W. Lytle, Girard, PA
1129. Walter D. Colton, Wellsboro, PA
1130. Thomas E. Watson, Howard, PA
1131. Charles R. Byler, Russell, PA
1132. Stephen T. Phoenix, Mill Hall, PA
1133. Paul J. Hoffman, Sugar Run, PA
1134. Michelle Radigan, Shinglehouse, PA
1135. Ronald, Spring Mills, PA
1136. Richard C. Potter, LeRaysville, PA
1137. Leon Etzweiler, Halifax, PA
1138. William Crust, Lamar, PA
1139. Julia M. Amsler, Clarion, PA
1140. Shawn Weaver, Bellefonte, PA
1141. John Hewett
1142. M. Raidline, Bethlehem, PA
1143. Jean Colyer
1144. Mark Schell, Mt. Pleasant Mills, PA
1145. Clayton S. Smith, Aspers, PA
1146. Ann Serfass, Wernersville, PA
1147. John R. Rhine, Ickesburg, PA
1148. Sandra L. Rodriguez, Pine Grove, PA
1149. David C. Zimmerman, Bellefonte, PA
1150. Richard Pennesi, Latrobe, PA
1151. Clyde Hottel, Kane, PA
1152. Mark D. Schrock, Somerset, PA
1153. Robert L. Prah, Dawson, PA
1154. David E. Zerby, Bellefonte, PA
1155. Mike Bodle, Julian, PA
1156. Grace D. Osborne, Galeton, PA
1157. Richard L. Trutt, Lewisburg, PA
1158. Harold E. Fetterman, Sunbury, PA
1159. Steven Hanselman, Mifflinburg, PA
1160. Fred Bair, Littlestown, PA
1161. Eric Leiby, Tamaqua, PA
1162. M. Gross, York Haven, PA
1163. F. T. McDermott, Meadville, PA
1164. Thomas Evans, Canton, PA
1165. Perry Kline, Perkiomenville, PA
1166. Timothy Shoemaker, Millmont, PA
1167. James Shallenberger
1168. Teresa Haines, Mifflinburg, PA
1169. Charles Simonetti, McClure, PA
1170. Glenn E. Hanselman, Mifflinburg, PA
1171. Cliff Simonetti
1172. Gary Heimbach
1173. Kenneth L. Heimbach
1174. Tammy Shallenberger
1175. Merrill H. Heimbach
1176. Brian L. Haines, Mifflinburg, PA
1177. Joseph G. Eglesia, Spring Brook Twp., PA
1178. Russell D. Snyder, Everett, PA
1179. Robert B. Yerger, East Greenville, PA
1180. Bruce Blackman, Emmaus, PA
1181. James R. Hess, McClure, PA
1182. Joshua R. Renninger, McClure, PA
1183. Jason R. Renninger
1184. Daniel F. Lukens
1185. Gordon Renninger
1186. Robert J. Carr, Franklin, PA
1187. John H. Goss, Lewistown, PA
1188. Michael J. Goss, Lewistown, PA
1189. George A. Goss, Lewistown, PA
1190. Daniel A. Aitkins
1191. William McMath, Shirleysburg, PA
1192. Raydean G. Lamparter, Dover, PA
1193. Ralph D. Snyder, Everett, PA
1194. Michael Howell, Port Matilda, PA
1195. RESERVED
1196. Donald B. Book, Slippery Rock, PA
1197. Fred Bair, Littlestown, PA
1198. Carla J. Smith, Stoystown, PA
1199. Edward D. Gately, Starlight, PA
1200. James E. Butler, Frenchville, PA
1201. Larry L. Goss
1202. Darvin Renninger, McClure, PA
1203. Scott W. Bobb, Dornsife, PA
1204. Jay Lowrey, Oil City, PA
1205. Ralph Dietch
1206. Dave Grove, Pleasant Gap, PA
1207. Adam Coursen, Spring Mills, PA
1208. Jessica Allen, Spring Mills, PA

