TITLE 326 AIR POLLUTION CONTROL BOARD

Proposed Rule
LSA Document #05-332

DIGEST

Adds 326 IAC 4-3 concerning outdoor hydronic heaters. Effective 30 days after filing with the Publisher.

HISTORY

First Notice of Comment Period: December 1, 2005, Indiana Register (29 IR 901).
Continuation of First Notice of Comment Period: February 1, 2006, Indiana Register (29 IR 1762).
Second Notice of Comment Period: January 6, 2010, Indiana Register (DIN: 20100106-IR-326050332SNA).
Notice of Public Hearing: January 6, 2010, Indiana Register (DIN: 20100106-IR-326050332PHA).
Change in Notice of Public Hearing: May 5, 2010, Indiana Register (DIN: 20100505-IR-326050332CHA).
Date of First Hearing: June 2, 2010.
Date of First Hearing (continued from June 2, 2010 and July 13, 2010): September 1, 2010.
Fiscal Impact Statement: October 13, 2010, Indiana Register (DIN: 20101013-IR-326050332FIA).

PUBLIC COMMENTS UNDER IC 13-14-9-4.5

IC 13-14-9-4.5 states that a board may not adopt a rule under IC 13-14-9 that is substantively different from the draft rule published under IC 13-14-9-4 until the board has conducted a third comment period that is at least 21 days long.

REQUEST FOR PUBLIC COMMENTS

This proposed (preliminarily adopted) rule is substantively different from the draft rule published on January 6, 2010, at DIN: 20100106-IR-326050332SNA. The Indiana Department of Environmental Management (IDEM) is requesting comment on the entire proposed (preliminarily adopted) rule.

The proposed rule contains numerous changes from the draft rule that make the proposed rule so substantively different from the draft rule that public comment on the entire proposed rule is advisable. This notice requests the submission of comments on the entire proposed rule, including suggestions for specific amendments. These comments and the department's responses thereto will be presented to the board for its consideration at final adoption under IC 13-14-9-6. Mailed comments should be addressed to:

#05-332 (APCB) Outdoor Hydronic Heaters
Susan Bem Mail Code 61-50
Rule and SIP Development Section
Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204

Hand delivered comments will be accepted by the receptionist on duty at the tenth floor reception desk, Office of Air Quality, 100 North Senate Avenue, Indianapolis, Indiana.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-5967, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rule and State Implementation Plan Development Section at (317) 234-6530.

COMMENT PERIOD DEADLINE

Comments must be postmarked, faxed, or hand delivered by November 3, 2010.

SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD

IDEM requested public comment from January 6, 2010, through February 22, 2010, on IDEM's draft rule language. IDEM received comments from the following parties:

Eli A. (EA574)
Andrew Allen (AA505)
Janice Anthony (JA154)
Kevin Arick (KA516)
Janet Armstrong (JA16)
Chuck and Carolyn Arnold (CA423)
Caleb Arthur (CA573)
David Brown (DB24)
William Browning (WB156)
Daron Bruder (DB86)
Steve Burns (SB79)
Richard Burton (RB390)
Jeffrey Bush (JB175)
Earl Byerly (EB69)

Jacob Arthur (JA575)
Wade Babbit (WB78)
Jane Bahney (JB276)
Timothy Bahney (JB277)
Mike Bailey (MB374)
William and Linda Baker (WB49)
Phyllis Baker (PB2)
Garrett and Renia Barger (GB210)
Earl and Courtney Bargerhuff (EB468)
Jeff Barnard (JB475)
Max Barnett (MB487)
Joseph and Deborah Barnett (JB442)
Daniel Bash (DB594)
Lewis Basham (LB402)
Mike Baskett (MB500)
Duwaine Baughman (DB121)
Mr. and Mrs. Jerry Beard (JB611/JB267)
Michael Beasley (MB112)
Gary Bedan (GB54)
Amos Beechy (AB131)
Christy Beechy (CB527)
Gerald Bennett (GB218)
J. Berna (JB307)
Peter Bernacci (PB1)
Patricia Best (PB426)
Jane and Shawn Biekei (JB51)
Bill Bates and Jimmy Bates (BB326/JB327)
Harry Bingham (HB167)
Blaine Boyland, Dan Hasty, Mark Ping, and Wayne Hasty (Wood Boiler LLC) (BB449)
Michael Blair (MB108)
Josh Blamkenship (JB571)
Robert Bleemel (RB19)
Mark Bohman (MB501)
David Bontrager (DB324)
Lavern Borkholder (LB82)
Toby Borntragers (TB322)
Marleen Bostock (MB421)
Dinah Bourdon (DB70)
Harlan Bourdon (HB73)
Randy Braden (RB264)
Tyler Bradley (TB566)
Tom Brancamp (TB547)
Chester Branham (CB609)
Jacob Brenneman (JB507)
Thomas Brewer (TB457)
Mr. and Mrs. Jeff Bromm (JB513)
Joseph Custer (JC514)
Paul Davis (PD113)
Randall Davis (RD306)
Cindy Davis (CD357)
Sonny Davis (SD667)
Kenneth Davis (KD204)
Charles Davis (CD138)
Vicki Deer (VD554)
Vicki Deer (VD553)
Gary Byerly (GB178)
Allan Cagnoli (Hearth, Patio, and Barbecue Association) (AC637)
Marion Canary (MC391)
Gary Messer and William Carpenter (GM126)
Jesse Carson (JC46)
Johnny Carver (JC132)
Carl Casebere (CC130)
Christy Cash (CC62)
John Cass (JC252)
Mark Chamness (MC397)
Kenneth Clair (KS247)
Kevin and Carol Clark (KC243)
Jerry Clark (JC353)
Allan Clauser (AC67)
Donald Cleary (DC315)
Greg Cleman (GC488)
Charles Clennon (CC339)
Jim Clinard (JC480)
John Clinard (JC484)
Joe Clinard (JC485)
Tyler Cline (TC564)
Matt Cline (MC579)
Kristin Cline (KC580)
Michelle Cline (MC581)
Mike Cline (MC582)
Kimberly Cline (KC583)
Kyle Cline (KC585)
Teri Cline (TC586)
Patricia Cline-Brindle (PB584)
Tracy and Susan Cole (TC532)
Johanna Coleman (JC634)
Steve and Rhonda Collins (SC524)
Wayne and Beulah Conner (WC217)
Cindy Cook (CC646)
Mike Cord (MC419)
Dennis Cornwell (DC622)
Don and Judy Correll (DC35)
Bert Corya (BC465)
Mark and Linda Couts (MC111)
John Cox (JC529)
Patty Cox (PC189)
John Cox (JC7)
Carl Crouse (CC181)
Craig Cultice (CC164)
Donald Cummings (DC235)
Tom Cunningham (TC600)
Terry Flodder (TF365)
Robert Fort (RF492)
Thomas Fox (TF177)
Norman Frakes (NF52)
Wayne Fry (WF15)
Wayne Fry (WF515)
David Fulford (DF120)
Mike Fulk (MF370)
Les and Therese Fullenkamp (LF149)

Steve Delap (SD160)
Alfred Delattre (AD278)
Raymond Dennington (RD530)
Howard DeWeese (HD665)
John and Sharon Didat (JD215)
Robert Diekman (RD110)
Kody Dole (KD572)
Bill Doles (BD546)
Gregory Dolezal (GD105)
Mr. and Mrs. James Donnelly (JD284)
Max Donovan (MD352)
Carl Douglas (CD336)
Fred Dowell (FD618)
Mark Downing (MD621)
Peggy Drees (PD531)
Sandra Dudley (SD438)
Dunelands Sierra (DS641)
Brandy E. (BE550)
Rick Eads (EA14)
Charles Eagan (CE346)
Stephen Earley (SE351)
Tressa Earley (TE350)
Mervin Eash (ME203)
Joe and Paula East (JE32)
Gary Eby (GE295)
Tom Ehlers (TE304)
Edward Elder (EE41)
Deanna Elder (DE85)
Kent Ellinger (KE280)
Harold and Helen Ellinghausen (HE246)
David Enders (DE124)
Brian Enlow (BE394)
Environment and Human Health, Inc (EHH135)
Ted Ertel (TE312)
Brad and Jennie Farmer (BF268)
Paul Fassnacht (PF615)
Amy Feikes (AF462)
Randy Feller (RF166)
Terry Feltner (TF560)
Wayne Ferree (WF127)
Tony Fischesser (TF467)
Melvin Fishel (MF270)
Earl Fishel (EF511)
Donald Fishel (DF522)
Howard Fletcher (HF227)
Mr. and Mrs. Bernie Flodder (BF625)
Mark Hearth (MH633)
Ronald Helms (RH302)
Michael and Debra Hendricks (MH434)
Leo Henricks (LH303)
Jeff Hernly (JH596)
Dale Hershberger (DH499)
Mike Hiatt (MH271)
Matthew Higginbottom (MH383)
Erica Higginbottom (EH384)
Ron Higginbottom (RH385)
David Fullmer (DF448)
Gregg Gallagher (GG502)
Jeff Gasaway (JG454)
Thomas Gately (TG3)
Louis Giesting and Diana Gauck (LG543)
Kenneth and Ellen Gauck (KG332)
Wanda Gehlhausen (WG606)
Leon Gerber (LG239)
Mac Gerkin (MG205)
Ralph Gerold (RG509)
Matt and Stacy Gilbert (MG620)
Philip Gitlen (Central Boiler) (PG439)
Tim Godbey (TG76)
Robert Goodman (RG405)
P. Gray (PG301)
Tracy Green (TG288)
Mrs. Green (MG309)
Brent and Cheryl Grieger (BG450)
Renae Griffin (RG231)
Tad Groff (TG344)
Donald and Brenda Gunter (DG664)
Kendall Gunter (KG193)
Janet Gunter (JG366)
Steven Gunter (SG466)
Malcolm Gwinn (MG296)
Robert and Sally Hagenow (RH216)
Dan and Karen Hagenow (DH186)
John Hall (JH229)
David Hall (DH400)
Richard Hall (RH60)
Don Hall (DH66)
William Halter (WH206)
Scott Hammon (SH614)
Judy Hancock (JH349)
Tracy Hanson (TH42)
Cheryl Harner (CH128)
Todd Harner (TH595)
Harold (H476)
Tim Harrington (TH109)
Mandy Harris (MH11)
Robert Harris (RH151)
David Harris (DH209)
Leo Hartman (LH520)
Roger Hartman (RH521)
Matthew Hasenow (MH263)
Perry Hathaway (PH115)
Mallory Kessler (MK552)
Charlie Kessler (CK559)
Brad Keyes (BK297)
Bob Kieffer (BK65)
Kenneth Kimble (KK30)
Becky Kimble (BK118)
Robert King (RK140)
Daryl King (DK208)
David Kintz (DK431)
Linus Kluemper (LK165)

Charles Higginbottom (CH371)
Doris Higginbottom (DH372)
Scott and Bridget Hilton (SH122)
Van Hire (VH427)
Gregory and Emma Hobbs (GH84)
Olen Hochstedler (OH219)
Joseph Hodal (JH20)
Darrell and Linda Holycross (DH272)
Paul Honn (PH38)
Mr. and Mrs. Paul Hoopengarner (PH29)
Larry Hopkins (LH61)
Floyd Hostetler (FH95)
Jeff Houchens (JH373)
Wayne and Lois Hougland (WH194)
Jimmie Houston (JH58)
Michael Houtsch (MH415)
James Houtsch (JH238)
Michael Hovis (MH375)
Shawn Howard (SH198)
Duane Howard (DH305)
Jeff Hudson (KE280)
Mrs. Gerald Huffmeyer (GH313)
Senator Lindel Hume (LH283)
Improving Kids' Environment (IKE612)
Anderson Ingram (AI141)
Carmen Irwin (CI470)
Keith Irwin (KI469)
Rod J. (RJ587)
Gerald Jacob (GJ289)
Jeffrey James (JJ490)
James Johnson (JJ185)
Wayne K. (WK556)
Mark K. (MK557)
Howard Kain (HK199)
Alec Kalla (AK33)
Ronald Kammer (RK157)
Linda Karr (LK409)
Rod and Julie Keeling (RK623)
Julie Keeling (JK631)
Bruce and Patricia Kegebein (BK221)
Robert Keller (RK50)
Brad Kepler (BK153)
Mari Ann Kessler (MK555)
Teri Kessler (TK549)
Kyle Kessler (KK551)
John Linkel (JL232)
Juanita Linkel (JL237)
John Lippitt (JL495)
Brad and Liz Litmer (BL452)
David Little (DL498)
Fred Lloyd (FL56)
Jeffrey Long (JL420)
Herschel and Mary Lucas (HL172)
Craig and Clara Luedtke (CL629)
Donald Luedtke (DL91)
Dennis and Janet Lundberg (DL13)
Tom Klump (TK37)
Roger and Peggy Koedyker (RK345)
Donald Kressley (DK298)
D. Kressley (DK43)
Jared L. (JL343)
Austin and Mari Ladow (AL158)
Chris Lake (CL182)
Brian and Cheri Laker (BL461)
Tom and Carolyn Laker (TL234)
Emile LaLoux (EL207)
John Lambright (JL517)
Jeff Lampert (JL197)
Michael Lamping (ML413)
Dennis and Cynthia Lamping (DL316)
Jeanette Lamping (JL321)
Herb and Millie Lamping (HL424)
Daniel Lamping (DL425)
Greg Lamping (GL435)
Edith Lamping (EL436)
James Lamping (JL329)
Scott Lamping (SL406)
Michelle Landis (ML361)
H. Landsveik (HL602)
Jerry and Vicky LaPointe (JL446)
LaPorte County Health Department (LCHD4)
Wayne Larimore (Undersigned Petition of Concerned Indiana Citizens and Residents – 1,920 signatures) (Petition 464)
Ben Lattire (BL64)
Roger Lawson (RL471)
Shon Lebo (SL12)
Tom Lecher (TL248)
Richard Lecher (RL429)
Michael Ledgewood (ML98)
Jean-Pierre Leitner (JL617)
Ronald Lemler (RL94)
David Leny (DL325)
Maria LeRoy (ML393)
Sharyn Leurck (SL334)
Aaron Levering (AL273)
Robert and Dorothy Lierman (RL463)
Wilfred Lindauer (WL200)
Wilfred Lindauer (WL179)
Don Link (DL83)
Louis Linkel (LL187)
James Morrow (JM224)
Michael Morrow (MM180)
David Mount (DM146)
Richard Mountcastle (RM184)
Sharon Mullen (SM240)
Steve Musgrave (SM535)
Don Myers (DM292)
Dave Myers (DM562)
Floyd Neal (FN380)
Steve Neal (SN212)
Bill Neal (BN214)

Dale Lutz (DL433)
D. M. (DM285)
Lee MacSorley (LM88)
Ralph Malecki (RM21)
Paul Malone (PM223)
Kevin and Jennifer Marcum (KM337)
Troy Maxie (TM286)
Harvey McAdams (HM443)
John and Ruth McCart (JM282)
Dale and Alice McCarty (DM636)
Raymond McClaren (RM534)
Ronald McClaren (RM533)
K. McClellan (KM39)
Michael and Michele McCoy (MM188)
Melvin McCullough (MM139)
Tim McCurdy (TM75)
Charles McFadden (CF275)
Carolyn McGinnis (CM395)
Wesley McGinnis (WM396)
Hollis McIntosh (HM548)
Keri McKinsey (KM590)
Charles McKnight (CM598)
Terry McKnight (TM649)
Robert and Mary Sue Measel (RM331)
Robin Meece (RM398)
James Meece (JM399)
Freeman Miller (FM340)
Steve and Linda Miller (SM22)
Lee and Julie Miller (LM508)
Daniel Miller (DM97)
Myra Milliner (MM59)
John and Pam Minnix (JM255)
John Mishler (JM125)
Joe Mishler (JM129)
Dale Mofield (DM241)
Edwin Moll (EM80)
Gary Moody (GM460)
Gerald Devon Moore (GM211)
Henry Moore (HM376)
Frank Moore (Hardy Manufacturing Co., Inc.) (FM440)
Angelina Morris (AM386)
Cale Morris (CM387)
Cody Morris (CM388)
Charles and Elizabeth Morrow (CM18)
Jeff Purvis (JP6)
Jeff Purvis (JP53)
Joe Raver (JR536)
Julie Raver (JR545)
Larry and Angie Reamer (LR348)
Daniel Reckelhoff (DR251)
Kevin Redelman (KR654)
Tod Redelman, Jim, Geis, Dave, and Nate Redelman, (TR542)
Charles Rees (CR23)
Jeff Reinhardt (JR192)
Ed Reitz (ER266)
Jerry Nelson (JN68)
Kenneth Newton (KN10)
Craig Nichols (CN561)
Donald Nielsen (DN503)
Lilly Noggler (LN333)
Chad Noll (CN291)
Larry Noll (LN444)
Russell Nuhring (RN630)
Donald Nunemaker (DN412)
Terry Nusbaum (TN328)
T.Y. Okosun (TO89)
Mike Olson (MO320)
Alvin O'Neal (AO478)
Stephanie Orr (SO591)
Alvin Otte (AO364)
Diane Otte (DO8)
Henry and Carol Pacione (HP491)
Tom Parker (TP473)
Neal Pauw (NP48)
Thomas Payne (TP613)
Ed Payton (EP87)
Gary Peach (GP133)
David Pelham (DP453)
David Penturf (DP260)
John Pepple (JP519)
Jeff Perry (JP486)
Phil Peterson (PP28)
Scott Phillips (SP355)
Douglas Phone (DR335)
George Pictor (GP437)
Angie Pierson (AP319)
Luke Pierson (LP318)
Jerry Pilman (JP144)
Gene Pilsitz (GP290)
Gordon Plumbing (GP71)
Larry and Karen Pontius (LP31)
Kevin Pool (KP645)
Troy Powell (TP9)
Mary Poyser (MP601)
Robert Prather (RP338)
Robert Price (RP632)
Ray Prior (RP418)
Alan Pryor (AP36)
Laura Pulliam (LP293)
Eric Schurg (ES222)
Walter Schwartz (WS44)
Michael and Tiffany Scott (MS274)
Jimmie Secrest (JS5)
Diana Sedlacek (DS323)
Doug Seitz (DS347)
John Senefeld (JS63)
Kristohper Servies (KS569)
David Servies (DS570)
Allyn Shacklett (AS103)
James Sharp (JS258)
Charles Shaw Jr. (CS262)

Peter Rekitzke (PR356)
Scott Renner (SR604)
Residents Against Wood Smoke Emission Particulates (RAWSEP362)
Kraig Resler (KR253)
Dave Rhoads (DR567)
Robert Rich (RR294)
Jason Richard (JR226)
Francis and Monica Richard (FR225)
Debra Richardson (DR414)
Dallas Richardson (DR96)
Bill Richardson (BR174)
Ruth Riehle (RR310)
Frank Riehle (FR603)
Robert Riley (RR148)
Jon and Tami Ringer (JR104)
Frankie Roach (FR287)
Bruce and Vera Rogers (BR445)
Carolyn Rohrer (CR106)
Larry Rohrer (LR107)
Carol Ronnebaum (CR367)
Clint Rose (CR576)
Wahnita Rosebrock (WR242)
Raymond Rosebrock (RR244)
Paul and Diana Ross (PR379)
Keith Royer (KR360)
Phillip Wolfe and Adam Rumsey (PW540)
Brad Rust (BR162)
Syntha Salyer (SS117)
Mark Sanders (MS170)
Victory Sankey (VS190)
Save the Dunes Conservation Fund (SDCF428)
Curt Scharold (CS341)
Randy Scherer (RS619)
William Scheumann (WS27)
James Schiffli (JS256)
Angelina Schile (AS143)
Stephen Schleicher (SS626)
Ronnie Schmidt (RS504)
Kevin Schneider (KS441)
Gloria Schneider (GS308)
Ronald Schumake (RS25)
Ron Schuman (RS220)
Russell Steuver (RS311)
Richard Steward (RS269)
Dale Stewart (DS257)
Donald Stirn (DS81)
Kyle Stockton (KS150)
Robert Strahl (RS201)
Tony Strahl (TS183)
H. Glen Sullivan (HS245)
Harold Surface (HS57)
Thurman Swafford (TS624)
John Swanson (JS116)
Terry Swartzentruber (TS191)
Cory Swartzentruber (CS610)
Danny Sheets (DS541)
R. Shelton (RS142)
Mike Sherman (MS228)
D. Shew (DS72)
Dale Shew (DS152)
James Shinkle (JS526)
Richard Shirar (RS136)
Jim Siegers (JS497)
Eric and Erma Siekman (ES666)
Kimberly Sills (KS249)
Paul Sills (PS250)
Angela Simic (AS317)
Alan Simmons (AS663)
Gary Simons (GS176)
Edwin and Shirley Sitek (ES34)
Ben Skirvin (BS77)
Craig Small (CS494)
Bryan Smith (BS134)
Joseph Smith (JS342)
Calvin C. and Cynthia Smith (CS510)
Scott Perkins, Jim Layton, Ryan Kelley, and Andrew Smith (SP538)
Carson Smith (CS451)
Ron Smith (RS430)
Dale Smith (DS482)
Jeff Smith (JS506)
Vincent and Cynthia Smock (VS213)
Terry Smolek (TS26)
Bruce Snyder (BS236)
Donald Sommerville (DS100)
Bill Spaeth (BS410)
William Sparks (WS93)
Mr. David Spencer (DS523)
Sandra Springstun (SS161)
Mark Springstun (MS163)
Lynn and Alice Stackhouse (LS628)
Amber Stacy (AS599)
Nancy Stacy (NS616)
Michael Stark (MS474)
Joe and Mildred Stein (JS608)
James Stephan (JS99)
Alan Stephens (AS401)
Paul Stephens (PS408)
Matthew Weaver (MW47)
Debora and Johnny Webber (JW432)
Francis Webster (FW377)
Bill Webster (BW378)
Steve Welchans (SW114)
James Welman (JW55)
Howard Wente (HW173)
Steve and Kelly Werner (SW635)
Wendell West (WW265)
Dan West (DW195)
Alex Whitaker (AW45)
Lynn Wierick (LW92)
William Wietlisbach (WW607)

Adam Teague (AT563)
Douglas Teeples (DT254)
Darren Thayer (DT102)
John Thie (JT330)
J. Thomas (JT558)
Sue and Jeff Thompson (JT230)
Kerry Thompson (KT605)
Steve Thompson (ST568)
Jeff Tolin (JT577)
Connie Tolin (CT578)
Creed Tolin (CT589)
Matt Tompkins (MT518)
Darin Toops (DT544)
Cheryl Trowbridge (CT101)
Steve Tucker (ST369)
Russell and Karen Turner (RT359)
Scott Tuttle (ST159)
Timothy VanArsdale (TV592)
Russell VanWinkle (RV403)
Chris VanWinkle (CV404)
Patrick Vieck (PV479)
Gerald Villars (GV655)
Larry W. (LW392)
Angie Wagner (AW417)
Warren Walborn (Hawken Energy) (WW363)
Morgan Walden (MW74)
Lee Walker (LW196)
Raymond Walker (RW528)
Mr. and Mrs. Scott Wallpe (SW354)
David Walls (DW358)
Jerry, Barbara, Christina, and Jerrett Walton (JW627)
Sam Wank (SW593)
Bill Wantland (BW169)
Nolan Warner (NW597)
James and Teresa Wasson (JW279)
Phillip and Sue Waters (PW381)
Steven and Traci Waters (SW382)
John Watt (JW389)
Gerald Wilhelm (GW259)
Keith Willett (KW17)
Dennis and Debbie Williams (DW407)
Jeffrey Williams (JW233)
David Willis (DW145)
Tim Willis (TW147)
Walter and Donna Wilmoth (WW512)
Mike and Tina Wilson (MW168)
Brad Wilson (BR40)
Tony and Teresa Wimsatt (TW261)
Kyle Wirth (KW537)
Vernon Wise (VW146)
Randy and Jean Wolfe (RW422)
James Wolff (JW496)
Dale Woodhouse (DW137)
Ken Wright (KW477)
Paul Yoder (PY123)
Ida Yoder (IY119)
Elmer Yoder Jr. (EY300)
Elmer Yoder Sr. (EY299)
Stacey Young (SY202)
S. Young (SY539)
John and Vivian Ziegler (JZ314)
Aaron Zimmerman (AZ155)
Rob Zollman (petition with 6 signatures) (RZ472)
Anonymous (A456)
Anonymous (A455)
Anonymous (A447)
Anonymous (A458)
Unreadable (U368)
Unreadable (U459)
Unreadable (U481)
Unreadable (U483)
Unreadable (U489)
Unreadable (U493)
Unreadable (U525)
Unreadable (U565)
Unreadable (U588)

Following is a summary of the comments received and IDEM's responses thereto:

Regulation of outdoor hydronic heaters

Comment: Commenter reminds IDEM that the Indiana Department of Health defers to the expertise of IDEM for the appropriate regulation of outdoor hydronic heaters (letter dated August 26, 2009 from ISDH to IDEM). (JD284)

Response: IDEM is addressing regulation of outdoor hydronic heaters with this rulemaking.

Comment: IDEM should only apply chimney height restrictions to documented complaints and new installations. (MG309)

Comment: Address complaints, but do not bother owners with no complaints. (BC465) (SW354) (KK30, DK431, PB426, DN412, WF127)

Comment: IDEM should only apply chimney height restrictions to documented complaints. A blanket requirement to retrofit all existing units regardless of their lack of nuisance will be a burden to the owners that installed their units in compliance with regulations at the time of installation. (KE280, JS5, HL172, CC181, SR604, SS626, RG231, TN328)

Comment: No regulations for existing units, when an existing unit wears out it can be replaced with a newer Phase 2 unit. (VH427, JL420)

Comment: Exempt existing units manufactured prior to the effective date of the rule. This doesn't solve all of the state's air quality problems immediately, but it keeps it from increasing further as more units are installed in the state. (DF448)

Comment: Don't regulate units that that are located away from neighbors where no one is bothered by the smoke. (KR654, DM 416, RL463, CF275, JB611, TS624, DW358, BK65, MB108, CD138, MS274)

Comment: Outdoor hydronic heater has been in use for many years with no complaints from neighbors. (MH415, LL187)

Comment: Homeowner has the only outdoor hydronic heater in neighborhood and there have been no complaints from neighbors. Out of fourteen homes eight heat with wood (either all or in part). (EB468)

Comment: Outdoor hydronic heater is located in rural area. (GP437, PC189, SW114, MW168, BL64, WF127, DW137, TS183, DK208, TN328, SD667)

Comment: Outdoor hydronic heater is used on 40 acre ranch with a wood lot. (GH84)

Comment: The outdoor hydronic heater is operated in rural area not bothering neighbors. (RS311) (DS323) (CA423) (BC465) (CS451) (GA90) (TL234) (DM636) (DP260)

Comment: Currently installed units should be exempt from the new emission and operating standards, if installed at least 150 feet from any adjoining property line. (A447)

Response: IDEM is not proposing that all existing units be retrofitted. Existing non-Phase 2 outdoor hydronic heaters are only subject to a stack height requirement if there is an occupied building, such as a neighbor's house, within 150 feet of the unit. Also, IDEM is proposing in the draft rule language for preliminary adoption that the summertime restriction only applicable if there is an occupied building, such as a neighbor's house, within 300 feet of the unit. Phase 2 units are required for new installations. Outdoor hydronic heaters are also subject to operating requirements to burn clean wood and the 20% opacity limit that can be achieved through proper maintenance and operation of the unit; this is something that all owners should already be doing. Some neighbors are not willing to submit a compliant to IDEM because it could negatively affect the relationship with the neighbor. A rule will provide a minimum set of consistent requirements.

Comment: Commenter supports rules requiring existing owners to comply with proper fuel use requirements and regulations that are reasonable to be applied to new units after an effective date. (KK30, HS245, HL172, RM331, CC181, LP31, JZ314)

Response: IDEM does not agree that currently installed units should only be subject to proper fuel use requirements. If a unit is used in a setting with nearby neighbors, the stack should be tall enough for adequate dispersion of the particulate matter emissions and not be operated during the core summer months. Research shows that a non-Phase 2 unit without an extended stack is capable of producing enough particulate matter to exceed the health standard in close proximity to the unit.

Comment: It is appropriate to restrict location of units. (TF467, U459, TL234, TW261, DL433, DM636, TS624, JC353, DK208, AS663)

Comment: It is okay to mandate restrictions on plume in city, town, or very populated suburb. (CC181)

Comment: It is okay to regulate a unit in town or one located within 150 ft of a neighbor. (SW635, SD438)

Comment: Rules should be different for urban versus rural areas. (RL463, EP87)

Comment: It is understandable to regulate low smoke stacks where houses are close together. (KR654)

Comment: It is okay to regulate in busy residential area, but not on a farm of 203 acres. (RM184)

Comment: The stack height requirement is only appropriate if the neighbor is within 150 feet down wind of the prevailing wind patterns. (DN412)

Response: IDEM agrees that for currently installed units not located near neighbors there should be less restrictive requirements. IDEM does not restrict location of units. This is a land use decision which is an authority reserved for local governments. IDEM is proposing a stack height requirement for units within 150 feet of an occupied building to help disperse the particulate matter emissions to minimize the impact on neighbors.

Comment: IDEM has no right to ban in rural, unincorporated areas. (MC419)

Comment: IDEM should reconsider banning outdoor hydronic heaters. (AW417, AW417, ML413, KE280, EL436, GL435, WR242, RR244, TW261, TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: IDEM should reconsider the proposed ban for the following reasons:

• Layoffs that will take place when all the furnace manufacturers close their doors.

• The tax revenues that will be affected.

• The fire hazards and the cost to put out fires that will most likely take place when all the dead wood begins to amass because the need for the wood is no longer necessary.

• The fact that the majority of Indiana citizens live in rural areas and are not in favor of state representatives spending tax dollars on federal government implementations.

• The fact that Indiana citizens will add an additional $500 to $600 a month for heater fuel by converting back to fuel or electrical heat. With the economy in shambles, this additional cost will be devastating to most people in the country.

• The fact that these heaters are only utilized in the cold winter months (4 months on average) and not used during the other seasons. (U459)

Comment: As a citizen with hyperactive airways, the commenter encourages IDEM to ban the use of outdoor hydronic heaters in LaPorte County. It was such a relief when open burning of leaves was banned. If neighbor installed an outdoor hydronic heater the commenter would have to move. Commenter is a nurse at a school located across the street from an outdoor hydronic heater. Sometimes the air around the school is filled with smoke smells bad from more than just burning wood. Children are one of the population categories most at risk for negative effects of wood smoke. (PB2)

Comment: Comments are based on a personal observation of a home impacted by a neighbor's outdoor hydronic heater. The emissions have a strong odor and smell like burning creosote. There is no doubt that they are damaging to the upper and lower airway passages. Smoke also contains several volatile organic carcinogens, including benzene and formaldehyde. The height of the stack (five feet about any roof structure) is inadequate to prevent these dangers to public health. All units most be banned or extensively altered to eliminate the release of these noxious and carcinogenic fumes into the environment. (DR335)

Response: IDEM is not banning the use of outdoor hydronic heaters. While not all situations will be addressed by the proposed rule, IDEM believes that a rule to address adequate dispersion of particulate matter and reduction in emissions of particulate matter for new installations will provide a minimum set of requirements that are protective of air quality and that pose the least threat to human health while still allowing the use of these units. The opacity (smoke density) limit, which can be achieved through good combustion practices and requiring owners to use clean wood will reduce the number of complaints due to improper operation and assist in protecting public health. Outdoor hydronic heaters are often used more than four months a year in some situations.

Comment: IDEM should reconsider the proposed regulations for outdoor hydronic heaters. Commenters generally oppose outdoor hydronic heater regulations. (AL273, RM534, TF365, CR367, GH313, DS323, HL424, DL425, A455, CA423, HM443, BR445, RM533, JB307, JL232, JL237, CL182, JL329, SL334, MB421, HE246, JJ185, AD278, KT605, BF625, EB468, ST369, JH373, CL629, SW635, A447, DP260, MH434, RW422, AP319, DC235, RS430, JB276, JB277, ML361, PR356, CD357, RT359, KR360, MB374, MH375, HM376, FW377, BW378, PR379, FN380, PW381, SW382, MH383, EH384, RH385, AM386, CM387, CM388, JW389, RB390, MC391, LW392, ML393, BE394, CM395, WM396, MC397, RM398, JM399, DH400, AS401, LB402, RV403, CV404, RG405, SL406, DW407, PS408, BG450, JG454, RD530, CH371, CH372, TB457, MF370, DW358)

Response: IDEM still considers it necessary to move forward with this rulemaking in order to protect public health. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. Based on comments received during the Second Notice of Public Comment, IDEM is proposing two key changes to the draft rule for preliminary adoption. Outdoor hydronic heaters located more than 300 feet from a neighboring occupied building are not subject to the summertime operating restriction and the maximum stack height to be imposed by the rule is 22 feet from the ground. The summertime operating restriction is also being proposed to occur from June through August, and not May through September, to address comments received on home heating needs during May and September. Even though IDEM is proposing a maximum stack height required by the rule, manufacturer best burn practices still recommend a stack height two foot above a neighboring roof line within 100 to 300 feet. In general, manufacturers recommend locating outdoor hydronic heaters at least 100 feet away from the nearest residential building not served by the unit, taking into consideration the prevailing wind direction.

Comment: Most outdoor hydronic heater owners do their best to keep emissions at a minimum by using high quality wood, chimney height, and considering wind direction when reloading unit. (ST369)

Comment: While there are irresponsible owners of these systems, the benefits far outweigh any problems they create. (JH373)

Response: IDEM understands that there are both responsible and irresponsible outdoor hydronic heater owners and believes this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Comment: Not enough outdoor hydronic heaters are in use in Indiana to warrant regulations. (JL446, TW261, KS441)

Response: The purpose of this rule is to ensure that new outdoor hydronic heaters purchased and installed in Indiana will not have a significant adverse impact on health or the environment, while minimizing the adverse impact of particulate matter emissions from existing units. The intent of this rule is to allow Indiana residents to use outdoor hydronic heaters while imposing requirements that are protective of air quality and that pose the least threat to human health. With an estimated 8,000 units in operation and the number of units increasing each year, this rulemaking is necessary.

Comment: Unit is used in a rural setting and is the only source of heat. (JL446, FR603)

Response: The outdoor hydronic heater can still be used after the rule is in place, as long as it is in compliance with applicable requirements of this rule. If the unit is located more than 300 feet from an occupied building not located on the same property as the unit then there are no restrictions, except to burn clean wood and the opacity limit.

Comment: IDEM has not received enough complaints to warrant banning outdoor hydronic heaters. (MC419, TF467, RR310, CL182, MB421, JJ185, KK30, ST369, LG239, CC181, GM126, JW627, PB426, PB426, DN412, HW173, TS191, CS610, KC243, FM440, LH283)

Comment: IDEM has not received enough complaints to warrant banning outdoor hydronic heaters. Most complaints came in 2006 when a negative and contested report came out criticizing outdoor hydronic heaters. (JP6)

Comment: How many complaints are from homeowners that moved into the area after the boilers were installed? (LG239)

Comment: Clearly outdoor hydronic heaters put many residents' health in jeopardy, and harm the environment. Those 41 documented complaints ("canaries in a coal mine") show what unregulated wood burning does to the environment. (RAWSEP362)

Response: The 41 complaints received by IDEM are not from the same individual. If someone complained more than once it was considered one complaint. These numbers do not include complaints made to local air pollution control boards or local health agencies. IDEM has also received a number of informal contacts from citizens who are concerned about the health effects of smoke from outdoor hydronic heaters, but who have decided not to file a formal complaint about the unit. Many neighbors are uncomfortable complaining. IDEM does not know how many complaints are from homeowners that moved in to the area after the outdoor hydronic heater was installed. If a homeowner moves into an area during the summer when the unit is not is use, it may be hard to even know that the unit was in existence. Other states and U.S. EPA have identified the same concern from outdoor hydronic heaters as Indiana and find action to be necessary to protect public health. In addition to complaints received, IDEM is concerned about the impact of these units on the $PM_{2.5}$ standard. Violations of the standard can put an area into non-attainment resulting in restrictions impacting economic development.

Comment: Hydronic heater was purchased and installed in absence of state regulations. (RP418, MB421, JW279, SG281, AD278, SW354, SW354, KK30, CL629, LS628, HS245, JS5, HL172 MM188, DK431, CC181, SR604, LP31, CB609, JZ314, JB276, JB277, SM240, WF127, TS183, RG231)

Comment: Allow current systems to operate as is. (VH427)

Comment: Regulations should not apply to existing units. (KT605, LH283)

Comment: Previous correspondence from the Governor indicated that commenter would not be forced to stop using unit. (DP453)

Response: IDEM believes that the proposed regulations for existing units are reasonable and necessary. The requirements for existing units are fairly consistent with recommended industry practice, except for the summertime operating restriction if an occupied building (neighbor's residence) is within 300 feet. The 20% opacity limit should be able to be met with good combustion practices and proper maintenance of the unit.

Comment: Hearth Patio and Barbecue Association has published Best Burn Practices, and these represent the simplest and most sensible approach to reducing wood smoke until the U.S. EPA passes their revised new source performance standard (NSPS). (HW173, TS191, CS610)

Response: The best burn practices are just recommendations and would not have the effect of law. While IDEM agrees with the best burn practices are reasonable and should be followed, not everyone follows the best burn practices. The opacity requirement will aid in ensuring that best burn practices are applied.

Comment: Air quality is the right of all Americans. More studies are being done concerning the effect of particulate emissions from smoke. The greatest financial investment that the average American makes during his or her lifetime is a dwelling. No individual should be allowed by law or lack of laws to ignore or cause the financial detriment of whole neighborhoods or neighbors. One or two of these outdoor hydronic heaters could adversely affect the breathing of many or all neighbors. Follow the U.S. EPA statement: "No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quality, characteristic or duration that are injurious to human, plant or animal life or to property, or that unreasonably interfere with the comfortable enjoyment of life or property." Voluntary compliance is meaningless; people will not comply unless they must do so by law. It is up to elected lawmakers to live up to their responsibilities to pass and enforce tough mandatory emission standards regarding outdoor hydronic heaters. (TG3)

Comment: IDEM should regulate outdoor hydronic heaters very tightly because they produce a great deal of air pollution which has bad health effects on neighbors and wildlife in the local environment. The air pollution has fine particles and chemicals such as polycyclic aromatic hydrocarbons (PAHs), benzene, and formaldehyde which have known health effects. (DS641)

Response: IDEM agrees and is proposing to move forward with this rulemaking. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. For some homeowners this is their only source of heat.

Comment: Regulating outdoor hydronic heaters has not worked in other states and there is no reason to think it will work any better in Indiana. Connecticut has a rule with 200 feet setback and stack height requirements and still continues to get complaints from neighbors of outdoor hydronic heaters. These units emit smoke all day and

all week. They are not to be confused with indoor wood stoves which are tested and certified by U.S. EPA. Because of their basic design, it is possible that they will never be able to be made safe. Appliances cycle between oxygen deficient and oxygen rich burning. The smoke that leaves the stack lacks the heat energy necessary for it to rise or diffuse and be diluted by the ambient air. Breathing containing wood smoke on a continuous basis has many harmful effects. (EHH135)

Response: Phase 2 units are tested and certified by U.S. EPA, similar to indoor wood stoves. With reduced emissions and blowers that push the smoke will be able to rise and be diluted by the ambient air. IDEM does not dispute that breathing wood smoke can be harmful, but through either reduced emission levels and better technology for Phase 2 units or increased dispersion with taller stacks/greater distance to people for existing units, the impact will be less and aid in protecting public health.