1209. Jared Allen, Spring Mills, PA
1210. Mel Weaver, Denver, PA
1211. Curtis Heverly, Howard, PA
1212. Emery Watson, Howard, PA
1213. Raymond C. Kizina
1214. Eugene T. Preslovich, Snowshoe, PA
1215. Kevin A. Benner, Spring Mills, PA
1216. Steven Long, Aaronsburg, PA
1217. Dale G. Musser, Spring Mills, PA
1218. Frank Nolan, Bellefonte, PA
1219. Thomas C. Smith, Centre Hall, PA
1220. Joseph M. Cavanaugh, Bellefonte, PA
1221. Joshua M. Hart, Aaronsburg, PA
1222. Richard Stine, Howard, PA
1223. Jonathan C. Balban, Spring Mills, PA
1224. Paul Theuret, Pittsfield, PA
1225. Ellen Jones, Shinglehouse, PA
1226. Daniel Jones, West Alexander, PA
1227. David Diehl, Breezewood, PA
1228. Vora Cole, Saegertown, PA
1229. Danny Twaroski, Wattsburg, PA
1230. Walter Renninger, McClure, PA
1231. Paul Monismith, Carlisle, PA
1232. John Paul Yoder, Port Royal, PA
1233. Richard Schaeffer, Pine Grove, PA
1234. Richard L. Schenck, Mill Hall, PA
1235. Jeffrey C.
1236. Julia S. Bickel, Hamburg, PA
1237. Carl Bickel, Hamburg, PA
1238. Dean Fenno, Corry, PA
1239. Dale M. Blair, Waterford, PA
1240. Jeffrey S. Walter, Middleburg, PA
1241. George E. Hayes, Loganton, PA
1242. James M. Griffin, Vanderbilt, PA
1243. Richard E. Mitchell, Mifflinburg, PA
1244. John Hufnagle, Lewisburg, PA
1245. Carl H. Brown, Lewisburg, PA
1246. Kenneth V. Stauffer, Mt. Pleasant Mills, PA
1247. Robert Gee, Jr., Osceola, PA
1248. Mary J. Walters, Osceola, PA
1249. Robert D. Gee, Sr., Osceola, PA
1250. Donald L. Criswell, Mifflinburg, PA
1251. Donald M. Wetzel, Mifflinburg, PA
1252. C. S. Gardner
1253. Kenneth Musser
1254. Michael L. Wilt, Middleburg, PA
1255. Jeffrey N. McElroy, Galeton, PA
1256. E. Vernon Stauffer, Mt. Pleasant Mills, PA
1257. Clarence E. Halterman, E. Stroudsburg, PA
1258. Matthew M. Bowser, Meadville, PA
1259. Paul J. Krom, Spring Mills, PA
1260. Aaron Smith, Centre Hall, PA
1261. Carl R. Holler, Manns Choice, PA
1262. Perry McCaleb, Loganton, PA
1263. John H. Lehman, Harrison Valley, PA
1264. Alvin Yoder, Howard, PA
1265. Raymond Rossman, McClure, PA
1266. Brian Steffen, Lewistown, PA
1267. David Jucewicz, Hellertown, PA
1268. Terry L. Allen, Spring Mills, PA
1269. Tina M. Parson, Graysville, PA
1270. Perryopolis, PA
1271. Michael D. Snyder, Mifflinburg, PA
1272. Gerald Starks, Millmont, PA
1273. Elwood Trutt, Mifflinburg, PA
1274. Kenneth L. Haines, Mifflinburg, PA
1275. Carl L. Mace, Sr., Herndon, PA
1276. James B. Gutelius, Northumberland, PA
1277. Thomas R. Olliver, Winfield, PA
1278. John Hanna, Jr., Clarksville, PA
1279. Carrol Tracey, Mechanicsburg, PA
1280. Scott Deitrich, Berrysburg, PA
1281. Wilmer T. Gath, Ruffs Dale, PA
1282. Ronald Manns, Schwenksville, PA
1283. Gerry R. Brown, Conneaut Lake, PA
1284. Michael E. Lindsey, Corry, PA
1285. John A. Habarka, Grove City, PA
1286. Bernice M. Baker, Fairhope, PA
1287. Jeremy Pruskowski, Cochranton, PA
1288. Vonna McQuown, Wilcox, PA
1289. (Name Illegible)
1290. Jacob Tanis, III, Centre Hall, PA
1291. Fred C. Novisher, Galeton, PA
1292. Tom Belinda, Hollidaysburg, PA
1293. John H. Lohr, Mifflinburg, PA
1294. Robert Evans, Hellam, PA
1295. Guy A. Goss, Lewistown, PA
1296. Sierra Bingham, Harrisburg, PA
1297. William Haaf, Kennett Square, PA
1298. Mary T. Legge, Flourtown, PA
1299. Liz Tymkiw, Bryn Mawr, PA
1300. Linda McDermond, Upper Chichester, PA
1301. David Kannerstein, Lafayette Hill, PA
1302. Libby Goldstein, Philadelphia, PA
1303. John Horoschak
1304. Larry Otis, Wyalusing, PA
1305. Jim Green
1306. Rachel Fouse
1307. John Burnham, West Finley, PA
1308. Diane Nipple, Mifflintown, PA
1309. m.ketchem@dejazzd.com