Comment: Commenter supports the IDEM rulemaking. Outdoor hydronic heaters pose serious health hazards no matter what regulations are placed on them. Commenter and neighbors are impacted by an outdoor hydronic heater that is located in a populated area that was moved into a huge barn to avoid being subject to the LaPorte County ordinance. (TO89)

Comment: Commenter supports the requirements for burning clean wood only, 20% opacity, stack height requirements, limit on operations during warm months, set-backs, and installation of U.S. EPA certified units. There is no reason the public should be exposed to unhealthy air so someone can heat a swimming pool. The rule could be improved to increase the set-back to 500 feet from the neighbor's property. In addition, some sort of minimal acreage should also be required. Rules should also provide relief for the public if the outdoor hydronic heater operates in a condition that causes smoke to leave the property where the unit is located. (SDCF428)

Response: IDEM appreciates the support. Due to the varying levels of reliance on these units for heat and limited amount of property for some currently installed units, the proposed rule does not include set-back requirements. The rule does include stack height requirements if a neighboring occupied building is located within 150 feet of the unit and a summertime operating restriction if a neighboring occupied building is located within 300 feet of the unit. The proposed rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Comment: The commenter supports IDEM's decision to move forward on this important rule, and urges the department to amend the draft rule to ensure that it protects children and others sufficiently from particulate matter emitted by outdoor hydronic heaters. (IKE612)

Comment: The commenter supports reasonable regulations to address emissions from outdoor hydronic heaters, but opposes unreasonable regulations that discriminate against the use of outdoor hydronic heaters to heat their homes, farms, and small businesses at just the time that citizens need an affordable, renewable, domestic alternative to imported oil. Central Boiler already sells three models, the E-Classic 1400 and 2300 and the Maxim M 250, that surpass the Phase 2 emission limits in the draft rule. (PG439)

Response: IDEM appreciates the support for this rulemaking. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. IDEM considers the draft rule language for preliminary adoption a reasonable rule.

Comment: It is the commenter's belief that majority rules. (JJ185)

Response: Requirements for a state agency proposing rules include many opportunities for public comment. IDEM considers all comments and department goals when proposing rules to the air pollution control board for adoption by board vote.

Comment: Old units should be retrofitted to be as clean as an U.S. EPA certified wood stove or closed down, not grandfathered in to a lesser standard. (DS641)

Comment: Commenter lives near an outdoor hydronic heater. Luckily for the commenter it usually blows away from house, but that means it is then blowing towards another neighbor. It's not right that someone can smoke out others so that they can reduce their heating bills. It could also reduce property value and make it harder to sell the house. All outdoor hydronic heaters should be required to meet the Phase 2 standard. It would be better to ban the units. (MO320)

Response: The economic impact of requiring all current installations to be closed down and changed out with a Phase 2 unit would be too excessive for many Indiana citizens for this rulemaking to be fair and reasonable.

Comment: Can outdoor hydronic heaters legally operate under existing laws for $PM_{2.5}$, air toxins, and visible emissions? Four states have determined that outdoor hydronic heaters can not legally operate under laws essentially identical to Indiana's. These are CO, MD, NJ, and WA. Don't give rights to one individual over the right of another individual's health and welfare. (JD284)

Response: Indiana law does not specifically prohibit the use of outdoor hydronic heaters. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, the proposed rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. IDEM is striving to balance the concerns of both outdoor hydronic heater owners and air quality.

Regulation of new outdoor hydronic heaters/Phase 2 standard

Comment: Commenter supports requirement restricting distribution, sales, and installation of outdoor hydronic heaters to Phase 2 units. This requirement is in the best interest of public health as these units are certified as 90% cleaner than non-certified outdoor hydronic heaters. (LCHD4)

Comment: Commenter supports the U.S. EPA phase 2 standard for new installations. It would be nice to require older units to install phase 2 units. (TO89)

Comment: Indiana politicians should not have problems with new rules which ensure that Hoosiers breathe clean air. No one, even in rural areas, should be allowed to imperil the health of neighbors by unnecessary emissions from outdated outdoor hydronic heaters. Therefore, the commenter is in support for implementation of U.S. EPA's phase 2 standards for outdoor hydronic heaters. (GM460)

Response: IDEM appreciates the support for Phase 2 emission limits for new installations.

Comment: Since the early 1980's Hardy Manufacturing has sold hundreds of outdoor furnaces to farmers and industrial workers in Indiana. An emissions limit imposed so quickly without durability testing is essentially a back door ban. The commenter recommends using a more common sense approach by requiring consumers to use siting requirements that are published in the HPBA Best Burn Practices. This eliminates the trend of installing this type of product in urban areas. The commenter recommends that Indiana consider a stack height and location rule to prevent urban sales. (FM440)

Response: IDEM is not proposing siting requirements for new or existing units. This is a land use decision that is reserved for local governments. IDEM's intent for the proposed rule is to reduce particulate matter emissions for new installations. A Phase 2 requirement for new installations promotes use of more efficient units.

Comment: Smoke issues should be addressed and an emission standard set, but these are two separate issues and should be addressed as such. Smoke issues normally are nuisance complaints and should be addressed by the person that owns the unit. Penalizing the customers who do right, the sales people and the manufacturer, for a few people not operating those units right, is not right. The emission standard does need to be lowered but there needs to be more durability testing of these units first. They need to be customer friendly and affordable. They need to be built, sold, field tested, customer tested, and modified all on a realistic time table. Allow the manufacturers to stay with the voluntary program for a few more years and by 2013 newer units should be ready. Otherwise you are basically banning outdoor hydronic heaters for most of the new customers in Indiana. The State of Indiana will suffer tax losses. (BB326/JB327)

Comment: Manufacturers need more time to make these next generation units available to the public. Manufacturers agreed to a volunteer program to try to develop wood burning units that would meet the Phase 2 standard by March 31, 2010. Manufacturers didn't say this would be the date that they would be ready to only manufacture Phase 2 units. Just making a unit pass an emissions test does not mean it is ready for mass marketing. (FM440)

Comment: Manufacturers are working hard to develop appliances that meet these emission targets. As U.S. EPA's website shows, there are currently about 10 models that have qualified under the Phase 2 target, with 3 of these being pellet-fueled models. However, qualifying a model under the U.S. EPA program is not synonymous with wide availability of that model in the marketplace. Often, a manufacturer will only offer limited quantities of a newly qualified model for sale for one or more heating seasons after its qualification, in order to gather field experience with the model before producing it in large quantities. In addition, manufacturers sometimes need time to obtain safety certifications before offering the model for sale even in limited quantities. (AC637)

Response: IDEM understands that manufacturers are working hard to increase the number of available Phase 2 models on the market. The rule will not be effective until early 2011 and dealers can continue to sell units that are already available in their inventory. Some manufacturers already have Phase 2 units available.

Comment: The draft rule would allow Phase 2 units less than 150 feet from a neighbor's residence. This would be criminal considering the inversion factor and the stack height misinformation, along with present thoughts of using opacity as a regulatory tool. Consideration should not be given to Phase 2 outdoor hydronic heaters until U.S. EPA certifies that Phase 2 units meet particulate emissions of 7.5 grams per hour or less (NSPS limit for non-catalytic wood stoves). What is the distance under all topographic and meteorological conditions where these emissions are dispersed that is safe and at non-nuisance levels? Another option is to not allow older or Phase 2 units to be installed in a major or minor subdivision. A yearly inspection should be made since boilers can break down. U.S. EPA has no plans to develop mandatory emission standards for outdoor hydronic heaters. Setback and stack height provisions do not prevent nuisance. (JD284)

Response: Northeast States for Coordinated Air Use Management (NESCAUM) modeling shows that the Phase 2 particulate matter emission limit is low enough that the $PM_{2.5}$ health based standard is protected under a variety of conditions. However, this does not guarantee non-nuisance levels of emissions. IDEM is not proposing to regulate the location of outdoor hydronic heaters. That is a local government land use decision. IDEM agrees that units can break down and proper maintenance is important. The opacity limit should help ensure that units are properly operated and maintained. U.S. EPA has announced that they plan to regulate new manufacturing of outdoor hydronic heaters along with other types of wood combustion units not currently included in the Residential Wood Heater NSPS.

Comment: If the operator follows the fuel prohibition requirement, there should be little need for U.S. EPA certification regarding particulate matter. (A458)

Response: The fuel prohibition requirement will not ensure compliance with the Phase 2 emission limit. Phase 2 units are designed differently to reduce particulate matter emissions. Therefore, U.S. EPA certification is an important component of reducing emissions from outdoor hydronic heaters.

Stack height

Comment: The commenter located their unit in a place that would have the least impact on any neighbor and put three foot extension on the chimney. It would be an undeserved burden to increase chimney height since there have been no complaints from neighbors. (MH434)

Comment: Excessive stack height should not be required. Stack height requirements are reserved for industry and were not required for outdoor hydronic heaters when unit was bought. (RP418)

Comment: Chimney height of five feet taller than the highest roof peak within 150 feet of a structure not located on the same property is unreasonable and dangerous. (DM 416, VH427)

Comment: Extending stack height above owner's two story house is unreasonable. (BC465)

Comment: If the stack height requirement applies to any structure within 150 ft of the unit, the unit would need an additional 15 to 20 feet extension. How is that possible? (RW422)

Comment: A 35 foot stack would be impossible to clean and would create more creosote in the stack because it would be cooler at the top. (JW627)

Comment: To assure low creosote build up at higher stack heights will mean the development of new and improved insulated stack beyond what is currently on the market. (SP355)

Comment: Guide wires will be needed for some stack extensions further burdening the owner. (SP355)

Comment: Why aren't units made with higher chimneys if it isn't safe. (AD278)

Comment: The draft regulation is a proposed zoning regulation masquerading as an environmental regulation. Maybe a model regulation under the state building code that municipalities could adopt to permit installations of outdoor hydronic heaters would be an appropriate location for the content of this proposed regulation. The stack height requirement implies a stack height for mixing of the air emissions from the units as would be required for an industrial discharge. It is no such thing and actually equates to a building code requirement that is inherent in most building code and local ordinances for chimneys on a structure. (TH109)

Response: To address concerns with excessive stack height, IDEM is proposing, in the draft rule for preliminary adoption, that along with the requirement to extend the stack five feet higher than the roof of a neighbor's residence, the maximum height required by the rule is twenty-two feet from the ground. Even though IDEM is proposing a maximum stack height, manufacturer best burn practices still recommend a stack height two foot above a neighboring roof line within 100 to 300 feet. In general, manufacturers recommend locating outdoor hydronic heaters at least 100 feet away from the nearest residential building not served by the unit, taking into consideration the prevailing wind direction. While some stack extensions may still need guide wires or require different stack material it is important that units have stacks high enough to get the smoke up and away from impacted neighbors. IDEM feels that the maximum stack height is necessary because IDEM does not want to prohibit the use of outdoor hydronic heaters as a home heating option when the unit has already been installed. The twenty-two feet maximum height will cover situations where the house is a one story building. Also, NESCAUM modeling shows that in situations where the dispersion of emissions from the outdoor hydronic heater is not impacted by a near-by house (stand alone scenario - no downwash), the maximum $PM_{2.5}$ concentrations are decreased by more than half when comparing a unit with a stack of 10 feet to one with a stack of eighteen feet. Stack height requirements are being proposed as a method of increasing dispersion of emissions to the extent reasonable before neighbors are impacted. IDEM believes this is a reasonable approach to protecting public health.

Comment: Chimney height restriction is unreasonable when unit is located on a 40 acre plot and owner lives in the only structure on the land and yet the rule would require a 30 foot stack extension. (CL629)

Comment: Proposed rule does not provide any chimney height exceptions for units located on a 36 acre farm with no neighboring structures within 2,000 feet of the unit. It is only necessary to regulate chimney height in city or highly populated areas. (RM331)

Response: The draft rule did not include a stack height requirement for outdoor hydronic heaters located more than 150 feet from a structure not located on the same property as the heater. IDEM is also proposing to clarify in the draft rule for preliminary adoption that neighboring structures are occupied buildings to address situations where homeowners are located near industrial sheds that are not occupied.

Comment: Emissions from even an indoor wood burning heating device can be noxious and injurious at health at a distance of more than 150 feet. It should be at least 1,500 feet. What air dispersion model was used to establish the five foot height and 150 foot distance? (AK33)

Comment: The proposed stack height requirement may protect adjacent property owners from the effects of an outdoor hydronic heater, but it should be modified to apply also to the structures on the property where the unit is located to protect any children living there. The rule could be modified to limit the provision to residential structures on the same premises. (IKE612)

Comment: The 150 foot setback is inadequate. Even a 300 feet setback might not be enough depending on weather conditions and topography. Increased stack height may help, but it may not if topography and inversion weather conditions are not favorable. A 500 foot setback would be safer for neighbors. (DS641)

Comment: Commenter partially supports stack height requirement in draft rule language. It should be increased to eight or more feet. In terms of distance from neighbor's property, the commenter originally proposed 500 feet for the LaPorte County ordinance. IDEM should increase distance from 150 feet to 400 or more feet. This is an essential part of a new rule to safeguard populated neighborhoods with either older or Phase 2 units. (TO89)

Comment: Stack height of five feet or higher than a neighbor's roof top within 150 feet of the stack does not go far enough to address the problem. Stack height is almost irrelevant during a temperature inversion when smoke that comes out at a certain height is then plunged to the ground. (LK409)

Comment: Commenter supports stack height requirement of five feet higher than the peak of any roof structure not located on the property, however, a distance of 300 hundred feet would be better than the proposal of 150 feet from neighboring non-serviced buildings. Experience from compliant investigation has shown that 150 feet falls short of public health needs especially if the units are not Phase 2 certified. (LCHD4)

Comment: Stack height makes no difference in a populated rural setting. In this situation the neighbors unit is 270 feet away and located near the unit owner's property line. When inversion happens and it happens frequently, the smoke crosses the property line. Units should be at least 500 feet per NESCAUM from adjacent dwellings with human inhabitants in order to protect their health and welfare, maybe more. (JD284)

Comment: The best component of the draft rule is stack height requirement. (A458)

Comment: Do this thoughtfully or not at all. A stack height requirement is not enough because of inversion where hot meets cold with terrible emissions driven to the ground and carried many feet, making life miserable for anyone in its path. Citizen's health is affected 24 hours a day, seven days a week. Outdoor hydronic heaters should never be installed in a minor or major subdivision unless they meet U.S. EPA's certified wood stove emissions limit of 7.5 grams per hour. Set back distance from a neighbor should be at least 500 feet. Property values affected by units installed in neighborhoods. (MS170, LK409)

Comment: Emissions from a neighbor's outdoor hydronic heater makes house smell like smoke and sometimes the house practically unlivable. Commenter supports the draft rule. The distance should be increased from 150 feet to at least 300 feet. IDEM should limit the number of these units that can be operated with a given area when they are located in a residential area. (KS247)

Response: The draft rule does not contain setback provisions. This is a land use decision reserved for local governments. While not all situations will be addressed by the proposed rule, a rule to address adequate dispersion of particulate matter and reduction in emission of particulate matter for new installations will provide a minimum set of requirements. This rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. IDEM believes that the owner of the property and outdoor hydronic heater is responsible for determining if children living on the property would be negatively impacted by the outdoor hydronic heater.

Summertime operating restriction

Comment: Summertime operating restriction is okay. (DL316, TL234, SD438, JC353)

Comment: Unit is not used during the summer time. (BC465, BR445, GA90, TN328)

Comment: Seasonal prohibition between May 1 and September 30 for rural owners is unreasonable. (RP418, HL172, CC181, JZ314, RZ472, RG231, TN328)

Comment: Some units are used year round to heat water. Do not ban during the summer months. (TF467, HS245, CH128, CB609, A458, EP87, DW137)

Comment: Do not ban during the summer months, unit is used to heat swimming pool the entire summer season. (JW279, CB609)

Comment: Do not ban during summer months, some units are used to heat greenhouses and farm buildings. (KK30)

Comment: It is unreasonable to impose seasonal operation restrictions. (CL629, MM188, SR604, LP31)

Comment: Commenter was on verge of investing in CO_2 sequestering through use of pond algae which may not be possible if money saved by using in summer months is not available. The rule could be structured into a cap and trade format so that summer time operators don't have to tolerate a blanket banning of the boiler operation. (A458)

Comment: A calendar restriction is not appropriate for seasonal restriction. Use outside ambient temperature. Air quality levels are worse in the summer months. IDEM should focus should be on peak times when poor air quality is an issue, rather than on those months when air quality is not a factor. Outdoor hydronic heaters, in most instances, do not operate during the summer months. (PB426)

Comment: Any restriction on seasonal use should be decided by local zoning ordinances and not by a statewide IDEM regulation. (LH283)

Comment: Unit is used all year. Even during the summer months, because of location of unit and amount of property owned, the unit is not affecting neighbors. So it is not reasonable to limit summer time use during these types of situations. (DN412, DH66)

Comment: During the summer not more than ten pieces of wood per week are used for hot water purposes. (SM535)

Comment: Commenter is currently affected by the LaPorte County ordinance that bans from May 15 through September 15. If a neighbor's house is far enough away to not be considered a problem in February, then why would the emissions be a problem on May 20, or July 20 for that matter? (DB86)

Comment: It is unreasonable that the State attempt to prevent farmers, people with large tracts of land, people in rural areas and people with their own wood lots from being able to use their units during the summer months. It is unlikely that the outdoor hydronic heater complaints that IDEM has received are from rural units. Also, there are proposed stack height requirements for units already installed in more highly populated areas. Modeling studies have been performed to show that stack heights are crucial variable in controlling ambient levels of pollutants in adjacent areas. (AC637)

Comment: The restriction on seasonal use of any non-phase 2 compliant outdoor hydronic heater, regardless of the distance from such unit to any neighboring residential use is an unnecessary restriction on the many Indiana residents that use their outdoor hydronic heaters to heat hot water for business, farm or residential use year round without neighbor complaints. (PG439)

Comment: Banning during summer months cuts into value of investment. (RZ472)

Comment: The seasonal operation ban is too restrictive for installations that are a heat source for other processes such as heating process water or providing a heat source for low temperature hot water absorption liquid chillers. If the intent is to restrict the use during this period for residential domestic hot water causing low demand on the hydronic heater then it should be so structured rather than a blanket restriction on all uses. (SS626)

Comment: As a hardwood lumber manufacturer, as summer time ban would put the company and eight employees out of business. A substantial investment has been put into the outdoor boiler system used to heat buildings and dry lumber year round. Many sawmills, greenhouses and farm operations (to dry corn) use these boilers year round. (GM126)

Comment: IDEM should not ban in the month of May because unit is used to heat home and it is the only source of heat. (RL429)

Comment: Outdoor hydronic heater is occasionally used in May and September to heat home. (GP437, WF127, FM440)

Comment: Heating season in Indiana can begin before September and extend after May 1. (PG439) Homeowners may need heat in May. (KK30, JS5, BW169)

Comment: Outdoor hydronic heater is used from September 20 to May 20 just about every year. (BS236)

Comment: Outdoor hydronic heaters should not be allowed to operate between May and October because those are the months that neighbor's windows are likely to be open and neighbor's are likely to be out in the yard. It is bad enough to let them operate during the winter heating season because the smoke still comes in the neighbor's closed windows. (DS641)

Comment: Indoor air is replenished with outdoor air, even during the heating season. (AK33)

Comment: Smoke enters homes even through closed windows and doors. People spend more time indoors and travel less away from their homes in the winter. Not operating from May through September is not good enough. Citizens' health is affected 24 hours per day/seven days per week. (LK409)

Comment: The commenter does not support a rule that allows Phase 2 certified units to operate year round. All outdoor hydronic heaters should operate only between the period of October 1 and May 15, the timeframe in Indiana open burning laws. (LCHD4)

Comment: The commenter rejects year round operation, even for Phase 2 compliance units. (TO89)

Comment: April through October and part, if not all of November should be considered as non-operational periods. To close up home so those who own outdoor hydronic heaters can heat water for showers, tubs and spas is not right. It has been touted by those that own them that they are saving on heating bills. Where is the health in the proposed rule? (JD284)

Response: IDEM recognizes that year round operation of an outdoor hydronic heater is very important to many owners. Some units are located in areas that do not impact any neighbors. Others are located close enough to neighbors that although neighbors could be impacted year round, there is a bigger problem in warmer weather when people have their windows open and people spend more time outdoors. This is an air quality problem, not a local zoning ordinance issue. The economic impact of a summertime operating ban for most outdoor hydronic heater uses is less than during other times of the year since the unit is not needed for heat in the summer. To address concerns from outdoor hydronic heater users that own units located in areas with no neighbors, IDEM is proposing in the draft rule for preliminary adoption that the unit can operate year round if the unit is located 300 feet or more away from an occupied building not located on the owner's property. Businesses that use outdoor hydronic heaters year round should be able to continue to use them, since most likely there will not be a neighboring occupied building within 300 feet of the unit. IDEM is requiring a summertime operating ban, in instances where the unit is located close to neighbors and with a stack height requirement, because even with a taller stack a neighbor could be impacted. IDEM is not proposing to restrict summertime operation for units

meeting the Phase 2 limit because these units have particulate matter emissions low enough that NESCAUM modeling shows that with a variety of modeling scenarios the $PM_{2.5}$ air quality standard is adequately protected. Also, the NESCAUM model rule did not included a summertime operating restriction for Phase 2 units. IDEM has also changed the summertime operating ban from May through September to June through August in the draft rule for preliminary adoption. Units may be used to heat their homes in May and September. If citizens are to know when they can operate their unit, a rule based on ambient temperature would not work. To address this concern with heating needs, especially for the elderly, IDEM is proposing to change the dates. IDEM understands that this will lessen the relief that some people need because they are impacted by nearby units, but this is a statewide rule and other requirements in the rule will help.