1310. Adam Salyards, Warriors Mark, PA
1311. JR Kellner, Benton, PA
1312. Phil Coachman, Jr., New Wilmington, PA
1313. Steven Hill
1314. Eric L. Wright, Fredericktown, PA
1315. Bill Howell, Parkside, PA
1316. Lawrence R. Holbrook, Jonestown, PA
1317. Jon Nederostek
1318. Scott Flexman, Duke Center, PA
1319. Ellen Krause, East Berlin, PA
1320. Richard Hatcher
1321. Kenneth P. Arey, Jr., Wyalusing, PA
1322. Nathan Stoddard, Sugar Run, PA
1323. Craig M. Skovranko, White Oak, PA
1324. Gail L. Eakin, Parker, PA
1325. Kurt Malmberg, Boyertown, PA
1326. Karen Semencar, Seneca, PA
1327. Randy Ritzman
1328. Dana Van Dusen, Mansfield, PA
1329. John Skrabacz, Waterford, PA
1330. Chris Lewis
1331. Neil A. Bittner, Delta, PA
1332. Jeff Pcola, Friedens, PA
1333. Brian C. Drabert, Roulette, PA
1334. Alex Reis, Pennsdale, PA
1335. David Wallace, Palmyra, PA
1336. Jack Lapek
1337. Bryan Smith, Shunk, PA
1338. Jeff Merriman, Wellsboro, PA
1339. Edward Rea, Jr., Franklin, PA
1340. Walt Fedash, Indiana, PA
1341. Clint Eckley, Jim Thorpe, PA
1342. James O'Neil
1343. Robert C. Thompson, Elkland, PA
1344. David Kasecky, Shermans Dale, PA
1345. Larry J. Boorech, Knox, PA
1346. Barry Lannen
1347. Mary Ann Snyder, Pittsburgh, PA
1348. Gerald Slater, Ulster, PA
1349. Charles E. Mills, Dimock, PA
1350. Christopher Kulbago
1351. Graham M. Feralio, Perkasie, PA
1352. Joshua Kaufman, Confluence, PA
1353. Walter A. Stann, Clarks Summit, PA
1354. RESERVED
1355. Ronald Gee, Elkland, PA
1356. Robert Devaney, Chester Springs, PA
1357. Dean Johnson
1358. David A. Radwanski, Mehoopany, PA
1359. David Philips, Carbondale, PA
1360. Walt Fedash, Indiana, PA
1361. Michael Achter, Gaines, PA
1362. Bruce L. Fenstermaker, Titusville, PA
1363. Larry Melvin
1364. Steven D. Hollabaugh, Biglerville, PA
1365. Robert Morlacci
1366. Tom Kutcher, Meyersdale, PA
1367. Ron Giles, Cochranton, PA
1368. Maurice B. Cobb, Steelton, PA
1369. Senator Joe Scarnati, Harrisburg, PA; 25th District, Warren, PA
1370. Nicholas Wascovich, Moscow, PA
1371. HR Harmon, Bradford, PA
1372. Donald Jackson, Coudersport, PA
1373. Harold O. Kelley, Carmichaels, PA
1374. Rep. Robert W. Godshall, Harrisburg, PA; 53rd District, Hatfield, PA
1375. Harry F. Fox, Sr., Coudersport, PA
1376. Loretta Gallagher
1377. Dwayne Taneyhill, Bellwood, PA
1378. Rep. Carl Walker Metzgar, Harrisburg, PA; 69th District, Somerset, PA
1379. Harlan Lindsay, Turtlepoint, PA
1380. Thomas K. Perkins, Centerville, PA
1381. John N. Mason, Driftwood, PA
1382. Donn G. Fetterolf, Aaronsburg, PA
1383. John Wilkinson, Athins, PA
1384. (Name Illegible)
1385. Jill L. Thompson, Kane, PA
1386. William Orton, Corry, PA
1387. (Name Illegible)
1388. William Sisk, Lakeville, PA
1389. Dwight W. Runkle, Mifflinburg, PA
1390. Mark Keister, Mifflinburg, PA
1391. William D. Domblisky, Philipsburg, PA
1392. Park Rapp, Coudersport, PA
1393. David Schoolmaster, Kane, PA
1394. John Brody, Tunkhannock, PA
1395. Paul D. Haynes, Emporium, PA
1396. (Name Illegible)
1397. Zane Zirkle, Warfordsburg, PA
1398. Tim Pearce, Pittsburgh, PA
1399. Brenda Kluhsman, Shermans Dale, PA
1400. Wayne Almond, Morrisville, PA
1401. Mark Germer, Havertown, PA
1402. Roger Horn, Clarion, PA
1403. John Butler, Broomall, PA
1404. Priscilla Mattison, Bryn Mawr, PA
1405. Mike McClurkin, Mechanicsburg, PA
1406. Josh Hooper, Camp Hill, PA
1407. Dina Grasso, Philadelphia, PA
1408. Tom Bale, Elkins Park, PA
1409. Walter Scott, Rydal, PA
1410. Randi Lorah, Mechanicsburg, PA
1411. David Byman, Clarks Summit, PA

1412. Beth Dzwil, Wyndmoor, PA
1413. Phil Starr, Lancaster, PA
1414. Jon Brams, Exton, PA
1415. Nancy Levine-Arnold, Pittsburgh, PA
1416. Steven Kokol, Wallingford, PA
1417. Kimberly Koenig, Pittsburgh, PA
1418. Charles Forsythe, Perkiomenville, PA
1419. Lyn Sokol, Pittsburgh, PA
1420. Richard Whiteford, Downingtown, PA
1421. Jacob Agran, Philadelphia, PA
1422. Andrew Lavine, Philadelphia, PA
1423. Miriam Parson, Pittsburgh, PA
1424. Charles Alcorn, Pittsburgh, PA
1425. Frances Hoenigswald, Philadelphia, PA
1426. Dale Hair, Dillsburg, PA
1427. William Stegman, Harrisburg, PA
1428. Jill Gleeson, Philipsburg, PA
1429. Michael Craig, Hummelstown, PA
1430. Tamara Kulesa, Havertown, PA
1431. Heather Gustafson, Collegeville, PA
1432. Suzanne Adams, West Chester, PA
1433. Joyce Crowley, Morton, PA
1434. Melissa Hance, Media, PA
1435. G. DeAnnuntis, Philadelphia, PA
1436. Mark Graham, Downingtown, PA
1437. Bethany Cortale, Dublin, PA
1438. Wilson Bear, Austin, PA
1439. Peter Luborsky, Kimberton, PA
1440. John Jones, Pittsburgh, PA
1441. Robyn Young, Upper Chichester, PA
1442. Dennis Coffman, Harrisburg, PA
1443. Anthony Capobianco, Bethel Park, PA
1444. Denys Candy, Pittsburgh, PA
1445. Gail Neustadt, Presto, PA
1446. N. Mulligan, Philadelphia, PA
1447. Kelly Riley, Hatfield, PA
1448. James Rooney, Middletown, PA
1449. Heather Fowler, Irwin, PA
1450. Christoph Stannik, Doylestown, PA
1451. John Carricato, Harrisburg, PA
1452. Andrea Likovich, Aston, PA
1453. Perri Druen, York, PA
1454. Kimberly Massare, Philadelphia, PA
1455. Dorene Pasekoff, Phoenixville, PA
1456. Kathy Dilonardo, Philadelphia, PA
1457. Katharine Dodge, Lake Ariel, PA
1458. George Braun, Exton, PA
1459. Ellen Smith, Havertown, PA
1460. Donald Rosenberger, Three Springs, PA
1461. Pamela Zimmerman, Philadelphia, PA
1462. Elizabeth Sterner, York, PA
1463. Marty Eddy, Kutztown, PA
1464. Lynn Glorieux, Pittsburgh, PA
1465. Anna Zornosa, Philadelphia, PA
1466. Lou DeJoseph, Wayne, PA
1467. Kevin Castellan, Media, PA
1468. Frank X. Kleshinski, Jeannette, PA
1469. John McDermott, Uniontown, PA
1470. Patricia Turk, Erie, PA
1471. Lee Bible, Abbottstown, PA
1472. Joan Sage, Philadelphia, PA
1473. Janice Matthews, Duryea, PA
1474. J. Allen Feryok, Monessen, PA
1475. Jennifer Reed, Philadelphia, PA
1476. Zoe Warner, Chesterbrook, PA
1477. Martha Carbone, Shawnee On Delaware, PA
1478. Gerritt Baker-Smith, East Stroudsburg, PA
1479. Virginia Newlin, West Chester, PA
1480. Jeffrey Bedrick, Newtown Square, PA
1481. Ned Coates, Cogan Station, PA
1482. Deidre Halstead, Tobyhanna, PA
1483. Nora Schumacher, Wayne, PA
1484. Trudy Gerlach, Wyalusing, PA
1485. Stanley Budney, Cranberry Twp, PA
1486. Grayfred Gray, Lancaster, PA
1487. David Dunkleberger, Doylestown, PA
1488. Liz Robinson, Philadelphia, PA
1489. Thomas Nelson, Lansdowne, PA
1490. Shawn Van Dyke, Schuylkill Haven, PA
1491. Walter Lee, Altoona, PA
1492. Dave Kimber, Danville, PA
1493. Eileen Conner, Gillett, PA
1494. Stanley Pohlit, Sinking Spring, PA
1495. Robert Havrilla, Pittsburgh, PA
1496. John Herr, East Petersburg, PA
1497. Jennifer Molfetta, Mohnton, PA
1498. Diane Moore, Narberth, PA
1499. William Voigt, Port Matilda, PA
1500. Ray Scheetz, Palmyra, PA
1501. Linda Higgins, Blue Bell, PA
1502. Judith Fordham, Coburn, PA
1503. Robert Mason, Trafford, PA
1504. Kathleen Hornberger, Aston, PA
1505. Thomas Lauver, Middleburg, PA
1506. Greg Navarro, Philadelphia, PA
1507. Lisa Leshinsky, Mars, PA
1508. Dan Wolk, Narberth, PA
1509. Lloyd Goodman, Villanova, PA
1510. Laurie Plank, Hummelstown, PA
1511. Paul Blore, Philadelphia, PA
1512. Ramona Sahni, Pittsburgh, PA
1513. Jennifer Danner, Nazareth, PA