Local regulations

Comment: Leave it up to the cities and towns to regulate outdoor hydronic heaters. (MC419, RS311, A456, KS441, LH283, SM535, ML361, PR356, CD357, RT359, KR360, MB374, MH375, HM376, FW377, BW378, PR379, FN380, PW381, SW382, MH383, EH384, RH385, AM386, CM387, CM388, JW389, RB390, MC391, LW392, ML393, BE394, CM395, WM396, MC397, RM398, JM399, DH400, AS401, LB402, RV403, CV404, RG405, SL406, DW407, PS408, BG450, JG454, RD530, CH371, CH372, TB457, MF370, DW358)

Comment: Let local health department deal with the five or six complaints per year. (JS258)

Comment: If there is a nuisance dispute, let it be taken care of in the local courts. (WW607, JS608, JR536, KW537, SP538, SY539, PW540, DS541, TR542, LG543, DT544, JR545, BD546, TB547, HM548)

Comment: Addressing nuisance issues is one thing and ambient air quality another. If nuisance is part of the impetus of this rule, then the appropriate avenue is through the civil court system, not through taxpayer funded rules. (PB426)

Comment: The procedure leading to regulation of local outdoor hydronic heaters and across the nation by local municipalities of densely populated and rural areas alike has been long and difficult for neighbors whose health has been affected by outdoor hydronic heaters. (LK409)

Comment: Broad regulation of outdoor hydronic heaters would not be burdensome to citizens of Indiana. (RAWSEP362)

Comment: The proposed rule would permit local governments to impose inconsistent emissions standards, setbacks, or stack heights which will frustrate the ability of manufacturers and dealers to sell outdoor hydronic heaters in Indiana and the ability of Indiana residents to find economical, sustainable and renewable alternatives to imported heating oil. The commenter asks that the proposed rules be modified to clarify that local ordinances and rules establishing standards, setbacks, stack heights, or fuel use requirements shall not be inconsistent with those established under the proposed rules. (PG439)

Response: IDEM does not have the authority to require that local ordinances be consistent with the requirements in the state rule. A statewide approach adapted from NESCAUM's model regulation for outdoor hydronic heaters is an appropriate way to provide minimum requirements applicable across the state and to reduce particulate matter emissions from the units in a manner that is practical and predictable for buyers as well as for manufacturers. However, whether to allow or restrict the location of these devices within the jurisdiction of a local government is a local land use decision reserved for local governments. Currently, several Indiana communities have local ordinances prohibiting the placement of new units in those jurisdictions. These local ordinances will not by affected by this state rulemaking, as this rule specifically allows local ordinances to be more restrictive than the state rules. This is a statewide rule and it may be necessary for more stringent or different local regulations.

Comment: A new rule without a good nuisance provision that protects residents without breaking their savings account is inappropriate. The NESCAUM model rule included nuisance provisions. (JD284)

Response: IDEM has not included nuisance provisions because they are difficult and costly to enforce. While they sound like a great idea, in practice, they tend to be subjective and are too difficult to implement. The rule proposed for preliminary adoption is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Cost and impact on economy and jobs

Comment: Wood is a necessary fuel to save money on heating costs. (KR654, RL471, CI470, KI469, RP418, MH415, DR414, ML413, BS410, DC315, DL316, HL424, BL452, CS451, JB442, HM443, BR445, JT330, RL429, SG281, DS257, JJ185, LS628, RM184, RS430, TS183, MS274, ES666)

Comment: Wood can be cut for $20 and it would take 250 gallons of #2 diesel for the same amount of BTUs at approximately $800. (U368)

Comment: It is hard enough to pay the bills as it is and commenter can not afford to pay for any upgrades or another heating source. (SD667)

Comment: Before the outdoor hydronic heater was installed the electric bill was an average of $375 during the winter months and after installation it went down to $126. (JL420)

Comment: Wood is cheaper than fuel oil. Last year commenter spent $12,000 to install an outdoor hydronic heater for the home. (RR244)

Comment: The outdoor hydronic heater saves $2,500 in liquid petroleum (LP) gas. (JH373)

Comment: Before retiring and purchasing an outdoor hydronic heater the propane bill for the house alone was in excess of $3,000 a year. (JE32)

Comment: The outdoor hydronic heater saves an average of $200 per month, including heat for large barn and water. (CH128)

Comment: Outdoor hydronic heater was installed four years ago and was paid back in three years. The propane bill went from $5,700 a year to $95.50 (minimum usage charge). (CB609)

Comment: Commenter spent $8,234 on outdoor hydronic heater to save on oil bill. The unit saves money compared to spending $3 a gallon for 1,800 to 2,000 gallons of oil a year. (DH66)

Comment: New unit in rural LaPorte County has been a blessing. In 2008 over $3,000 was paid for bottled gas. Using available wood this has been a great savings. (DH186)

Comment: The outdoor hydronic heater has taken away need to purchase propane, which is a great cost savings. (RG231)

Comment: With the ever increasing price of propane, heating with wood is an economical option. Commenter lives on a small farm that has woods providing a ready source of fuel for little cost. (JZ314)

Comment: Commenter is retired and unit was installed with the pre-planned thinking of thriftiness. (CR106)

Comment: Commenter saved $3,600 last year from not buying propane. (TP613)

Comment: The outdoor hydronic heater saves commenter $7,500 each year in heating costs for small business. (BS236)

Comment: There are too many people on welfare already. (ES34)

Comment: Outdoor hydronic heater reduces operating expenses for bed and breakfast business. (GB218)

Comment: Many home owners have been hit with high property taxes and now Indiana wants to impose careless rules to keep homeowners from keeping their energy bills under control. (BF625)

Comment: Outdoor hydronic heaters are also used to heat water saving more money. (AW417)

Comment: Along with homes, outdoor hydronic heaters are also used to heat greenhouses and workshops. For people on a limited income, this is helpful. (SL334) (LN333)

Comment: The outdoor hydronic heater is used to heat home and lumber business. It would cost $20,000 to $25,000 per year to heat with LP. The savings in heating cost is needed to stay in business. (TL248)

Comment: The current administration is pushing to pass the cap and trade bill which could double the cost of energy for everyone. There are already too many that can't afford oil, gas or electric heat and count on wood to stay warm. Now is not the time to start banning any type of wood heaters. (SD438)

Comment: Based on BTU, wood is much less expensive than fossil fuel prices. At current prices, natural gas is three times the cost of wood, propane is five times the cost of wood, and electricity is seven times the cost of wood. Does IDEM really wish to subject the citizens of Indiana to the high cost of expensive fossil fuels or high cost of a phase 2 unit? (BB449, WW363)

Comment: Many households are currently saving thousands of dollars per year by heating their homes with outdoor hydronic heaters. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: The proposal will benefit the economy of Indiana. Indigent homeowners can receive government subsidies such as food stamps and energy subsidies. Homeowners can reduce heating costs by insulating their homes. (RAWSEP362)

Comment: If these regulations are put in place, will IDEM compensate outdoor hydronic heater owners with cash or tax credits equal to the amount that it will cost to come into compliance with these unnecessary regulations? (TB457)

Response: IDEM understands that many outdoor hydronic heater users are heating with wood because it is the only affordable option for them and they have access to free or inexpensive wood. The proposed rule is drafted to allow homeowners to continue to use outdoor hydronic heaters. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Comment: Phase 2 units cost an additional $2,000 to $4,000 per unit. This is too much for some families. (AW417)

Comment: Phase 2 units cost more. (DM 416)

Comment: The higher priced units will wreck the cost analysis used to purchase a new unit. (SM535)

Comment: The new standards are an unnecessary expense to Indiana taxpayers considering the impact on air quality. (HW173, TS191, CS610)

Comment: Many households will not be able to afford the cost increase of the new Phase 2 units. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: The proposed rulemaking implies that Phase 2 models are not more costly than traditional outdoor hydronic heaters. A standard hydronic heater with a 225,000 or 200,000 BTU output costs $3,999 and Central Boiler's E-Classic 1400 with a 107,500 BTU output costs $9,630, 140% higher and 53% less BTU output. Thus, the proposed rulemaking is claiming false data to make the case for the regulation. (BB449, WW363)

Comment: They are not 14% more expensive than old generation unit, but more on the order of 50% to 100% more expensive. (FM440)

Comment: The goal of using renewable resources to provide energy will be adversely affected if these devices are banned. Lower income users will not be able to replace their existing units. (JR192)

Response: IDEM has contacted manufacturers to obtain estimates on the cost of Phase 2 certified units. The price range for the six models included in the fiscal analysis for this rulemaking is $8,495 to $10,495. According to one manufacturer, the difference between a Phase 2 unit and a non-Phase 2 unit in their model line is $3,500. The higher Phase 2 unit cost will not impact the cost of installation of the unit that can be typically around $2,000. The size of the Phase 2 models is comparable to the other residential sized models on the market. When comparing BTU output of a model it is important to note that the BTU output rating for U.S. EPA's certification rating is an 8-hour BTU output rating and not the maximum rating. IDEM does recognize that Phase 2 units cost more and is concerned about this impact on the lower income users. As rules are put in place the sales of Phase 2 units will gain momentum. This may cause an increase in available models on the market and the price to decrease. Owner of Phase 2 units also may benefit from reduced wood usage due to increased efficiency.

Comment: It would be unaffordable to buy materials to meet the stack height extension or stop using the unit. (JL321, SW354)

Comment: Cost to comply with the stack height requirement will affect the cost/benefit ratio for a unit purchased last summer. Owner would have reconsidered purchasing unit if had known about this additional cost to use unit. (DF448)

Comment: Cost of modifications is a concern when money was just spent buying a new unit. (RR310)

Comment: The proposed rulemaking makes misleading implications attempting to convince the reader that the cost of becoming compliant with the proposed stack height requirement will be minimal. An average cost for a homeowner to make this modification to an existing outdoor hydronic heater is $815. This includes brackets and installation. (BB449, WW363)

Comment: The proposed rulemaking convinces a reasonable person that the cost of becoming compliant with the stack height requirements would be minimal considering its positive impact will result in better communities throughout Indiana. (RAWSEP362)

Response: Many owners will not have to increase stack height on the unit because there is not an occupied building within one hundred fifty (150) feet of the unit. According to best burn practices by the Hearth, Patio, and Barbecue Association (HPBA), outdoor hydronic heaters should be located no less than one hundred (100) feet from any residence not served by the heater. If located with 100 to 300 feet to any residence not served by the heater, it is recommended that the stack be at least two (2) feet higher than the peak of that residence. During the Second Notice of Comment Period, IDEM requested information on the cost of meeting the stack height requirement and as the comment summary notes, comments on cost were received. The cost for a stack height extension will depend on how much the stack needs to be extended. According to comments received, the average cost will be $815. IDEM does not know what stack height this average cost was based on. The proposed rule for preliminary adoption limits required stack height to twenty-two feet. IDEM feels that this results in a reasonable approach to protecting public health.

Comment: The proposed regulation will damage Indiana's economy. The economy needs the support of burning wood. A number of jobs could be affected by this rule, for example, wood splitters, sales, and service. (RM534, DL316, DL425, RM533, DL433, AP319, JW627, SM535, KG193, LP318, JG366, BL461, SG466, ML361, PR356, CD357, RT359, KR360, MB374, MH375, HM376, FW377, BW378, PR379) (FN380, PW381, SW382, MH383, EH384, RH385, AM386, CM387, CM388, JW389, RB390, MC391, LW392, ML393, BE394, CM395, WM396, MC397, RM398, JM399, DH400, AS401, LB402, RV403, CV404, RG405, SL406, DW407, PS408, BG450, JG454, RD530, CH371, CH372, TB457, MF370, DG664, TN328)

Comment: The state of Indiana can find better ways of spending Hoosier dollars than by regulating outdoor hydronic heaters. (AW417, TF467)

Comment: Indiana is currently getting revenue on sales tax for sales of current heaters and supplies. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: The harvesting and burning of wood is an important economic factor in Indiana. Most businesses that supply outdoor hydronic heaters are small manufacturers and retailers. (BB449, WW363)

Comment: This regulation will not damage the economy by killing jobs. Those who work for the outdoor hydronic heater industry may lose their jobs if they do not diversify. The new green economy is vital to the future economic growth of Indiana. (LK409) The proposal will improve the economy of the State of Indiana by preserving tourism, industry jobs, and decreasing health care needed by sickened residents. (RAWSEP362)

Response: The proposed regulation will not damage Indiana's economy. Outdoor hydronic heaters can continue to be used and new units can be purchased and installed as long as they are Phase 2 units. Small businesses that use outdoor hydronic heaters year round should be able to continue to use them, since most likely there will not be a neighboring occupied building within 300 feet of the unit. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Comment: Selling outdoor hydronic heaters provides income. (A455)

Comment: IDEM should consider the LaPorte County ordinance. Dealers already face a tough ordinance in LaPorte County. (AF462, DM241)

Comment: There are Hardy dealers in Indiana who depend on their sales as their only income. (PH29)

Comment: As a dealer who has spent the last 10 years building a small business selling and repairing outdoor hydronic heaters this rule will cause hardship. (JC353)

Comment: The proposed rule could very negatively impact small businesses selling outdoor hydronic heaters. The commenter owns a small business in Ohio County that employs four local residents, with five others as subcontractors. (JP6)

Comment: As a dealer of Hardy heaters, this rule will affect jobs. Indiana will lose sales tax revenue if dealers are not permitted to sell heaters. It will also affect the rural people who cannot afford to heat their homes another way. (RD110)

Comment: There are twenty-five Hawken Energy authorized factory representatives in Indiana who support their families at least in part by selling and installing Hawken Energy outdoor hydronic heaters. These workers face losing their livelihood if the proposed regulation is adopted. (WW363)

Response: IDEM understands that dealers will be affected by the requirement for new units to be Phase 2 certified. The proposed rule does include sell-through provisions for dealers to sell the units they currently have in stock. Dealers will be able to sell Phase 2 certified units and as manufacturers continue to develop additional Phase 2 certified units customers will have more options.

Comment: Very few Phase 2 units are being sold. One company that sold Phase 2 units, Greenwood Technologies, has gone bankrupt. (BB449, WW363)

Comment: Commenter is aware of one manufacturer stopping production. This is not the answer for increasing work-force and regaining economic stability. (RM331)

Comment: To limit all new installed units to EPA Phase 2 will severely restrict the new installation of the renewable resource heaters. There are too few available models, and the cost increase will restrict their use greatly. (JR192)

Comment: Many phase 2 models are not in actual production. They are too expensive for actual marketing, and they operate with technology not easily understood and applied by the average purchaser. (HW173, TS191, CS610)

Response: Indiana is not the first state to impose Phase 2 emission limits on new installations. Phase 2 units are currently available. Though few have been sold to date in Indiana because it is not required and they are more costly, availability is expected to increase, and with increased availability, the cost difference should decrease.

Comment: IDEM and the Governor should consider the possibility that outdoor hydronic heaters might affect property values. (JD284)

Comment: Property values affected by units installed in neighborhoods. (MS170, LK409)

Response: The draft rule does not address any potential aesthetic or other non-environmental concerns that may impact property values; however, a reduction in emission impacts should also help minimize the negative effect on these concerns.

Start-up business

Comment: Commenter owns a start up company for aftermarket heat exchanges on log burners to reduce burn cycles by 50%. This reduces the amount of wood burned and increases efficiency. Increasing stack height too much makes this product unusable. Stack temperature peaks at 900 °F with an average temperature of 650 °F during a long burn cycle with at a stack height of two feet. Once the height gets above ten feet, along with any wind and low outdoor temperature, this heat is quickly lost. The temperature at ten feet can be as low as 300 °F. (SP355)

Response: Not all outdoor hydronic heaters will be affected by the stack height requirements. The stack height requirements only apply if there is an occupied building, not located on the same property, within 150 feet of the unit. While increased efficiency of outdoor hydronic heaters is important, appropriate stack height is also important when neighbors may be impacted by the smoke. The proposed rule for preliminary adoption includes a maximum stack height of twenty-two feet.

National regulations

Comment: U.S. EPA has already put out a voluntary program and has plans to establish national standards. Why does IDEM need to regulate also? (AF462, DM241, DC235)

Comment: U.S. EPA has plans to revise the Residential Wood Heater New Source Performance Standard (NSPS) to include outdoor hydronic heaters. (JP6, HW173, TS191, CS610, TN328, FM440, KK30)

Comment: Indiana tax money will be spent on the same regulations that the federal government is working towards implementing. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: U.S. EPA is revising the NSPS. U.S. EPA has set an aggressive timetable to amend the NSPS. (AC637)

Comment: IDEM should reconsider the rushed timing of the IDEM rule. (HW173, TS191, CS610)

Response: IDEM initiated this rule over five years ago to address the health and quality of life impacts on neighbors as demonstrated by complaints, as well as to address the impact of outdoor hydronic heater emissions on the $PM_{2.5}$ standard. U.S. EPA has only recently decided to regulate outdoor hydronic heaters at the national level and it will cover only the manufacture of new units. The Indiana rule will cover the gap between implementation of the state rule and federal rule for manufacture of new units and will address minimal operating standards for all units. The schedule for a national rule has been pushed back once and could be delayed again. IDEM does not feel the state schedule has been rushed. This rulemaking was started over five years ago.