1514. Robert Gaynor, New Hope, PA
1515. David Schogel, Philadelphia, PA
1516. Christopher Parzyck, South Park, PA
1517. Robert Eby, Scottdale, PA
1518. James H. Fitch, Pittsburgh, PA
1519. Todd Underwood, Kutztown, PA
1520. Leonard Hess, Stahlstown, PA
1521. Kenneth Churm, Coopersburg, PA
1522. Bryan Kemper, Melrose Park, PA
1523. Sarah Folk, Camp Hill, PA
1524. Stephen Wood, Media, PA
1525. Anne Mates, Pittsburgh, PA
1526. Caroline Cotugno, Croydon, PA
1527. L. Sieffert, Pittsburgh, PA
1528. David Skellie, Erie, PA
1529. John Dulik, Glenside, PA
1530. Frank Denbowski, Reading, PA
1531. Nancy Balogh, Landenberg, PA
1532. Michelle Hoff, Kintnersville, PA
1533. Diane Townsend, Milanville, PA
1534. Wally Williams, Bear Creek Twp., PA
1535. Martha Kirby, Philadelphia, PA
1536. Marv Meyer, Wayne, PA
1537. Edward Bala, State College, PA
1538. Barbara Knickerbocker, West Chester, PA
1539. Sherry McNeil, Oakmont, PA
1540. Jed Williams, Philadelphia, PA
1541. Jack Miller, Middleburg, PA
1542. Thomas Garrett, York, PA
1543. Andrea Young, Muncy, PA
1544. Peter Kabatek, Harrisburg, PA
1545. Dorene Schutz, Wilkes Barre, PA
1546. Norman Braun, West Chester, PA
1547. Don B. Stewart, West Reading, PA
1548. Kenneth Yonek, Eighty Four, PA
1549. Claudia Mearchione, Drexel Hill, PA
1550. Margaret Moyer, Millmont, PA
1551. Melinda Shirk, Hanover, PA
1552. William Coffey, Wayne, PA
1553. Jim Wolf
1554. Keith Leydig, Carlisle, PA
1555. Tina Rodgers
1556. Lyle Dynda, Austin, PA
1557. Lars Lange, Washington, PA
1558. Nikki Dean, Shinglehouse, PA
1559. Larry Tornetta, Jr.
1560. Cindy Salerno, Kane, PA
1561. Rick Zelehoski, Johnsonburg, PA
1562. Elizabeth Nuttall, Lower Burrell, PA
1563. Matthew A. Zoschg, Jr., Emporium, PA
1564. Henry Frank, Philadelphia, PA
1565. Anne Jackson, Morgantown, PA
1566. John Cannella, Kane, PA
1567. Charles E. Gallagher, Berrysburg, PA
1568. Allan Cagnoli, Arlington, VA
1569. Heather Winett, Philadelphia, PA
1570. Robert Mclain
1571. Jeff Christy, Rural Valley, PA
1572. Martin Thornton, New Castle, PA
1573. Richard Brock, Baden, PA
1574. Christopher Squire, Pittsburgh, PA
1575. David Perri
1576. Thomas S. Zimmerman, Friedens, PA
1577. Dennis Wieland
1578. Jeff Border, Huntingdon, PA
1579. Jill Wieland
1580. Shane D. Morgan, Petersburg, PA
1581. Joseph Radziwon, Smithton, PA
1582. Kirby Ames, Titusville, PA
1583. Barry Dunmire, Portage, PA
1584. Herb Yost
1585. Helen Stevenson, Lower Burrell, PA
1586. RESERVED
1587. Richard Upham, Leraysville, PA
1588. Scott S. Donelson, James Creek, PA
1589. Sharon Lauver, Middleburg, PA
1590. Donald K. Gray
1591. D. Dennis Clinton, Warren, PA
1592. Melvin D. Yoder, Greenville, PA
1593. Bob Leboffe, Aston, PA
1594. Stephen H. Gee, Emporium, PA
1595. Gerry Mletzko, Gillett, PA
1596. Guy Dunkle, Guys Mills, PA
1597. Kenneth Koch
1598. Thomas Benish, North Huntingdon, PA
1599. Renae P. Burlingame, Spartansburg, PA
1600. Daniel Koza, Kane, PA
1601. Carol Custead, Guys Mills, PA
1602. Robert D. Silzle, Russell, PA
1603. Janine Confer, Lafayette Hill, PA
1604. MeLinda Radziwon, Smithton, PA
1605. David Backes, Shamokin, PA
1606. Michael Hetrick, Hesston, PA
1607. Nathan Arbitman, Philadelphia, PA
1608. Stephen Turner, Lemoyne, PA
1609. Jan Greenfield, Highland Park, MN
1610. Shirley Brandie
1611. Juanita Flener Hamlin, Moyock, NC
1612. Leigh Maria Thomas
1613. Victoria Valentine
1614. Guiulia D'alesio, N.D.De-L'ile-Perrot, Qc, Canada
1615. Jennifer Hara, Enola, PA
1616. Julie Vanneman, Pittsburgh, PA
1617. Mark Fiorini, Lenhartsville, PA

1618. Christopher Irwin, N. Versailles, PA
1619. Betty Jo Critchfield, Pittsburgh, PA
1620. Andrew Benton, Blue Bell, PA
1621. Dennis Barnebey, Philadelphia, PA
1622. M. Jean Gavin, Philadelphia, PA
1623. James King
1624. Laurie Williams, E. Pittsburgh, PA
1625. Pamela Milask, Willow Grove, PA
1626. Wayne Michael, Nescopeck, PA
1627. Robert Merin, Wynnewood, PA
1628. Thomas Au, Harrisburg, PA
1629. Frank Asturino, McKees Rocks, PA
1630. Fran Tose, Wynnewood, PA
1631. Constance Kozel, Dallas, PA
1632. Cassandra Mccrae, Pittsburgh, PA
1633. Mary E. Corbett, Philadelphia, PA
1634. Joseph Lulis, Philadelphia, PA
1635. Joe Schiavo, Philadelphia, PA
1636. Todd Garcia-Bish, Butler, PA
1637. Peter Oswald, Girardville, PA
1638. Sheila Erlbaum, Philadelphia, PA
1639. Charlie McNutt, Mechanicsburg, PA
1640. Nick Fortune, Lansdale, PA
1641. Robert Alspaugh, Brackney, PA
1642. Sharon Brown, Wexford, PA
1643. Walter Radke, Pittsburgh, PA
1644. Jacqueline Struthers, West Chester, PA