Opacity

Comment: Opacity was designed for large industrial emission sources and is not very practical for small home type equipment. (KK30, CL629, HL172, MM188, CC181, SR604, CB609, JZ314, RG231, TN328)

Comment: Opacity sounds difficult to regulate. (ST369)

Comment: No citizen should be regulated by a so called visual and highly subjective observation. This is not a true measure of particulate matter. (DW137)

Comment: Opacity requirement is a judgment call and would vary from person to person. (HS245, LP31)

Comment: An individual cannot accurately conduct their own reading, nor can they be accountable for the varying conditions, which dictate the smoke plume. (JB276, JB277, AC637)

Comment: The worst part of the draft rule is the opacity requirement. Enforcement of opacity will be impossible. How about using the enforcement funds for mandatory training and licensure of the operator like the State Chemist requires for a private chemical applicator permit? (A458)

Comment: Opacity comes from the emission of water vapor. The unit will not meet this standard for the first hour or two hour after the wood box is filled as the water in the wood is released into the exhaust from the heater. If the idea is that particulates are the cause of the opacity then IDEM is sorely lacking in an understanding of the basic combustion process. The heater must remove the water every time the firebox is loaded. Even the phase 2 units will not meet this standard for opacity. Since water vapor is not a pollutant, there is no need for an opacity requirement. (TH109)

Comment: The unit produces both steam and particulate matter. An opacity limit may prompt people to call and register a complaint with IDEM. Without some type of different criteria other than opacity (that to a lay-man would be both steam, and particulate matter) IDEM will get nuisance calls and owners could never use the unit due to neighbors complaining about the opacity issue. (DF448)

Comment: The proposed opacity requirement is unnecessary to protect the environment or public health and cannot be reliably enforced. Owners will not be able to determine whether they are in compliance with the proposed opacity standard. Even for qualified observers, visible emissions readings are also highly subjective. U.S. EPA's own documentation for Test Method 9 acknowledges that trained observers are likely to overestimate opacity. The stack height and operational requirements reduces the need for an opacity limit. (PG439)

Comment: According to IDEM "Current administrative rules regarding opacity and fugitive dust emissions do not specifically address emissions from outdoor hydronic heaters. (AC637)

Comment: U.S. EPA Method 9 (described at 40 C.F.R. Part 60, Appendix A) requires that the opacity observation be made at a point in the emission plume where condensed water vapor is not visible. (AC637)

Comment: Residential sources are also not typically subject to opacity limitations, for example, indoor wood stoves, fireplaces, barbeques, outdoor fireplaces, bonfires, leaf-burning and other residential sources have not typically been subject to opacity limitations. One of the many reasons is that none of these residential sources have emission controls that can be continuously used to maintain emissions below a specified opacity limit and all are subject to variables that can result in plumes with variable opacity. Opacity measurements require technical expertise. The state has that expertise, but homeowners and small businessmen do not, requiring them to incur considerable expense to contest opacity observations, many if not most of which would be questionable for the reasons noted above. It is bad public policy to put homeowners and small businessmen in such a vulnerable position, particularly since there is such a high likelihood that the opacity measurements in question will be invalid if reliable readings cannot be made. (AC637)

Comment: If the opacity limit is retained, the standard should not apply during initial start up, when no established coal bed exists and following refueling, when the water vapor in the exhaust from the new wood fuel will in any event prevent accurate opacity readings. (PG439)

Comment: Opacity should not be used as a regulatory tool, because of the cyclic nature of the unit and because of impossibility of measuring it at night and when it is cloudy, rainy, or snowy. IDEM should regulate the smoke like fugitive dust, so that if it can be smelled or seen crossing a property line, the smoke is illegal. Offensive smoke coming across a property line should be regulated as a nuisance. The rule should include nuisance provisions because neighbors can be put in a difficult position with a devalued home and poor air quality with health effects. (DS641)

Comment: Commenter supports IDEM regulation, but an opacity limit is not a useful approach at all. (TO89)

Comment: The requirement for less than 20% opacity of smoke does not go far enough. Opacity can only be measured in daylight. (LK409)

Comment: Please put in place rules to address smoke from outdoor hydronic heaters that enters neighbors home. (PB1)

Comment: The LaPorte County Health Department wasted a lot of time and money to regulate outdoor hydronic heaters using opacity as a regulatory tool. It does not work. Commenter provided a report from local health department investigating an outdoor hydronic heater. Outdoor hydronic heaters are cyclic in nature which makes opacity regulations problematic to enforce. A sunny day is needed to measure opacity. According to email communication between commenter and NESACUM, the NESCAUM model rule includes opacity standards; however, this does not assure clean burning units. The opacity component is meant to assures that the end user burns appropriate materials. Given the cyclic nature of the unit, opacity regulations can be problematic to enforce. Emissions tend to be heaviest during the first few cycles (damper on then off consists of a cycle) and an inspector will need to be on site when emissions are at their peak or remain to watch the entire cycle of the operation, which may be impractical. What about enforcement of 326 IAC 6-4 Fugitive Dust Rule? (JD284)

Response: Opacity is an important tool for IDEM inspectors when responding to complaints about outdoor hydronic heaters. Opacity is a surrogate for particulate emissions and helps assure compliance with the requirement to burn appropriate fuel. Water vapor will not cause the opacity limit to be exceeded. By definition, opacity does not include condensed water vapor. If the plume is detached (not touching the smokestack), then opacity readings can be taken before the steam starts. Opacity readings can also be taken at the end of the stream after the plume has had time to cool down and the steam to dry up. OAQ compliance and enforcement managers are certified every six months to read smoke using 40 CFR Part 60, Appendix A of Reference Method 9. As part of the certification test no reading may be off by more than 15%. For white smoke, an average error rate of 7.5% for 25 plumes is acceptable and for black smoke, an average error rate of 7.5% for 25 plumes is acceptable. Though there is a margin of error in Method 9 readings, this margin is taken into account in the Method 9 method itself and is deemed an acceptable margin of error. IDEM recognizes that even though a preferred method, Method 9 readings may not be appropriate for every situation. The thicker and denser the smoke is, the higher the opacity reading will be. Many industrial sites do not have certified Method 9 readers on site and use other operating parameters to ensure that they are meeting the limit. While most homeowners will not be able to take their own readings a homeowner can have assurance that compliance with the rule is being achieved based on the following three premises:

1. Good combustion practices are followed, including using only an approved fuel.
2. Routine maintenance as recommended by the manufacturer is followed.
3. IDEM has not taken opacity readings higher than 20% on the unit.

The Fugitive Dust Rule, 326 IAC 6-4, is not a good tool to use for smoke from a stack or chimney due to the exceptions listed in 326 IAC 6-4-6. Visible plumes from a stack or chimney which provide adequate dispersion is considered an exception to the fugitive dust rule. Opacity was created as a surrogate for particulate emission limits. The reason why there are no opacity limits on activities such as open burning, barbeque pits, etc is because these activities do not have particulate limits associated with them. This rule proposes to put particulate limits on hydronic heater stacks and, therefore, opacity is the best tool to use because it was created for the purpose of using on stacks or chimneys as an indicator of particulate issues.

Safety concerns

Comment: Outdoor hydronic heaters are safer than indoor wood burning appliances. There is less risk of fire and carbon monoxide poisoning. (RP418, DM 416, TB322, CF275, MB421, AD278, SW354, CL629, HS245, JS5, HL172, MM188, CH128, RM184, RM331, SR604, LP31, CB609, JZ314, TN328)

Comment: Outdoor hydronic heaters are safer than indoor wood burning appliances. There is less risk of fire and carbon monoxide poisoning. The rule proposal will expose IDEM and the State to potentially enormous legal liability associated with deaths and injuries resulting from people switching back to indoor wood appliances. (BB409)

Comment: A good condition indoor wood stove was used until commenter had an attic fire. This will not happen with an outdoor hydronic heater. (RG231)

Comment: Outdoor hydronic heaters are safer than burning wood inside and reduce insurance premiums. (JW627)

Comment: A previously owned indoor unit produced more smoke and did not do a good job of heating the home. (RN630)

Comment: Since switching from an indoor unit to an outdoor unit fewer headaches and respiratory illnesses have occurred. (JE32)

Comment: Indoor wood inserts mess up the house and catch the chimney on fire. (CC181)

Comment: Of the 1.9 million (average) house fires reported each year, 8.2% start in an internal chimney. (KS441)

Comment: Homes with indoor wood heating appliances have higher insurance premiums. (ES34)

Comment: An outdoor hydronic heater is better than the previously owned indoor wood stove because it reduces the mess in the house and allergies from wood smoke. (JK631)

Comment: For the elderly, an outdoor wood stove is easier than an indoor wood stove where wood has to be carried to the basement by the armload. (CA423)

Comment: The proposed rule will reduce the exposure of the air pollution control board and the State to a potentially enormous legal liability associated with deaths and injuries resulting from outdoor hydronic heater shed fires and associated house fires, as well as the legal liability for harm to neighbors from soot, smoke, and fire. Out of sight is not out of mind unless one does not care about his neighbors. (RAWSEP362)

Response: IDEM agrees that outdoor hydronic heaters have inherent safety advantages, but is also concerned about the health impacts and proper use of outdoor hydronic heaters. Outdoor hydronic heaters will continue to be a home heating option for Indiana residents after the effective date of this rule. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Education and awareness

Comment: IDEM should provide education to owners on proper use of the outdoor hydronic heater and it should never be used to burn trash. (SL334)

Response: When an IDEM inspector visits with an owner of an outdoor hydronic heater because of a complaint, the inspector provides information to the owner on best burn practices to try and resolve the situation. Outdoor hydronic heaters should never be used to burn trash and this is specifically prohibited in this rule. IDEM is also making information available on IDEM's website and is offering materials to dealers to make information available to owners.

Utility companies

Comment: This regulation could be perceived as caving in to special interest groups because less propane, oil, and electricity will be purchased. (JL446, TF365, DC315)

Comment: This rule will only make the gas companies richer. (ES34)

Response: This rulemaking is the result of several complaints about the units from Indiana residents, combined with a growing national discussion and understanding of the health risks due to smoke from the units. IDEM does not believe this rule will have any significant impact on utilities.

Excessive regulation of citizens

Comment: Americans have been using wood fuel for over a hundred years. (KR654, DR414, BS410, TE312, HM443, MM188, DE85, TN328)

Comment: Heating with wood is consistent with the independent practice of Americans since colonial times. (SR604, JZ314)

Comment: Wood has been used safely since the beginning of recorded history. (SM535, BB449, WW363)

Comment: Wood has been used for heat since fire was discovered. (VS190)

Comment: The government should be praising people for being able to find a more efficient and cost-effective way to heat their homes. (CR367)

Comment: This is just another example of government control. There are too many regulations. (TE312, RR310, RS311, JL321, TB322, JL232, JL237, JL329), WW607, JS608, SW635, GS308, JR536, KW537, SP538, SY539, PW540, DS541, TR542, LG543, DT544, JR545, BD546, TB547, HM548, KG193, LP318, JG366, BL461, SG466, RS136, ES34, MS274, DG664)

Comment: This is just another idea by the government to force people into a panic. (HE246)

Comment: Don't take away freedom to make heating decision. (DH272, BL64, RG231, JM282)

Comment: Stop taking away rights and freedom under the disguise of safety. (LR107)

Comment: Government is always changing their mind on regulations or what policies they are promoting. (CC181)

Comment: All citizens should have the right to burn wood in heaters for the warmth in their homes. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: It is unfair to place restriction on the use of outdoor hydronic heaters. Do not restrict the freedom to choose how to heat a person's home. (RL471, CI470, KI469, RP418, AL273)

Response: Over time, much as been learned about wood smoke and its health effects. Wood smoke is a complex mixture of gases and particles. When these microscopic particles get into eyes and respiratory systems,

they can cause health problems such as burning eyes, runny nose, and illnesses such as bronchitis. Particle pollution also can aggravate chronic heart and lung diseases and is linked to premature death in people with these chronic conditions. The draft rule allows citizens to continue to use their outdoor hydronic heater and new units to be purchased that are cleaner burning. Wood will continue to be a source of fuel for heat. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Enforcement of rule

Comment: Residents are not comfortable with government checking their outdoor hydronic heater for compliance. (RR310)

Comment: These regulations will be extremely difficult to enforce. (VH427)

Comment: Who will enforce these rules, what will the penalties be, and where will the penalty money go? (CL182)

Comment: A cost-benefit analysis should be implemented to evaluate the cost of increased manpower necessary to enforce and monitor this proposed rule versus allowing U.S. EPA to initiate its upcoming rule. (PB426)

Comment: Commenter's neighbor continued to illegally dump trash in river even though IDEM had put in place a permanent injunction and an agreed order with the neighbor. If IDEM had trouble with just this one person not in compliance how are there going to be enough resources to check compliance with this rule? (DN412)

Comment: The rule contains no enforcement authority, no penalties for violations, and no mandated action to be taken upon receiving a complaint. Of what value and of what force is this rule in the absence of specified enforcement procedures and penalties? (AK33)

Comment: Some neighbors complain about other neighbor's wood smoke just to be vindictive. (AS317)

Comment: No monitoring is specified in rule. Who will monitor emissions from, and fuel burned in hydronic heaters, when, and how? (AK33)

Response: IDEM does not stipulate penalties in individual rules. IDEM anticipates that enforcement of this rule will be precipitated by complaints. When notified of a concern, IDEM will respond appropriately. IDEM does not have the resources nor will there be a benefit to search for violations without cause. This is similar to IDEM's open burning rules where a citizen may see illegal trash burning and report it to IDEM. Inspectors may also be out in the field and notice problems with compliance with this rule.

Greenhouse gases

Comment: Heating with wood has no increase in global warming as does heating with oil, coal, and natural gas. (RP418, BS410, RM331, SM535, DB324, RG231, TN328)

Comment: Wood differs from the fossil fuels coal, oil, and gas because it is part of the natural carbon/carbon dioxide cycle. No additional carbon is released because the same amount of carbon dioxide would be released if the tree died and were left to rot on the forest floor. (BB449, WW363)

Comment: The United States government states clearly that wood burning is not harmful to the environment in terms of greenhouse gases: "Under international greenhouse gas accounting methods developed by the Intergovernmental Panel on Climate Change, biogenic carbon is part of the natural carbon balance and it will not add to atmospheric concentrations of carbon dioxide. Reporters may wish to use an emission factor of zero for wood, wood waste, and other biomass fuels in which the carbon is entirely biogenic." (BB449, WW363)

Comment: Rotting wood gives off methane, a more serious greenhouse gas, instead of carbon monoxide and carbon dioxide that burning releases. To ban these devices will actually increase the release of methane versus carbon monoxide and carbon dioxide. (JR192)

Comment: The commenter recommends that inefficient outdoor hydronic heaters by phased out in favor of U.S. EPA certified units or even cleaner forms of heat such as solar hot water. Too much has been made of outdoor hydronic heaters burning wood being "carbon neutral." If they are inefficient and polluting, they are not desirable or sustainable. Trees can't grow as fast as wood gets burned in these devices. (DS641)

Comment: Wood burning and wood smoke harm the environment. Wood smoke is a form of carbon black. Black carbon (soot) is the second leading cause of global warming and stopping particulates is the quickest way to slow climate change. Black carbon is on the United Nations list of greenhouse pollutants, and is proven by many scientific studies to act as harmfully as many greenhouse gases, surpassed only by carbon dioxide (CO_2). This does not dispute that fossil fuels harm the environment too. (LK409) (RAWSEP362)

Comment: Outdoor hydronic heaters emit CO_2 and particulates. (RAWSEP362)

Response: IDEM agrees that wood burning is a carbon neutral activity, and contributes no additional greenhouse gases to the atmosphere, if wood is used responsibly and in a sustainable fashion. Due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health. This rule is not being developed in relation to greenhouse gas concerns.

Wood as a fuel source and renewable energy

Comment: Outdoor hydronic heaters reduce electricity usage and most electricity is produced by fossil fuels. (DL83)

Comment: Gas, coal, and oil pollute the air. Wood is more natural. (LB82)

Comment: Everyone is always talking about alternative energy and then when something comes along other are eager to take it away. (VS190)

Comment: Wood is a renewable energy source. (AW417, MH415, BS410, RM534, TE312, AO364, RS311, AS317, RM533, JL329, WW607, JS608, JR192, CB609, DP260, SM535, JR536, KW537, SP538, SY539, PW540, DS541, TR542, LG543, DT544, JR545, BD546, TB547, HM548, MF370, BB449, WW363)

Comment: Wood is a renewable fuel and does not harm the environment or add greenhouse gases to the environment. (ML361, PR356, CD357, RT359, KR360, MB374, MH375, HM376, FW377, BW378, PR379, FN380, PW381, SW382, MH383, EH384, RH385, AM386, CM387, CM388, JW389, RB390, MC391, LW392, ML393, BE394, CM395, WM396, MC397, RM398, JM399, DH400, AS401, LB402, RV403 CV404, RG405, SL406, DW407, PS408, BG450, JG454 RD530, CH371, CH372, TB457, DW358)

Comment: Outdoor hydronic heaters are an efficient use of a renewable wood resource. The unit only smokes when the water needs to be reheated. (RZ472)

Comment: Wood burning does not release any more carbon dioxide than the eventual biodegradation of wood if it is not burned. It is carbon neutral. (AW417, MH415, AS317)

Comment: Isn't this a good way to conserve natural gas? (HE246)

Comment: More is at stake than just air quality improvements. As Americans strive to achieve energy independence, providing a greater focus on biomass fuels and renewable energy sources, outdoor hydronic heaters and other solid fuel appliances have an important role to play in the nation's energy policy as part of the emerging national program to address global climate change. (AC637)

Comment: Outdoor hydronic heaters use wood from fallen trees and scrap wood. This cleans up the woods, reduces landfill waste, and is economically friendly. (DM 416, JJ185, EB468, RM184, JR192, GS308, RZ472, BK65, CR106, CD138, ES34, JW233)

Comment: Trees damaged from storms can be used to heat home. (BS410, CS451, RM533, FR603, GP437, MC111)

Comment: Farms need clearing (fence rows) and wood provides fuel for the outdoor hydronic heater. (DL325, CH371, CH372)

Comment: The outdoor hydronic heater uses wood from management of woodlands where trees are cut to allow healthy trees to grow better. (KG332, JE32, DW137)

Comment: Getting hardwood living in a rural wooded area is easy. Live trees for wood are not cut down. (LG239)

Comment: In 2008, woods around unit were destroyed by Hurricane Ike. This wood provides plenty of fuel for two units used to heat and provide hot water for two residences, a farm shop, and auction facility. (DL433)

Comment: Wood is in abundant supply in much of Indiana. (TK549, BE550, KK551, MK552, VD553, VD554, MK555, WK556, MK557, JT558, CK559, TF560, CN561, DM562, AT563, TC564, U565, TB566, DR567, ST568, KS569, DS570, JB571, KD572, CA573, EA574, JA575, CR576, JT577, CT578, MC579, KC580, MC581, MC582, KC583, PB584, KC585, TC586, RJ587, U588, CT589, KM590)

Comment: The State consists of heavily wooded, rural areas. These trees are a valuable natural resource when alive, and much less valuable when cut. Trees provide oxygen and naturally cleanse the air. It makes no sense to apply clean air regulations only to those in densely populated areas. (LK409, RAWSEP362)

Comment: The harvesting and burning of wood depletes important natural resources, forests in Indiana. (RAWSEP362)

Comment: Outdoor hydronic heaters help people be less dependent on foreign oil. (RS311, SW354, TW261, SW114, MM180, BB449, WW363)

Comment: The use of outdoor hydronic heaters allows owners to be independent from oil and electricity providers. (MH415)

Comment: What fuel will be used when the world runs out of oil, which is expected to happen within 50 years? Oil demand will continue to increase along with price. Indiana homeowners will be forced to find alternative heating methods. (BB449, WW363)

Comment: Natural gas is a reliable fuel as a bridge to the cleaner energy sources of solar, wind and geothermal. (RAWSEP362)

Comment: It would be nice to use geothermal heat, but it is unaffordable. (GP437)

Comment: It would be nice to use geothermal, but living in an old draft home, even with insulation, an outdoor hydronic heater is most economical. (RN630)

Comment: Indiana should encourage more wind and solar power. (A455, A456)

Comment: Cutting and splitting wood is a good way to stay in shape. (RP418, AO364, SR604)

Comment: Owning an outdoor hydronic heater is hard work. The wood has to be cut, split, hauled and stacked before it is ever burned in the furnace. (CH128)

Response: IDEM agrees that wood is a renewable fuel. Using wood from fallen trees and scrap wood makes

sense from a natural resource management point of view. IDEM is not proposing a ban on outdoor hydronic heaters. However, there remains concern about the impacts of particulate matter emissions on the health of those exposed to it. Particulate matter is one of six criteria pollutants for which the U.S. EPA has established health based air quality standards. The emission limits proposed for outdoor hydronic heaters are designed to allow the use of these devices while protecting air quality standards and minimizing particulate matter emissions to the ambient air.