1645. Stephen Weinberg, Philadelphia, PA
1646. Wayne Freese, Chester Springs, PA
1647. Vivian Schatz, Philadelphia, PA
1648. Ed Sluzis, Morea, PA
1649. Karl Hubert, Courtdale, PA
1650. Richard Cole, West Chester, PA
1651. Brian Murr, Elizabethtown, PA
1652. Alston Meade, West Chester, PA
1653. Kate Shapero, Philadelphia, PA
1654. Robert Goetz, Wilkinsburg, PA
1655. George Zgela, Pittsburgh, PA
1656. Amy Guskin, Malvern, PA
1657. James Shantz, Zelienople, PA
1658. David Kanthor, Philadelphia, PA
1659. Jason Berteotti, Canonsburg, PA
1660. Robert Cierlitsky, Lehighton, PA
1661. Gwen DiPieto, Pittsburgh, PA
1662. Joshua Zorich, Pittsburgh, PA
1663. James Clark, Broomall, PA
1664. Nelson Mccormich, Harrisburg, PA
1665. Andrew Loza, Lemoyne, PA
1666. Rosemary Caolo, Scranton, PA
1667. Sarah Francis, Bala Cynwyd, PA
1668. Barbara Mckenzie, Philadelphia, PA
1669. David Benner, New Hope, PA
1670. Richard Zawatsky, Wilkes-Barre, PA
1671. Michael Woodward, New Cumberland, PA
1672. Pam Fendrock, Kingston, PA
1673. William Ellis, Collegeville, PA
1674. Amy Sinden, Philadelphia, PA
1675. Gabriel Farrell, Philadelphia, PA
1676. Matthew Kiner, Lewisberry, PA
1677. Marie Elaine Tomko, Bear Creek Twp., PA
1678. PA Farm Bureau - George M. Hazard, Camp Hill, PA
1679. Robin Weaver, Mahaffey, PA
1680. RESERVED
1681. LeRoy Halfast, Spartansburg, PA
1682. Dean Lord, Erie, PA
1683. Nettie Lynn Ohmer, Erie, PA
1684. Dale Denison, Saegertown, PA
1685. Robert J. Jefferis, Petersburg, PA
1686. William T. Snyder, Muncy, PA
1687. RESERVED
1688. Rebecca Hammond, Pottsville, PA
1689. Jane K. Hammond
1690. John T. Hammond
1691. Dante Taglieri, Minersville, PA
1692. Geraldine Whiteash, Minersville, PA
1693. Benjamin Goodin, Pottsville, PA
1694. Camille Yoder, Pottsville, PA
1695. Wayne Yoder, Pitman, PA
1696. (Name Illegible)
1697. Melissa M. Griffith, Pottsville, PA
1698. Christopher Whiteash, Pottsville, PA
1699. Colleen Boyle, Minersville, PA
1700. Kris Boyle, Pottsville, PA
1701. Michael Boyle, Pottsville, PA
1702. (Name Illegible)
1703. (Name Illegible)
1704. (Name Illegible)
1705. Carol H. Fowler, Galeton, PA
1706. David Perri, Alexandria, PA
1707. William Taylor, Petersburg, PA
1708. Rep. Camille George, Harrisburg, PA
1709. Senator Jake Corman, Harrisburg, PA; 34th District, Bellefonte, PA
1710. PA State Grange - Betsy E. Huber, Lemoyne, PA
1711. RESERVED
1712. Warren Roberts, Warren Center, PA
1713. Janice Roberts, Warren Center, PA
1714. Rep. Greg Vitali, Harrisburg, PA
1715. Rep. Neal Goodman, Harrisburg, PA; 123rd District, Mahanoy City, PA
1716. Agricultural Advisory Board - Michael Firestine

1717. M. Kaplan, Maple Glen, PA
1718. Jonathan Strickland, Lansdale, PA
1719. Art Verbit, Dresher, PA
1720. D. Suchy, Horsham, PA
1721. Marsha Fischer, Elkins Park, PA
1722. Robert A. Fischer, Elkins Park, PA
1723. Rifat Pamukcu, Spring House, PA
1724. Sandy Miller, Lansdale, PA
1725. Albert Tenney, N. Wales, PA
1726. Jocelyn Tenney, N. Wales, PA
1727. Dresher, PA
1728. Leah Press, Philadelphia, PA
1729. Michelle Naps, Ambler, PA
1730. Joanne Pekter, Lansdale, PA
1731. Lansdale, PA
1732. Lower Gwynedd, PA
1733. Alice Milrod, Ft. Washington, PA
1734. Ambler, PA
1735. W.A. Visher, Ambler, PA
1736. Asi S. Brown, Spring House, PA
1737. Julie Singer, Ambler, PA
1738. Eagleville, PA
1739. Helaine Brown, Schwenksville, PA
1740. Donald Brown, Schwenksville, PA
1741. Liz Hirsch, Peallyn, PA
1742. Jennifer Stitz, Philadelphia, PA
1743. John Gartanetti, Philadelphia, PA
1744. Stephanie Gortanetti, Philadelphia, PA
1745. Bill Galla Ohir, Philadelphia, PA
1746. Lisa M. Smith, Philadelphia, PA
1747. Patrick Weswa, Philadelphia, PA
1748. Dominic Pananzino, Philadelphia, PA
1749. Philadelphia, PA
1750. Tim Davis, Philadelphia, PA
1751. Kathleen O'Rourke, Philadelphia, PA
1752. Philadelphia, PA
1753. Von C. Howard-Battiste, Philadelphia, PA
1754. Vala Keck, Philadelphia, PA
1755. Frank Keck, Philadelphia, PA
1756. Devon Keck, Philadelphia, PA
1757. Anthony Cozzi, Philadelphia, PA
1758. Annie Nguyen, Philadelphia, PA
1759. Philadelphia, PA
1760. Amelia Ward, Philadelphia, PA
1761. Brandon Wright, Philadelphia, PA
1762. Alan Kober, Dresler, PA
1763. Jim Black, Philadelphia, PA
1764. Vera Cole, Green Lane, PA
1765. Heather Parker, Philadelphia, PA
1766. Brian Zeck, Philadelphia, PA
1767. Stephen P. Ross, Philadelphia, PA
1768. Heather Galada, Philadelphia, PA
1769. Rachel Dougherty, Philadelphia, PA
1770. Patrick Bozeman, Philadelphia, PA
1771. Matt Walters, Philadelphia, PA
1772. Carol Uliman, Philadelphia, PA