Other sources of pollution and concerns

Comment: Wood burning does not come close to the pollution caused by burning leaves. (RP418, HL172)

Comment: In most areas of the state outdoor burning is still allowed. The smoke from an outdoor hydronic heater is less offensive than leaf burning. Commenter chooses not to complain about leaf burning because this is supposed to be a free country. (KC243)

Comment: Prescribed burns by the government seem to be okay, why not outdoor hydronic heaters that are located away from neighbors? Some prescribed burns are so bad that you can't stand to be outside. (JB611)

Comment: An outdoor hydronic heater can't put off as much smoke as open burning by fire departments for training purposes or open burning to clean up trees cleared from fence row or commercial clearing of land. (LN444)

Comment: Compared to power plants pollution from outdoor hydronic heaters is minimal. (BL452)

Comment: The amount of miles that some people drive is a waste of resources. If people want to help out, they should drive less. (RW422)

Comment: How can IDEM say yes to two new wood burning biomass plants and then regulate outdoor hydronic heaters? (JL420, CJ651, JW627)

Comment: With a biomass plant going into Scott County polluting non-stop for the next 30 years, why would IDEM regulate outdoor hydronic heaters? (LS628)

Comment: The biomass plant is going to put pollution into the air and waterways. (DD665)

Comment: There are a lot more other important things the Governor needs to be worrying about. (WG606)

Comment: Investors buying up farms and destroying woodlands is more important. (MH271)

Comment: IDEM talks about the negative effects of exposure to fine particulate matter in wood smoke. What about the negative health benefits associated with vehicle emissions resulting from constant traffic jams? (PB426)

Comment: IDEM should focus efforts on areas of greater impact such as decreasing ozone generating activities during the hottest parts of summer. (PB426)

Response: IDEM and U.S. EPA have other regulations to address many of the air quality concerns expressed in these comments. This rulemaking recognizes that the emissions from outdoor hydronic heaters, together with the increasing popularity of the units and increased prevalence in less rural areas (i.e., towns), is a potential health concern from an air quality standpoint. This rulemaking seeks to address particulate matter emissions from outdoor hydronic heaters, and does not preclude concurrent or future rulemakings to address other air quality concerns. Particulate matter is one of six criteria pollutants for which the U.S. EPA has established health based air quality standards. The emission limits proposed for outdoor hydronic heaters are designed to allow the use of these devices while protecting air quality standards and minimizing particulate matter emissions to the ambient air.

Other types of wood burning

Comment: Does this rulemaking include indoor wood stoves? (KR654)

Comment: Indoor wood stoves and fireplaces don't have operating restrictions. (AS317)

Comment: Are indoor stoves next to regulate? (SL334, BF625)

Comment: Proper fuel use restriction should be applied to all furnace owners (indoor stoves, outdoor hydronic heaters, and fireplaces). (CD138)

Comment: Why only hydronic heaters? There are other outdoor heaters? (PH115)

Comment: Does this set a precedent to regulate indoor fireplaces next? (JL446, GH313, DS323, JW233)

Comment: There is a lot of smoke from campfires and charcoal grills during the summertime. Are we going to ban this? (KK30)

Comment: Fireplaces put out more smoke than outdoor hydronic heaters. (RM184)

Comment: There are at least a million more fireplaces in Indiana than there are outdoor hydronic heaters, yet these are unregulated. There are also more and more open outdoor fire pits in Indiana as well. (RZ472)

Comment: There is no difference between a wood stove in the house or outside. (LB82)

Comment: All wood burning should be treated the same (indoor or outdoor). (JL420)

Comment: All sources of heat have some negative impact on the environment and outdoor hydronic heaters should not be singled out. (MH415, BB449, WW363)

Response: This rulemaking does not regulate indoor wood stoves or fireplaces and does not set a precedent to do so. Manufacture of new indoor wood stoves is already regulated at the federal level by the Residential Wood Heater NSPS. In terms of operating standards for existing indoor wood stoves they usually do not cause as much of a concern as outdoor hydronic heaters because they have smaller fireboxes and people are not as likely to put trash and other restricted items in them. They do not have a water jacket surrounding the firebox, which in some

older units, can quench the combustion temperature resulting in large amounts of smoke. Also, a smaller firebox in the indoor wood stove can mean more fuel reloadings and better combustion. Fireplaces and outdoor fire pits are usually not used as a primary source of heat and, therefore, are not used as often. Fireplaces will have a house chimney to help with adequate dispersion of smoke. Other outdoor heaters, such as forced air outdoor heaters, are not included in this rulemaking because they are not currently a part of U.S. EPA's voluntary Phase 2 program and since they are designed differently don't have the same design problems as older outdoor hydronic heaters.

Efficiency of outdoor hydronic heaters

Comment: Commenter burned as much wood in fireplace for supplemental heat as used with the outdoor unit heating the whole house. (PC189)

Comment: Approximately the same amount of wood was burned in fireplace to heat one room as is used to heat entire house with outdoor hydronic heater. (SR604)

Comment: Many of the designs that were installed many years ago are the least efficient and are past their useful life. These are being replaced. (JR192)

Comment: Newer system is healthier for the family and more efficient than previous unit. (JT230)

Comment: Currently installed outdoor hydronic heater uses half the wood as a previous indoor wood stove insert used. (DH209)

Comment: Wood burned in outdoor hydronic heaters burns at a higher efficiency than any open flame and therefore does less harm to the environment than any open burning, including campfires. (SM535)

Response: Outdoor hydronic heaters that are currently installed can continue to be used if they comply with the applicable provisions in this rule. Older outdoor hydronic heaters that have been in use longer can be upgraded to even more efficient Phase 2 certified units when they are no longer operable. The proposed rule will ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Basis for proposed rule

Comment: The proposed regulation was prepared using bad data. (RM534, JS5, ML361, PR356, CD357, RT359, KR360, MB374, MH375, HM376, FW377, BW378, PR379, FN380, PW381, SW382, MH383, EH384, RH385, AM386, CM387, CM388, JW389, RB390, MC391, LW392, ML393, BE394, CM395, WM396, MC397, RM398, JM399, DH400, AS401, LB402, RV403, CV404, RG405, SL406, DW407, PS408, BG450, JG454, RD530, CH371, CH372, TB457, MF370, DW358)

Comment: The proposed regulation was prepared using grossly flawed data. The data used is anything but sound and unbiased. (SM535)

Comment: The proposed regulation was prepared using extensive scientific data which has been ignored for too long because of lobbying by outdoor hydronic heater manufacturers. (LK409)

Comment: The proposal was prepared using scientific data. (RAWSEP362)

Comment: The NESCAUM analysis has been resoundingly debunked. In an April 21, 2006, letter from Philip H. Gitlen of Whiteman Osterman and Hanna to NESCAUM regarding the NESCAUM report released in March 2006, the following statements were made:

- The photo is misleading because the outdoor hydronic heater is being operated incorrectly forcing steam to escape from a relief vent.
- NESCAUM's statements regarding particulate matter are misleading because NESCAUM ignores U.S. EPA data which shows that the rate of particulate emissions from outdoor hydronic heaters are similar to the rate of emissions from certified woodstoves.
- NESCAUM's statements regarding low stack heights for outdoor hydronic heaters is incorrect.
- NESCAUM's statement that outdoor hydronic heaters are not designed to achieve secondary combustion is incorrect.
- NESCAUM repeatedly misrepresents U.S. EPA test data.
- NESCAUM's presentation of near-source emission monitoring is misleading because NESCAUM fails to disclose that emissions from an outdoor hydronic heater with proper stack heights comply with national ambient air quality standards.

IDEM cannot justify the proposed rulemaking based on the flawed NESCAUM findings. (BB449, WW363)

Comment: It is commenter's belief that the NESCAUM report is slanted against the use of outdoor hydronic heaters. More recent air quality modeling has been done by RTP Environmental Associates, Inc. (RTP) (August 21, 2007 letter from RTP to U.S. EPA) and presented to U.S. EPA. (FM440)

Comment: The photo shown on the cover of the NESCAUM report shows wood smoke coming out of an outdoor hydronic heater in a manner that has been documented thousands of times. Search the internet or look at a unit in use. The rate of particulate emissions from outdoor hydronic heaters is not the same of emissions from a certified wood stove. Low stack heights can be found on outdoor hydronic heaters. An outdoor hydronic heater with proper stack heights does not comply with the national ambient air quality standard. (RAWSEP362)

Comment: Comments submitted by HPBA rely strongly on modeling studies evaluating the ambient impacts of outdoor hydronic heater emissions. The modeling that HPBA has done to evaluate the ambient impacts of

models that qualify under the U.S. EPA Phase 1 emission target is particularly emphasized. This study clearly shows that even these models, when installed with stack heights consistent with manufacturer's instructions, have ambient impacts well below the revised 24 hour $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS), at the closest receptor to the unit (10 meters or roughly 30 feet) that can be modeled. Since the Phase 2 emission target is lower, the ambient impacts of Phase 2 units would be lower still. These findings obviously have implications both for stack height and setback requirements. (AC637)

Comment: The RTP modeling study submitted to U.S. EPA demonstrates that stack height requirements on outdoor hydronic heaters would meet the federal requirements of the NAAQS. (FM440)

Response: The modeling studies mentioned confirm that proper stack height and the distance to the nearest neighbor are important. While emissions data may show that on a lb/MMBtu basis, actual emissions from a certified indoor wood stove may be comparable to an outdoor hydronic heater, on a lb/hr basis outdoor hydronic heaters do emit more particulate matter. This is important in terms of air quality impacts on nearby neighbors. Also, emissions test data for outdoor hydronic heaters is for a limited number of models and may not represent the variety of units that are currently in use. Some units used in Indiana are much older than the ones in the test studies and may have deteriorated over time from use.

Health effects of wood smoke

Comment: The proposed limit for particulate matter of 0.32 lb/MMBtu heat output is ten times the limit for other wood combustors with much higher smokestacks, combustors thus less likely to be a hazard or nuisance to neighbors. Why is the limit not established at the emissions of efficient, modern, indoor, wood combusting heating devices? What primary source of data and conclusions prove that this 0.32 lb/MMBtu limit is safe for the public health. (AK33)

Comment: Indiana has a terrible reputation for failing to protect its environment. Does this rule protect citizens and what data proves this? (AK33)

Response: The 0.32 lb/MMBtu Phase 2 limit is based on studies by NESCAUM that show this limit is protective of public health. Industrial sources of particulate matter have a much more stringent emission limit because they have a much high potential for environmental or health impacts. In addition, these sources are usually emitting several different pollutants and controlling them has a significant benefit. In addition, those sources are regulated under different standards and have the capability of installing air pollution controls to reduce emissions. Also, since industrial sources are much larger and consume much more energy, their lb/hour emissions are going to be much higher than for an outdoor hydronic heater. Manufacturers have been working with U.S. EPA through a voluntary program to develop cleaner burning units. U.S. EPA has a program in place to test and certify units that meet this limit. As U.S. EPA continues to work with manufacturers there will be increased availability potentially a decrease in price for Phase 2 units.

Comment: Incomplete combustion of wood produces many toxic compounds and much air pollution. Combustion with a shortage of oxygen is better termed destructive distillation of wood, as it is termed in industry. Do these emissions from the distillation/incomplete oxidation pose a health hazard? At what concentrations in the air do they? What are the effects on human health? What chemicals, by chemical abstracts number (CAS), do emissions from hydronic heaters consist of, and at what concentrations? Is it safe for human health that IDEM doesn't specify limits of all emissions from hydronic heaters? (AK33)

Response: Wood combustion emits a variety of compounds. The focus of this rulemaking is particulate matter. IDEM has not identified emissions from incomplete combustion and at what levels they may be emitted from outdoor hydronic heaters. The restriction of burning only clean wood will reduce the number of toxic compounds that could be emitted from outdoor hydronic heaters.

Comment: Commenter is concerned about the health implications from outdoor hydronic heaters, which are increasing in number, as rising fuel prices have citizens searching for alternatives. (SDCF428)

Response: IDEM agrees. As fuel prices rise and the push for renewable energy increases sales of outdoor hydronic heaters could increase. The rule proposed for preliminary adoption will ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

Comment: The commenter is opposed to outdoor hydronic heaters as our environment should not have more smoke in it. Children, elderly, and people with heart or lung conditions can be sensitive to the smoke. How can we clean up the air from soot? People living close to units can be exposed to short term particle levels that are unhealthy for sensitive groups. (JC634)

Comment: Although wood is a fuel that has been used since the beginning of recorded history, emissions of particulates from wood burning is hazardous to health. Wood burning contributed to shortened lifespan of earlier generations, and today causes multiple health problems including early death, circulatory problems, heart and lung problems, cataracts, and asthma. (LK409)

Response: IDEM agrees that people living close to these units can be exposed to short term particle levels that are unhealthy and, therefore, IDEM is proposing to move forward with this rule that includes requirements for existing and new installations.

Comment: Since there is no limit on how many outdoor hydronic heaters may be located in a geographical

area there is effectively no limit to the air pollution from these units. What is the maximum number of hydronic heaters per acre and per square mile which can be operated without decreasing air quality below federal clean air standards? (AK33)

Response: Although IDEM is unsure of how many units there are in Indiana or where concentrations exist, research indicates that a single non-Phase 2 unit is capable of producing enough particulate matter emissions to exceed the health based standard in close proximity to the unit. Therefore, a Phase 2 emission limit for new installations and a stack height requirement for existing units is necessary.

Comment: What are the increases in the rates of cancer, of other illnesses, and of death in the use of outdoor hydronic heaters? What are the savings in heating costs? (AK33)

Response: Health impacts associated with the 24-hour health based standard and exposure to particulate matter is well documented. IDEM does not know what percentage of negative health impacts are due to outdoor hydronic heaters. Modeling does show that a single unit produces enough particulate matter to exceed the 24-hour health based standard and poses a health threat for those in close proximity without appropriate stack height on the unit. Savings in heating costs depends on how much space or hot water is heated with the outdoor hydronic heater. It also depends on whether the unit owner has access to free wood.

Sell-through provisions

Comment: The draft rule would become effective upon adoption, without a sell-through exemption for Indiana dealers to sell their existing inventories. This would create a severe economic hardship for Indiana dealers of outdoor hydronic heaters. IDEM should adopt a "sell-through" exemption similar to that adopted in Maine which permits dealers to sell outdoor hydronic heaters that were in inventory as of the effective date of the rule during the year that follows the effective date, or, as in Vermont, without an arbitrary deadline. Installation of such units after the effective date of the rule could still be subject to the proposed stack height requirements. (PG439)

Comment: There are no provisions in the draft rule to sell heaters that are in stock. (FM440)

Comment: The following is an alternative for installation of non-Phase 2 units and Phase 2 units during the interim period (sell-through provision):

"(1) If the non-Phase 2 outdoor wood-fired boiler was purchased and received by any person in Indiana, other than the manufacturer before September 1, 2010 and the "outdoor wood-fired boiler" is sold and installed in Indiana after September 1, 2010, it shall be installed in accordance with the following requirements:

(i) The outdoor wood-fired boiler is installed more than 200 feet from any residence other than a residence served by the outdoor wood-fired boiler or owned by the owner or lessee of the outdoor wood-fired boiler; and

(ii) Has an attached permanent stack extending two (2) feet higher than the peak of the roof of the structure(s) being served by the outdoor wood-fired boiler, if any residence is located more than 200 but less than 500 feet from the outdoor wood-fired boiler other than a residence owned by the owner or lessee of such outdoor wood-fired boiler; and

(iii) Complies with all applicable laws, including but not limited to local ordinances, and its operation does not create a public nuisance.

(iv) The sell through period shall end on September 1, 2011 or upon promulgation of the NSPS regulating hydronic heaters, whichever is more restrictive." (AC637)

Response: It was IDEM's intention in the draft rule language to include sell-through provisions with the definition of "existing" in 326 IAC 4-3-2. Existing units included those units already available for sale. This was not clear when looking at the Phase 2 requirements in 326 IAC 4-3-3. IDEM has clarified this in the revised draft rule for preliminary adoption by adding the following language to 326 IAC 4-3-3(b) to show that Phase 2 requirements do not apply to these types of units:

"(2) the outdoor hydronic heater was available for sale in an Indiana dealer's inventory before the effective date of this rule."

Therefore, IDEM is proposing a sell-through provision without a deadline and without the setback provisions suggested by one of the commenters. The draft rule does not include setback provisions for any unit. This is a land use decision reserved for local governments.

Homemade units

Comment: Most problems are from people who have built their own outdoor hydronic heater that do not have the proper baffling and draft systems to burn the wood efficiently and have stacks only four or five feet above ground level. These are the people that need to be regulated. (MC111)

Comment: The draft rule language does not require homemade units to comply with the Phase 2 emission limit in Section 3 of the draft rule. Why do homemade units not have to meet the Phase 2 emission limit? It is likely that homemade units would be even less efficient than manufactured units, and therefore more polluting. It is also possible that imposing the new emission limit for new units may cause more people to build their own units, defeating the purpose of the new rule. IDEM is urged to extend the Phase 2 emission limit to homemade units. (IKE612)

Comment: IDEM should clarify that homemade units are subject to the seasonal operating restriction under Section 5 of the draft rule. (IKE612)

Response: As required in 326 IAC 4-3-1(b), homemade units are subject to both the operating standards in Section 5 of the draft rule and the general stack height requirements in Section 4 of the draft rule. While IDEM agrees that homemade units can emit more pollution and may not operate efficiently due to poor design, IDEM does not want to deny people the ability to build their own unit when that is all they can afford. This provision is limited to people building units for their own personal use.

Notification requirements

Comment: The commenter supports the requirement for outdoor hydronic heater sellers and dealers to provide a copy of the rule to the outdoor hydronic heater buyer or lessee and provide notification to IDEM of installation location. LaPorte County requires registration of outdoor hydronic heaters and has found this to be a valuable asset. (LCHD4)

Comment: Commenter suggests that IDEM add a registration process to the rule. (TO89)

Response: While it would be a valuable asset to know where outdoor hydronic heaters are located so that IDEM could communicate information about this rule to them, IDEM does not feel it is necessary to track this information at this time. When IDEM is notified of a concern regarding use of an outdoor hydronic heater, IDEM will investigate and respond accordingly. It would be a huge effort for all outdoor hydronic heater owners to send notification information to IDEM and for IDEM to track the information. It is important for dealers to notify IDEM about Phase 2 unit installations so that IDEM can ensure that dealers are selling Phase 2 certified units and that they are notifying buyers about the state outdoor hydronic heater requirements.