1773. Katelin McCormick, Philadelphia, PA
1774. William J. McCormick, Philadelphia, PA
1775. Lindsey Klinger, Philadelphia, PA
1776. Anne McCormick, Philadelphia, PA
1777. Carol Klough, Philadelphia, PA
1778. Jack Zasowski, Philadelphia, PA
1779. E. Michaels, Philadelphia, PA
1780. Mark Javatt, Philadelphia, PA
1781. Philadelphia, PA
1782. Walter Barford, Philadelphia, PA
1783. Philadelphia, PA
1784. Philadelphia, PA
1785. Rob Rissley, Philadelphia, PA
1786. Philadelphia, PA
1787. Ronald Birkmire, Philadelphia, PA
1788. John Adams II, Philadelphia, PA
1789. Joseph Daniels, Philadelphia, PA
1790. Sean Alesi, Philadelphia, PA
1791. Katherine Rogers, Philadelphia, PA
1792. Ryan Robbin Gibbins, Philadelphia, PA
1793. Philadelphia, PA
1794. Katie Serivner, Philadelphia, PA
1795. Scott Serivner, Philadelphia, PA
1796. Philadelphia, PA
1797. Philadelphia, PA
1798. Laura Mansherns, Philadelphia, PA
1799. Philadelphia, PA
1800. David Odell, Philadelphia, PA
1801. Henry Yost, Jr., Philadelphia, PA
1802. Philadelphia, PA
1803. Joe Hdube, Philadelphia, PA
1804. Lisa P. Hunt, Philadelphia, PA
1805. Kent Liwen, Lansdale, PA
1806. Melissa Lordi-Liwen, Lansdale, PA
1807. Janet Waechter, Ambler, PA
1808. Mark Strumwasser, Collegeville, PA
1809. Rosario Kukla, Maple Glen, PA
1810. Michael Kukla, Maple Glen, PA
1811. Arlene Porter, Lansdale, PA
1812. Philadelphia, PA
1813. Hayley Freilich, Philadelphia, PA
1814. Brittany McLaughlin, Philadelphia, PA
1815. Gerard Schellenberg, Philadelphia, PA
1816. Ben Hugger, Philadelphia, PA
1817. Alex Zuchman, Philadelphia, PA
1818. Maia Zuchman, Philadelphia, PA
1819. Keith Webb, Philadelphia, PA
1820. Philadelphia, PA

1821. Philadelphia, PA
1822. Philadelphia, PA
1823. (Name Illegible), Philadelphia, PA
1824. Robert Copestick, Philadelphia, PA
1825. Tom Moran, Philadelphia, PA
1826. Fred Koniecki, Philadelphia, PA
1827. Emily Brown, Philadelphia, PA
1828. Keith Lemchaic, Philadelphia, PA
1829. Philadelphia, PA
1830. Maryanne Petrus Gilbert, Philadelphia, PA
1831. Ryan Baer, Philadelphia, PA
1832. Daniel Reardon, Philadelphia, PA
1833. Francis Platchek, Philadelphia, PA
1834. Mary Bramsfield, Philadelphia, PA
1835. Philadelphia, PA
1836. Mike Rhine, Philadelphia, PA
1837. Paul A. Brenaman II, Mechanicsburg, PA
1838. Lee Blood-Ramos, Albany, NY
1839. Mark Freeman
1840. Randy Myers, Somerset, PA
1841. Linda Karr, Madison, WI
1842. Linda Godfrey, Winfield, PA
1843. Shane Myers
1844. Nicole M. Caldwell
1845. James Jones, Roulette, PA
1846. John A. Harris, Picture Rocks, PA
1847. Joy Knepp, Somerset, PA
1848. Colleen Davis, Clairton, PA
1849. George Hazard, Camp Hill, PA
1850. Donald Biggs, Cross Fork, PA
1851. Maureen Myers, Somerset, PA
1852. Richard Bloom, Ebensburg, PA
1853. Mary Anne Hosner, Jeanette, PA
1854. Jeanne Leaver, Indianola, IA
1855. Frank Ogoreuc, Bangor, PA
1856. K. Dempsey
1857. Robert Hanham, Carmichaels, PA
1858. Gary Sojka, Middleburg, PA
1859. Peri Unligil
1860. Peter Pekelnicky
1861. Michael Reps, Oak Grove, MN
1862. Nancy F. Parks, Aaronsburg, PA
1863. Brenda Darnell
1864. Denise Walsh, Eagleville, PA
1865. Shawnna Clark
1866. Ernest Grolimund
1867. Clive Scott
1868. John Inserra, Pittsburgh, PA
1869. Susan Perovich
1870. Tina Welder
1871. Justina Wasicek, Harrisburg, PA
1872. Linda Beaudin
1873. Keith Baker, Eldred, PA
1874. Charles McPhedran, Philadelphia, PA
1875. Alec Myers, Somerset, PA
1876. Donald H. McNeill, Pittsburgh, PA
1877. Joe Osborne, Pittsburgh, PA
1878. Kevin Stewart, Camp Hill, PA
1879. Jessica Mauro, Emmaus, PA
1880. Thomas Hall, Kane, PA
1881. Katherine A. Fox, Coudersport, PA
1882. Cline Oil Company, Bradford, PA
1883. Jerome Sorg, St. Marys, PA
1884. Louis Karija
1885. Rep. Kathy L. Rapp, Harrisburg, PA; 65th District, Warren, PA
1886. Rep. Babette Josephs, Harrisburg, PA; 182nd District, Philadelphia, PA
1887. Rep. Michael O'Brien, Harrisburg, PA; 175th District, Philadelphia, PA
1888. Rep. Barbara McIlvaine Smith 156th District, West Chester, PA
1889. Rep. Timothy P. Briggs, Harrisburg, PA; 149th District, King of Prussia, PA
1890. Rep. David R. Kessler, Harrisburg, PA; 130th District, Oley, PA
1891. Rep. Steve Santarsiero, Harrisburg, PA; 31st District, Newtown, PA
1892. Rep. Vanessa Lowery Brown, Harrisburg, PA; 190th District, Philadelphia, PA
1893. (no name provided)
1894. (no name provided)
1895. Paul Laposky
1896. Joylette Portlock
1897. Trudi Rush
1898. Shane Fisher, Cranberry, PA
1899. Brian L. Diltz
1900. John P. Beach
1901. Scott Gray
1902. Steven M. Blitz
1903. Marvin Weaver