Appropriate fuel

Comment: Does IDEM's definition of "clean wood" match the definition in federal law? (AK33)

Response: The definition of "clean wood" in the draft rule matches the definition in NESCAUM's model rule recommended by U.S. EPA. At this time there is not a federal rule for outdoor hydronic heaters. There are definitions for "clean wood" and other similar terms in federal rules regulating incinerators to help differentiate between materials that are considered a fuel versus a waste. For example, in 40 CFR 60, Subpart Eb (Standards of Performance for Municipal Waste Combustors) the definition for "clean wood" is as follows:

> "Clean wood means untreated wood or untreated wood products including clean untreated lumber, tree stumps (whole or chipped), and tree limbs (whole or chipped). Clean wood does not include yard waste, which is defined elsewhere in this section, or construction, renovation, and demolition wastes (including but not limited to railroad ties and telephone poles), which are exempt from the definition of municipal solid waste in this section."

Comment: Why are plywood, construction and demolition debris, and particle board not clean wood? Are these clean wood products? What differentiates clean wood from clean wood products? (AK33)

Response: Outdoor hydronic heaters are not intended to be a disposal unit for construction waste. Plywood and particle board contains adhesives and other compounds that are not present in clean wood that result in the release of toxic emissions. The variability in construction and demolition debris could lead to hazardous emissions. In terms of the draft outdoor hydronic heater rule, plywood, construction and demolition debris, and particle board are not considered clean wood products. The draft rule does not use the term "clean wood products." The term is used in other rules, for example, IDEM's open burning rule uses the term "clean wood products", and it is used in essentially the same way that "clean wood" is used in the draft outdoor hydronic heater rule. In the federal rule to regulate Other Solid Waste Incineration Units (40 CFR 60, Subpart EEEE) the term "manufactured wood products" is used to describe plywood, particle board, and flake board and is not considered "clean wood" or "clean wood products."

Comment: Section 5 of the draft rule provides a list of items that may not be burned. This list may not be sufficiently comprehensive. It should be clearer that an outdoor hydronic heater may only burn clean wood, and then add the list of prohibited items as exclusions to the definition of clean wood. In either event, add "sewage sludge" to the list of prohibited items. (IKE612)

Comment: An inadequate definition of clean wood is given. Is everything which is not specifically excluded to be on or in wood in the definition of clean wood permitted to be in or on wood used as a fuel in hydronic heaters? (AK33)

Response: IDEM is proposing revised language at 326 IAC 4-3-5(b) of the draft rule for preliminary adoption to make it clear, as was intended in the original draft rule language, that only clean wood can be burned. Therefore, the list of prohibited fuels is not necessary, but is a reminder of what common items may not be burned in the outdoor hydronic heater. It is not necessary to revise the list to include "sewage sludge" because the definition of "clean wood" provides the necessary clarity.

Comment: IDEM defines clean wood, but does not exclude wood contaminated through having been used for phytoremediation, and wood contaminated with pesticides in such a way that it would not be classified as treated wood, for example, wood from a tree that had pesticide applied for pest or disease control, and commercial lumber treated to prevent deck stain. Why does IDEM not prohibit the burning of these contaminated materials? Why does IDEM not simply specify that no fuel that is not clean wood shall be burned except for start-up fuels? Why did IDEM write the fuel description as it did, with no apparent prohibition of the burning of material contaminated with asbestos or heavy metals, inked paper, metallicized paper, etc? (AK33)

Response: The definition of "clean wood" excludes any chemically treated wood. It is IDEM's intent that only clean wood be burned. It would be hard to track wood from a tree that had pesticide applied to it while growing and may end up being considered "clean wood." IDEM is proposing revised language at 326 IAC 4-3-5(b) of the draft rule for preliminary adoption to make it clear that only clean wood be burned.

Comment: Commenter's unit is built to use alternate fuel. Is information available on the impact of some of the restricted fuels (petroleum products, coal, particle board, manure, and yard wastes)? (A458)

Response: The commenter does not specify the alternate fuel or whether it is clean wood. If it is a renewable solid fuel recommended by the manufacturer for the unit it would be allowed, unless it is on the prohibited fuels list. IDEM does not have detailed information on the impact of the listed restricted fuels, except that these are the type of fuels that could lead to hazardous emissions or improper operation of the unit. Outdoor hydronic heaters are not designed to burn the restricted fuels, except that some units may be designed to burn coal also. Unless the unit is only designed to burn coal, outdoor hydronic heaters designed to burn wood would be prohibited from burning coal.

Comment: Trash should not be burned in outdoor hydronic heaters. (GH313, TL234, TW261, TS624, SD438, SD667, AS663)

Comment: Burning trash is not worth the risk of damaging unit. (PB426)

Comment: Commenter agrees with list of items people should not burn. (TS183)

Comment: Putting trash, such as, paper, cardboard, and Kleenex, in a landfill causes a greater hardship on the environment than using an outdoor hydronic heater. (DC235)

Response: IDEM agrees that trash should not be burned in outdoor hydronic heaters and has included language in the draft rule to prohibit it.

Implementation

Comment: Currently installed units should be exempt from requirements during any necessary repairs and maintenance. (A447)

Response: The heater should not be used during repairs and maintenance. IDEM understands that in some instances it may be necessary to continue to use the unit for heat even though a required stack extension may be down for repairs. IDEM will use enforcement discretion on a case-by-case basis.

Comment: Currently installed units should be able to be used after sale of the property to new owners. (A447)

Comment: Currently installed units should be able to be used for re-sale or relocation of the unit so long as it meets the property set-back requirements at the new location. (A447)

Response: IDEM is proposing new language at 326 IAC 4-3-1(c) to allow used units to be resold and relocated for up to three (3) years after the effective date of the rule without having to be certified as meeting the Phase 2 emission limits, though they will have to continue to meet the requirements in the rule for existing units. Heaters that transfer hands as part of changes in home ownership (i.e., the house is sold) are not included in the definition of "distribute or sell", and therefore, are allowed.

Comment: These rules, if implemented, should have an expiration date and a review period to reimplement or revise the rules. Impacts on existing operations, sales, and enforcement are unknown. (A458)

Response: IDEM understands that there may be implementation challenges that may be identified after this rule goes into effect. If necessary, IDEM can initiate another rulemaking to amend the rule language. Also, state statue requires IDEM to review rules that are not required for federal approval of a program every seven years. This rule will be a part of that review process.

Industry practice

Comment: Dealer has installed over 150 Hardy units and none are within 150 ft of another residence. (JH238)

Comment: Yes, these units smoke. Customers are encouraged to follow best burn practices. (PH29)

Response: IDEM understands that some installers will not install outdoor hydronic heaters within a certain distance of another residence and encourage their customers to follow best burn practices, but this does not cover every situation. Some units are installed close to neighboring residences. Therefore, due to the high level of particulate matter emissions from current units, and the well documented health risks associated with exposure to wood smoke, this rule is necessary to ensure that Indiana residents are able to use outdoor hydronic heaters that are protective of air quality and that pose the least threat to human health.

General

Comment: Commenter has issue with IDEM's response to a comment submitted during the First Notice of Comment Period asking IDEM to seek assistance from Indiana's United States Senators and Representatives in regards to this rulemaking. It is an abuse of governmental power to not consult with federal lawmakers. (PB426)

Response: As noted in IDEM's response during the First Notice of Comment Period, federal lawmakers are encouraged to participate in the rulemaking process, if they so desire. IDEM's legislative liaison has been in contact with legislators to keep them informed in regards to this rulemaking.

Comment: If IDEM is going to associate a name with a comment then the comments should not be edited. (AK33)

Response: It is IDEM's practice to summarize comments for ease of reading so that the public can understand the issues identified by commenters during a rulemaking. Letters submitted during a public comment period are public documents and can be viewed by anyone interested in see an unedited version of a comment. IDEM endeavors to summarize comments submitted without changing the intent of the comment.

Comment: Commenter provided IDEM with a copy of a report from New York, "Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State" (August 2005). (LM88)

Response: IDEM is aware of this report and appreciates the information provided by the commenter.

Rule language

Comment: The rule is not clear if condensible particulate matter is included. (AK33)

Response: The emission limit in the rule is for particulate matter, including the condensible fraction. As part of U.S. EPA's testing program for Phase 2 certification Method 28 can be used for testing. Testing pursuant to the modified Method 28 test protocol includes cooling of the exhaust gases prior to sampling, so that the condensible particulate fraction is captured.

Comment: Commenter supports language in Section 2 of the draft rule within the definition of "outdoor hydronic heaters" to include "outdoor installation or installation in structures not normally occupied by humans." The LaPorte County ordinance did not include this and so many outdoor hydronic heater owners moved their units into sheds, barns, and garages. (TO89, LCHD4)

Response: IDEM appreciates the support.

Comment: The projected effective date of the proposed regulations is September of 2010. The Indiana proposed regulation is unnecessary, because U.S. EPA is planning on revising the Residential Woodheater NSPS to include standards for outdoor hydronic heaters, with a proposal planned for April 2011, and a final regulation a year later in May 2012. These updated projected implementation dates were only recently provided to industry representatives. If Indiana nonetheless proceeds with its plans to promulgate state regulations, the effective date shouldn't be earlier than September 2011 to provide manufacturers with additional time to develop/certify/field test/manufacture additional Phase 2 models. (AC637)

Response: A state rule is necessary because U.S. EPA may further delay the adoption of federal rules for new units and the federal rule will not include regulations for currently installed units. When a federal rule is adopted for newly manufactured units IDEM will revise the state rule, if necessary. The Indiana rule will not be effective until early 2011, if final adoption takes place in early fall 2010. After final adoption the state promulgation process takes 3-4 months and then the rule is effective 30 days after filing with the Legislative Services Agency. Considering that there are sell-through provisions and not as many units being sold in the summer months there should be enough time for additional Phase 2 models to be tested, certified, and manufactured.

The following petition and form letter (paraphrased) are included separately to save space. Responses to these comments have been included under the previous headings.

Petition

Petitioners oppose rules restricting, banning, or not recognizing the use of outdoor hydronic heaters for the purposes of heating homes, businesses, and domestic hot water. Owners should be able to use these units without the fear of regulation and restriction by IDEM. These heating sources are patented by the United States Patent Office and manufactured and sold legally in the United States for use as a primary heating source for homes and businesses. Regulations will cause undue hardship to families that depend upon this heat source and cannot afford high priced energy supplied by utility companies. People have made long term investments in their heating systems. Additional government regulations are not needed, especially such control over choosing wood as a heat source. This is only the beginning. Are indoor wood stoves, pellet stoves, or fireplaces next? Other wood heating sources produce the same emissions. Government is allowing much larger wood biomass electricity generating plants without considering the pollution. Wood heat is supposed to be a "green friendly" renewable heating source. The economic impact will be widespread (manufacturers, dealers, loss tax revenue to state). Individuals that sell wood for a living will be hurt beyond measure. (Petition 464) (Undersigned Petition of Concerned Indiana Citizens and Residents - 1,920 signatures)

Form letter

With the ever changing price of home heating with oil, natural gas, and liquefied petroleum gas (propane), heating with wood is an economical option. Heating with wood is consistent with the independent practices of Americans. Heating with an outdoor wood furnace eliminates the risks of fires and carbon monoxide poisoning with indoor heating systems. Heating with wood results in no net increase in global warming emissions. Heating with oil, coal and natural gas is a significant source of global warming emissions. IDEM is proposing a regulation based on inaccurate information that U.S. EPA does not plan to put a federal regulation in place. However, U.S. EPA may promulgate regulations by September 2011. The commenter is strongly opposed to excessive and retroactive stack height requirements which are inconsistent with industry recommendations and which were absent when outdoor hydronic heater was purchased. A statewide seasonal restriction for rural owners, people with their own wood lots, farming operations, or greenhouse operations is unreasonable. Opacity is a subjective visual observation designed for large industrial emission sources. Homeowners should not be expected to conduct opacity observations. Only outdoor hydronic heater owners creating verifiable nuisances should be

required to increase their stack height. Commenter supports rules requiring existing owners to comply with proper fuel use requirements and regulations that are reasonable to be applied to new units after an effective date. (JC7, DO8, TP9, KN10, MH11, SL12, DL13, EA14, WF15, JA16, KW17, CM18, RB19, JH20, RM21, SM22, CR23, DB24, RS25, TS26, WS27, PP28, DC35, AP36, TK37, PH38, KM39, BR40, EE41, TH42, DK43, WS44, AW45, JC46, MW47, NP48, WB49, RK50, JB51, NF52, JP53, GB54, JW55, FL56, HS57, JH58, MM59, RH60, LH61, CC62, JS63, JN68, EB69, DB70, GP71, DS72, HB73, MW74, TM75, TG76, BS77, WB78, SB79, EM80, DS81, LW92, WS93, RL94, FH95, DR96, DM97, ML98, JS99, DS100, CT101, DT102, AS103, JR104, GD105, MB112, PD113, SS117, BK118, IY119, DF120, DB121, SH122, PY123, DE124, JM125, JM129, CC130, AB131, JC132, GP133, BS134, MM139, RK140, AI141, RS142, AS143, JP144, DW145, VW146, TW147, RR148, LF149, KS150, RH151, DS152, BK153, JA154, AZ155, WB156, RK157, AL158) Scott Tuttle (ST159, SD160, SS161, BR162, MS163, CC164, LK165, RF166, HB167, BR174, JB175, GS176, TF177, GB178, WH194, DW195, LW196, JL197, SH198, HK199, WL200, RS201, SY202, ME203, KD204, MG205, WH206, EL207, GB210, GM211, SN212, VS213, BN214, JD215, RH216, WC217, OH219, RS220, BK221, ES222, PM223, JM224, FR225, JR226, HF227, MS228, JH229, KS249, PS250, DR251, JC252, KR253, DT254, JM255, JS256, GW259, CS262, MH263, RB264, WW265, ER266, JB267, BF268, RS269, MF270, DM285, TM286, FR287, TG288, GJ289, GP290, CN291, DM292, LP293, RR294, GE295, MG296, BK297, DK298, EY299, EY300, PG301, RH302, LH303, TE304, DH305, RD306, CD336, KM337, CC339, FM340, CS341, JS342, JL343, TG344, RK345, CE346, DS347, LR348, JH349, TE350, SE351, MD352, TP473, MS474, JB475, H476, KW477, AO478, PV479, JC480, U481, DS482, U483, JC484, JC485, JP486, MB487, GC488, U489, JJ490, HP491, RF492, U493, CS494, JL495, JW496, JS497, DL498, DH499, MB500, MB501, GG502, DN503, RS504, AA505, JS506, JB507, LM508, RG509, CS510, EF511, WW512, JB513, JC514, WF515, KA516, JL517, MT518, JP519, LH520, RH521, DF522, DS523, SC524, U525, JS526, CB527, RW528, JC529, TC532, SO591, TV592, SW593, DB594, TH595, JH596, CM598, AS599, TC600, MP601, HL602, SH614, PF615, NS616, JL617, FD618, RS619, MG620, MD621, DC622, RK623, RP632, MH633, KP645, CC646, TM649, GV655, BK65, DH66, AC67, LB82, DL83, GH84, DE85, DB86, DL91, CR106, LR107, MB108, SW114, PH115, JS116, RS136, CD138, MW168, BW169, WL179, MM180, DH186, VS190, JT230, SM240, JS258 MH271, DH272, DB324, DP453, PD531, NW597, WG606, TP613, ES34, BL64, EP87, MC111, WF127, DW137, TS183, DK208, DH209, GB218, JW233, BS236, MS274, JM282, JW432, LN444, JK631)

SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING

On June 2, 2010 (continued to July 13, 2010, and September 1, 2010) and September 1, 2010, the Air Pollution Control Board (board) conducted the first public hearing/board meeting concerning the development of new rule, 326 IAC 4-3. Comments were made by the following parties:

David Ragan (DR)
Mark Kessler (MK)
Jimmy Bates (JB)
Frank Moore (FM)*
Patty Nocek (PN)
Ron Phillips (RP)
Deborah Chubb (DC)
Paul Hoopengarner (PH)
Mark Johns (MJ)
Tim Moosbrugger (TM)
Greg Walker (GW)
Lisa Deaton (LD)
Jerry Clark (JC)
Roy Burton (RB)
Mrs. David Miller (DM)
Jodie Perras (JP)*
Roger Hunter (RH)
Janet Gunter (JG)
Edwin Moll (EM)
Diane Titus (DT)
Dan Hasty/Blaine Boyland (DH)
Dan West (DW)
Zach Morris (ZM)
Gary Kendrick (GK)
Brian Hoagland (BH)
Blaine Boyland (BB)
Steve Musgrave (SM)
James Donnelly (entered into the record by board member Tom Anderson) (JD)*

Indiana Farm Bureau (entered into the record by board member Randy Staley) (FB)
Chris Holt (CH)
*Comments made at both June 2, 2010, and September 1, 2010 hearings.
Following is a summary of the comments received and IDEM's responses thereto:

Comment: Commenter has had an outdoor wood-burning stove for 22 years and considers it an efficient way of heating the home and hot water 365 days a year. Depending on wind direction a person might smell smoke for five or ten minutes every four or five hours. All of these regulations are ridiculous considering that the commenter lives in the country with a farm. The commenter has a neighbor 300 to 500 feet across the road who complains about the smoke. The smoke depends on wind direction and humidity levels. The unit does a good job of reducing the light bill and it is not fair if owner has to spend money on increasing stack height so that the neighbor won't have smoke in his eyes. The summertime operating restriction is not fair since some homeowners use the unit to heat water and not a lot of wood is burned during the summer for hot water needs. (DR)

Response: The proposed rule does not require a homeowner to increase the stack height on the unit if an occupied building on a neighboring property is more than 150 feet from the unit. While a homeowner may want to use this type of unit for hot water needs during the summer a nearby neighbor may be impacted by the smoke from the unit. If the unit is at least 300 feet from the neighbor's residence, there are no summertime operating restrictions imposed by the preliminary adopted rule.

Comment: The commenter opposes IDEM's new rule because it is unnecessary and unified federal regulations would be better instead of potentially conflicting state and local regulations. The commenter has had an outdoor wood boiler for 27 years and has saved well over $100,000 in home heating costs. Other people have saved $120 per month in hot water heating costs alone. The Phase 2 unit will be too expensive for lower income earners that could be using these units to save money and improve their homes, such as, installing better windows. America needs to get away from the gas-oil situation and find alternative energy options. There are lots of junk trees that can be used for heat. (MK)

Response: When U.S. EPA finalizes federal regulations for newly manufactured units, IDEM will revise the state rule as necessary to address consistency issues with the federal regulation. The federal regulation will not address units already in use. IDEM supports alternative energy options and has drafted a rule that allows outdoor hydronic heaters to be used.

Comment: The commenter is a representative for Bates Distributors, a wholesale company for outside wood-burning hydronic heaters. This manufacturing company does not currently have a Phase 2 qualified unit and is currently testing one at this time. The concern is putting all their effort in a new unproven product that has no durability testing or burn time. It would not be good for this company or the consumers of Indiana. There would be revenue lost by this company and the State of Indiana due to lost sales tax. This company's current Indiana sales is 1.5 million dollars annually over the last five years, and what has been paid in sales tax to Indiana has averaged $105,000 annually over the last five years. This does not take into consideration the profit margins that the local dealers have paid sales tax on or all of the people that sell chain saws or fire wood. The commenter supports meaningful regulations, stack heights, the restriction of sales of heaters in municipalities, but not a rule that requires Phase 2 units ahead of the United States Environmental Protection Agency (U.S. EPA). (JB)

Response: IDEM appreciates the support for meaningful rules. IDEM has been considering this rule for 5 years and it will not be effective until late spring of 2011 depending on when the rule is final adopted by the air pollution control board. The rule is tentatively scheduled for final adoption in February 2011. There is also a sell through provision in the proposed rule that allows dealers to sell and install in Indiana any unit that was in the dealer's inventory at the time the rule is effective. While IDEM started this rulemaking before U.S. EPA decided to do a federal regulation, this rule is still needed because the federal regulation will not address existing installations of outdoor hydronic heaters and the federal regulation may be delayed. Firewood will still be needed to supply fuel for existing installations and any new Phase 2 units that are sold.