1904. Amanda Weaver
1905. Michael Weaver
1906. Tammy Rollin
1907. RESERVED
1908. RESERVED
1909. Pam Fenderock
1910. Edwin Kuniegel, Lake Ariel, PA
1911. Joe O'Hara
1912. Chris Kuba
1913. Dan Glezen
1914. Edward Freeman
1915. Phil Jago

1916. Paul Yedinak
1917. Tanya Dierolf
1918. Gerald Barrick
1919. Keith Copenhaver
1920. Harry Rawluk
1921. Robert Gehman
1922. Neil Lonkart
1923. Dale Smith
1924. Mike Seefeld
1925. Robert Pervis
1926. Bill Radion
1927. Joyce Cline
1928. Otto Deutschlander
1929. Rep. Martin Causer, Harrisburg, PA; 67th District, Bradford, PA
1930. Rep. Curtis Sonney, Harrisburg, PA; 4th District, Erie, PA
1931. Gary Buchsen
1932. RESERVED
1933. Rep. Matt Gabler, Harrisburg, PA; 75th District, Dubois, PA
1934. Rep. Brad Roae, Harrisburg, PA; 6th District, Titusville, PA
1935. Eric Johnston
1936. Lisa Johnston
1937. Mark Howard
1938. Stanley Goodwin
1939. Joe Dugan
1940. Jim Argoot
1941. Dan Gregory
1942. Aaron Alassmire
1943. Rob Elliott
1944. Lowell Watts
1945. John Jordan
1946. Alan Davenport
1947. John Sherer
1948. Leonard Snyder
1949. June Buckler
1950. John Kraft
1951. Joan Bradley
1952. Jackie Dugan
1953. John Knox
1954. Coralee Wenzel
1955. Richard Matz
1956. Mark Topchak
1957. Troy Stimaker
1958. Harry Goodwin
1959. Robert Burnham
1960. Jack Johnson
1961. Scott Button
1962. James Pemberton
1963. Nancy Dickinson
1964. Jerry McCaslin
1965. Carl Altenheim
1966. Paul Buchson
1967. Doug Morley
1968. Shawn McKune
1969. Fred Frank
1970. Gareth Gockley
1971. Graham Postlewait
1972. Tim Owens
1973. Tammy Delinski
1974. Bruce Roy
1975. Senator Gene Yaw, Harrisburg, PA; 23rd District, Williamsport, PA
1976. Michael Forbes
1977. John Jordan
1978. Sandy Mincemoyer
1979. John Punako
1980. Robert Boyles
1981. Dale Miller
1982. Jim Marsh
1983. Russell Reitz
1984. Steve Patt
1985. Michael Oaks
1986. RESERVED
1987. Rep. Brian Ellis, Harrisburg, PA; 11th District, Lyndora, PA
1988. Rep. Richard R. Stevenson, Harrisburg, PA; 8th District, Grove City, PA
1989. RESERVED
1990. Rep. Rosemarie Swanger, Harrisburg, PA; 102nd District, Lebanon, PA
1991. Rep. Adam Harris, Harrisburg, PA; 82nd District, Mifflintown, PA
1992. RESERVED
1993. Rep. Donna Oberlander, Harrisburg, PA; 63rd District, Clarion, PA
1994. Rep. Tim Krieger, Harrisburg, PA; 57th District, Greensburg, PA
1995. Rep. Russ Fairchild, Harrisburg, PA; 85th District, Winfield, PA
1996. Rep. Seth Grove, Harrisburg, PA; 196th District, York, PA
1997. Rep. Doug Reichley, Harrisburg, PA; 134th District, Emmaus, PA
1998. Rep. Jerry Stern, Harrisburg, PA; 80th District, Hollidaysburg, PA
1999. Rep. Jeffrey Pyle, Harrisburg, PA; 60th District, Ford City, PA
2000. Rep. Kerry Benninghoff, Harrisburg, PA; 171st District, Bellefonte, PA
2001. Rep. Mark Keller, Harrisburg, PA; 86th District, New Bloomfield, PA
2002. Rep. Kate Harper, Harrisburg, PA; 61st District, Blue Bell, PA

2003. Rep. Mike Reese, Harrisburg, PA; 59th District, Mount Pleasant, PA
2004. RESERVED
2005. RESERVED
2006. Rep. Thomas Creighton, Harrisburg, PA, 37th District, Manheim, PA
2007. Rep. Mike Fleck, Harrisburg, PA; 81st District, Huntingdon, PA
2008. Rep. Richard Geist, Harrisburg, PA; 79th District, Altoona, PA
2009. Rep. Merle Phillips, Harrisburg, PA; 108th District, Sunbury, PA
2010. Rep. Dan Moul, Harrisburg, PA; 91st District, Gettysburg, PA
2011. Rep. Will Tallman, Harrisburg, PA; 193rd District, Hanover, PA
2012. Rep. Rob Kauffman, Harrisburg, PA; 89th District, Chambersburg, PA
2013. RESERVED
2014. Rep. Mark Mustio, Harrisburg, PA; 44th District, Moon Township, PA
2015. Rep. Randy Vulakovich, Harrisburg, PA; 30th District, Glenshaw, PA
2016. Rep. Samuel Rohrer, Harrisburg, PA; 128th District, Reading, PA
2017. Rep. Daryl Metcalfe, Harrisburg, PA; 12th District, Cranberry Township, PA
2018. Rep. Michele Brooks, Harrisburg, PA; 17th District, Greenville, PA
2019. Rep. Sandra J. Major, Harrisburg, PA; 111th District, Montrose, PA
2020. Rep. Jim Marshall, Harrisburg, PA; 14th District, Beaver Falls, PA
2021. Rep. Paul Clymer, Harrisburg, PA; 145th District, Perkasie, PA
2022. Rep. Stan Saylor, Harrisburg, PA; 94th District, Red Lion, PA
2023. Rep. Gordon Denlinger, Harrisburg, PA; 99th District, Ephrata, PA
2024. Kim Kaufman, Harrisburg, PA; Executive Director, Independent Regulatory Review Commission (IRRC)
2025. Jane McCowley
2026. Joseph Otis Minott, Philadelphia, PA
2027. Nathan Willcox, Philadelphia, PA
2028. Laurie Walter, Middleburg, PA
2029. Rep. H. Scott Conklin, Harrisburg, PA; 77th District, State College, PA