Comment: The commenter represents the outdoor hydronic heater caucus as part of the Hearth, Patio, and Barbecue Association (HPBA), a group of manufacturers who provide 80 percent of the outdoor heaters to the U.S. market. The caucus has been a participant with U.S. EPA, state regulators and test labs since 2005 developing an American Society for Testing and Materials (ASTM) test method to test outdoor hydronic heaters. The caucus is also an active participant in the U.S. EPA voluntary program to develop both Phase 1 and Phase 2 units. HPBA opposes IDEM's proposed rule. IDEM has stated that the rule is needed because U.S. EPA is not going to regulate outdoor hydronic heaters. This is not true and now IDEM is sidestepping the federal process in saying that IDEM can't wait on the federal regulations because of complaints. IDEM often refers to a paper published by the New York Attorney General's Office that has been refuted and the NESCAUM report was soundly debunked in April 2006 by Philip Gitlen. NESCAUM fails to disclose that emissions from outdoor hydronic heaters with proper stack heights comply with the national air quality standards. IDEM cannot justify this proposed rulemaking based on flawed NESCAUM findings. Recent air quality modeling studies by RTP show units meeting stack height requirements, meet the NAAQS. The air modeling studies are part of the record as part of the comments submitted during the Second Notice of Comment Period. It is not understandable why Indiana would want to spend tax dollars with the forthcoming federal regulation. Indiana will lose jobs, businesses and taxes

from consumers who cross state lines and give Illinois, Ohio, Michigan and Kentucky revenue. There are Phase 2 units available at a premium price. There are two companies that placed these units on the market that are now out of business. There is a lot of sensationalism about wood smoke. IDEM should work with the U.S. EPA process. Maybe IDEM can pass a nuisance law in problem areas or not sell them in urban areas. Stack height, setback and incorrect fueling will solve 90 percent of the problems. There may be problems that will never go away. U.S. EPA Phase 2 units are not certified, as in certified new source performance standard (NSPS), they are Phase 2 "qualified" units. The seven units that IDEM listed in their presentation are not necessarily ready for market. Passing this rule will do an injustice to Indiana consumers. (FM)

Response: While IDEM started this rulemaking before U.S. EPA decided to do a federal regulation, this rule is still needed because the federal regulation will not address existing installations of outdoor hydronic heaters and the federal regulation may be delayed. Not all units currently operating are installed with proper stack heights and this proposed rule will require, to a certain extent, taller stack heights. For new installations, lower emitting Phase 2 units will have less of a health impact. The decision to regulate outdoor hydronic heaters is based on more than the NESCAUM study. Given the larger size of these units, ability to be used throughout the year, design, and location of these units, outdoor hydronic heaters have a greater impact on the environment than other home wood fuel heating systems. The NESCAUM study does show that emissions from outdoor hydronic heaters can exceed air quality standards at nearby locations. Modeling done by the HPBA indicates that proper stack height is needed for non-Phase 2 units to meet air quality standards. As more and more states put a Phase 2 standard in place, outdoor hydronic heater sales of Phase 2 units will increase and Indiana dealers will continue to generate revenue. Nuisance laws are very difficult to enforce at the state level. IDEM agrees that siting requirements are important but doesn't feel it is appropriate to regulate placement of these units at the state level. In addition, due to the varying levels of reliance on these units for heat and limited amount of property for some currently installed units, the proposed rule does not include set-back requirements. IDEM will amend the rule for final adoption to describe these units as Phase 2 qualified, and not Phase 2 certified, as U.S. EPA does in their voluntary testing program.

Comment: Since November of 2007, LaPorte County has had an outdoor hydronic heater ordinance to address numerous complaints about the smoke emissions from outdoor hydronic heaters. The LaPorte County Health Department (LCHD) supports the definition of "outdoor hydronic heater" that includes indoor units because LaPorte County has had contentious issues with outdoor hydronic heaters being placed in garages. LCHD also supports the Phase 2 requirement for new installations, the notice requirement for dealers/sellers, and the stack height requirement of five feet higher than the peak of the neighbor's structure; however, based on experience the distance is not far enough and should be 300 feet. Outdoor hydronic heaters should not operate year round, whether they are Phase 2 or not. The LaPorte County ordinance bans from May 15 through September 15. (PN)

Response: IDEM appreciates the support for the rulemaking. While it may be appropriate for a local entity to require a taller stack than the proposed state rule or a longer summer time operating restriction, IDEM does not feel it is appropriate at the state level. The 150 foot distance for determining stack height is based on language in the NESCAUM model rule. IDEM is not proposing to include a setback requirement as suggested in the model rule. A summertime operating restriction for Phase 2 units was not proposed because with the additional cost of purchasing a Phase 2 unit, IDEM did not want to impose an additional cost burden on when it could be used.

Comment: The commenter is a dealer for Taylor Manufacturing. Taylor Manufacturing has been making outdoor stoves since 1970. A lot of people are not going to be able to afford the Phase 2 units. Some people that have switched to outdoor hydronic heaters in order to save money were heating their homes with propane heaters that were not supposed to be used inside. Even with Phase 2 units, if someone burns garbage in the unit, it is going to stink and smoke. The owner's manual for Taylor Manufacturing tells people what to burn. People are not always going to burn what they are supposed to be burning. A Phase 2 unit installed right next to a neighbor is still going to cause a neighbor problem. The commenter's customers have been very happy with their outdoor hydronic heaters. (RP)

Response: IDEM agrees that there can be problems with an improperly installed or misused Phase 2 unit. This rule will help ensure that all units are using the proper fuel. IDEM does not want to take away the option of using wood as a fuel to heat a home with an outdoor hydronic heater and the Phase 2 unit is currently the best option available. A statewide rule regulating outdoor hydronic heaters may help more people recognize that wood smoke emissions can be harmful so people will put more thought into where and how these units are installed.

Comment: The commenter is the president of Save the Dunes. Outdoor hydronic heaters were intended to be used in very remote areas. Save the Dunes does not agree with the revision in the draft rule to reduce the season for prohibited use during the summer. The purpose of the ban was to not exacerbate already bad air quality, ozone days in the summer. There are poor air quality days in the winter that also could be exacerbated by the particulate matter from these units. People should be able to recreate outdoors all year round without having to be exposed to high levels of particulate matter. The setback should be more than 150 feet, a 20 acre radius would be ideal. IDEM should define "renewable solid fuel", add railroad ties and any other material that could release toxic emissions to the list of prohibited items to burn, require that homemade units are exempt only when used on the person's own property, require that wood be seasoned properly, and ban on operation of units in a nonattainment

county. The rule lacks clear enforcement and violation provisions. Neighbors will not be able to tell if a unit is violating the opacity limit and if it is something that should be reported to IDEM. (DC)

Response: Due to the varying levels of reliance on these units for heat and limited amount of property for some currently installed units, the proposed rule does not include set-back requirements or a longer season for prohibited use during the summer. "Renewable solid fuel" is fuel approved by the manufacturer for use in the unit. The rule restricts materials to clean wood and approved renewable solid fuel. Railroad ties and other toxic material would not be allowed to be burned. The proposed definition of "homemade" restricts the use to units built by a person for the builder's personal use. IDEM does not consider it appropriate to ban operation of units in nonattainment counties without restricting the use of other wood combustion devices in nonattainment counties. This rulemaking is limited to outdoor hydronic heaters. The opacity limit is a tool that IDEM inspectors can use to ensure proper operation of the unit.

Comment: Commenter is an outdoor wood-burner owner and has used the unit for several years on a 95 acre tree farm where fuel comes from tree farm waste and the unmarketable byproducts of the farm. The basic reason for the unit is strictly economics. The commenter has also been selling Hardy brand units since 1999. It is the policy not to locate the unit in a residential area, a town, or municipality. Commenter will be out of business if the Phase 2 requirement for new installations is passed. Units do smoke. Hopefully, IDEM does know what is considered a safe amount. Emissions from outdoor hydronic heaters are dwarfed by the size of contamination from the oil spill in the Gulf. Automobiles will not be outlawed because of problems with oil exploration. Emissions from fossil fuel fired electric power plants and hazardous waste burning cement kilns are a bigger concern. (PH)

Response: Hardy has indicated that they have developed a Phase 2 unit and are working on quality and durability testing. Once these units are available for market a dealer can continue selling outdoor hydronic heaters. There is a sell through provision in the proposed rule that allows dealers to sell and install in Indiana any unit that was in the dealer's inventory at the time the rule is effective. This along with the delay in when this rule will be effective will shorten the time needed for a marketable unit to be available for sale. The rule is tentatively scheduled for final adoption in February 2011. Rules are effective approximately 3-4 months after final adoption.

Comment: Commenter has been a Hardy dealer for 22 years located in Evansville. Dealers in Kentucky and Illinois might sell non-Phase 2 units in Indiana and IDEM would not have enough resources to stop it. There have only been a few complaints in the state and businesses installing units try to install in areas that won't cause problems because they have a reputation to uphold. If U.S. EPA is going to set standards, why would we want to be ahead of what they are doing? It is going to take jobs away. (MJ)

Response: The proposed rule prohibits the installation of non-Phase 2 units after the effective date of the rule. Whether the dealer is in Indiana or Kentucky the consumer is also responsible for following the rule. If an IDEM inspector receives a complaint about an outdoor hydronic heater, the inspector will identify when the unit was installed to ensure that it is a Phase 2 unit, if applicable. While IDEM started this rulemaking before U.S. EPA decided to do a federal regulation, this rule is still needed because the federal regulation will not address existing installations of outdoor hydronic heaters and the federal regulation may be delayed.

Comment: The commenter is a distributor for heaters and outdoor wood furnaces. IDEM should not jump the gun on the federal process. U.S. EPA's proposed schedule calls for a final rule in May of 2012. It does more harm than good to not wait for the federal rule. Manufacturers are trying to comply and are testing Phase 2 units. The NSPS will address coal and IDEM should study how coal is addressed in the draft rule. Outdoor hydronic heaters produce more emissions because they have a bigger energy output. Outdoor hydronic heaters are significantly more efficient and cleaner burner per BTU of output than the indoor furnaces. (TM)

Response: While IDEM started this rulemaking before U.S. EPA decided to do a federal regulation, this rule is still needed because the federal regulation will not address existing installations of outdoor hydronic heaters and the federal regulation may be delayed. The proposed rule applies to units designed to burn wood or other approved renewable solid fuels. Therefore, if a unit is solely designed to burn coal it would not be subject to the proposed rule. If the unit was designed to burn wood, then coal is prohibited.

Comment: The commenter is an Indiana legislator. When the rule proposal first came to the attention of his constituents, many commented that what they were doing on their own property was not causing a nuisance or that they had no issues with their neighbors. While there may be neighbors that are maliciously installing these hydronic heaters, burning trash or wet wood to offend a neighbor, most are operating their units responsibly. How will someone know that a unit is not meeting the 20% opacity limit? If there are circumstances where there is a complaint against a property owner, how is the registration process necessary to identify who to approach with that complaint? The property itself could be identified without a registration process. In the future if there was a decision to ban these units, a registry could be used as a means to round up owners who have never had a problem with a neighbor. (GW)

Response: Opacity is an important tool for IDEM inspectors when responding to complaints about outdoor hydronic heaters. Opacity is a method of measuring particulate emissions and the 20% opacity limit helps assure compliance with the requirement to burn appropriate fuel. While most homeowners will not be able to take their own readings, a homeowner can have assurance that compliance with the rule is being achieved if good combustion practices are followed, including using only an approved fuel, and routine maintenance as

recommended by the manufacturer is followed. If an IDEM inspector has taken opacity readings higher than 20% on the unit, then the homeowner will need to investigate the problem. The registration process isn't necessary to identify who to approach with a complaint. The registration process is helpful to the state to ensure that dealers are notifying buyers of the rule and that there are Phase 2 units being sold in the state. For many years the number of new installations will be small compared to how many non-Phase 2 units are already installed, so a list would not be useful in identifying the true population of units in Indiana. IDEM is not considering a ban on existing units.

Comment: The commenter appreciates and understands the health concerns for the people that come forward with complaints. Complaints need to be addressed, but the number of complaints, per capita, need to justify the action to regulate. The economy puts citizens in a position where there is a need to have the ability for the cheapest options. The rule discriminates against people who appreciate the ability to be able to use these units. The commenter would like to know if there is any type of study that shows the real health impacts from wood-burning stove emissions for Indiana citizens. IDEM should communicate how we know what portion of particulate matter in the air is from wood-burning stoves. As a taxpayer, the commenter would like to know how much money IDEM will spend enforcing this rule. It is not unreasonable to ask for a high stack. (LD)

Response: Homeowners will be able to continue to use the units they have installed. With a cap of 22 feet from the ground for stack height, including the height of the unit, a stack height extension should be possible at a reasonable cost. Also, the stack height only applies if there is an occupied building, not located on the same property of the unit, within 150 feet of the unit. IDEM does not plan to hire more inspectors to enforce this rule since inspectors are already investigating complaints about outdoor hydronic heaters. The proposed rule will give them more tools to address the issue. There are a number of studies showing health impacts related to wood stoves. In addition to the studies mentioned in the Second Notice of Comment Period, a more recent study is available from the Maine Department of Environmental Protection ("Assessment of Risk from Particulate Released from Outdoor Wood Boilers", Human and Ecological Risk Assessment, 13: 191-208, 2007, available at http://www.maine.gov/dep/air/owb/brown_owb-risk-assess_HERA%282007%29.pdf). The study concentrates on increases in health effects such as asthma, chronic obstructive pulmonary disease (COPD), cardiovascular disease and cancer from outdoor hydronic heaters. Outdoor hydronic heaters in Indiana would not be any different than those in other states.

Comment: The commenter is a homeowner that saves a tremendous amount of electricity and has used an outdoor hydronic heater since 1986. IDEM should consider waiting for the federal rule. (JC)

Response: This unit can continue to be used after the rule is effective. While IDEM started this rulemaking before U.S. EPA decided to do a federal regulation, this rule is still needed because the federal regulation will not address existing installations of outdoor hydronic heaters and the federal regulation may be delayed.

Comment: The commenter opposes the rule. The commenter does not own a unit, but may buy one in the future. The air pollution control board should not have the right to tell homeowners that they can't save money. (RB)

Response: The APCB is tasked with adopting rules to protect human health and the environment by improving air quality. The proposed rule does not ban sales of outdoor hydronic heaters.

Comment: There are no studies that show health impacts are related to wood stoves. This issue is way out of proportion. The commenter heats water all summer long and should not have to break the law to take a hot shower. (MM)

Response: There are a number of studies showing health impacts related to wood stoves. In addition to the studies mentioned in the Second Notice of Comment Period, a more recent study is available from the Maine Department of Environmental Protection ("Assessment of Risk from Particulate Released from Outdoor Wood Boilers", Human and Ecological Risk Assessment, 13: 191-208, 2007, available at http://www.maine.gov/dep/air/owb/brown_owb-risk-assess_HERA%282007%29.pdf). The study concentrates on increases in health effects such as asthma, chronic obstructive pulmonary disease (COPD), cardiovascular disease and cancer from outdoor wood boilers. If an occupied building, not located on the same property as the unit, is located within 300 feet of the unit, the unit's owner will have to use another heating system to generate hot water in the summer months.

Comment: The commenter is the director of Improving Kids' Environment (IKE). Outdoor air pollution is one of the key triggers of asthma attacks. Eight to nine percent of Indiana kids have asthma. IKE is disappointed that the latest draft of the rule is a step backwards. The board should reinstate the ban on using non-Phase 2 units in May and September, or if you have to, May 15 though September 15. IKE also does not agree with allowing year round operation because of the 300 foot distance. IKE would like to know the justification for the maximum stack height of 22 feet. The requirements should be extended to homemade units. This rule is not extreme. Dealers can still operate in Indiana and anyone with an existing unit will not have to shut it down in the winter heating season. It would establish, however, some minimum state rules that are needed. Do not wait for the federal regulation. The federal rules, if they ever come to pass, will only address the manufacture of new units and not the siting and operational issues, such as stack height and burning clean wood. Just as there are speed limits and traffic laws, there is a need for rules for siting and operating outdoor hydronic heaters to protect public health and safety. IKE

applauds dealers that don't site in residential areas but wants to make sure all dealers are following the minimum rules. IDEM staff need tools to respond to complaints. IDEM should pass rules to address the health of Indiana's children and those suffering from asthma and other respiratory diseases. (JP)

Response: IDEM agrees that the state should move forward with this rulemaking and not delay until there is a federal regulation for the manufacture of new outdoor hydronic heaters. Due to the varying levels of reliance on these units for heat and limited amount of property for some currently installed units, the proposed rule does not include a longer season for prohibited use during the summer. The 22 foot cap on required stack height was developed based on available information and is a way to make this rule feasible. IDEM feels that the maximum stack height is necessary because IDEM does not want to prohibit the use of outdoor hydronic heaters as a home heating option when the unit has already been installed. It is not just the cost of extending the stack that is an issue, but the fact that there are situations where it could be impossible to meet the requirements of the rule. The twenty-two foot maximum height will cover situations where the house is a one story building. Also, NESCAUM modeling shows that in situations where the dispersion of emissions from the outdoor hydronic heater is not impacted by a near-by house (stand alone scenario - no downwash), the maximum PM concentrations are decreased by more than half when comparing a unit with a stack of 10 feet to one with a stack of eighteen feet. Stack height requirements are being proposed as a method of increasing dispersion of emissions to the extent reasonable before neighbors are impacted. IDEM believes this is a reasonable approach to protecting public health and still recommends that homeowners follow manufacturer's recommendations.

Comment: There was a point made that there's approximately 8,000 of these outdoor hydronic heaters in Indiana and that there have been 41 complaints reported to IDEM. That means there are 7,951 units that have not been complained about being operated, evidently, efficiently and properly. If these regulations take effect, it would be prudent to have some form of waiver for those who have neighbors that do not complain, who are not opposed to the unit and would be willing to allow no changes to the stack height on the unit. This applies most likely to smaller neighborhoods in rural communities where the houses are closer together. In the commenter's situation there is one neighbor within the distance boundaries of the rule that is not in disagreement with the commenter's use of an outdoor hydronic heater. Money would then not have to be spent upgrading the stack. (RH)

Response: With a cap of 22 feet from the ground for stack height, including the height of the unit, a stack height extension should be possible at reasonable cost.

Comment: Many of the 41 formal IDEM complaints were from the same person. (JG)

Response: IDEM has received multiple complaints from some individuals; however, there were 41 different complaints at the time the count was provided.

Comment: The stack height on the unit is not important. When there is low barometric pressure the smoke is going to go to the ground and when there is a high pressure system in the area it goes straight up. Commenter can smell a pulp wood plant that is 75 miles away, so this outdoor hydronic heater problem is not going to be solved by extending the stack height. If the unit puts out excessive smoke someone is going to smell it, but the commenter keeps the windows open as long as possible and there has only been four or five times that smoke has come into the house. (EM)

Response: Some units are currently installed with a stack that is too short and even in good weather conditions a neighbor is impacted from the smoke. While the smoke may not be impacting the owner of the unit a neighbor could be impacted. The stack height only applies if there is an occupied building, not located on the same property of the unit, within 150 feet of the unit.

Comment: The commenter provided pictures to the board. The commenter lives in a so-called rural area with two neighbors with outdoor hydronic heaters. One of the units is not noticeable and the other is a constant problem. Sometimes the smoke is black and sometimes it is yellow. The pictures show it operating in warmer months and the windows have to be closed throughout the year costing money. Air conditioning has to be used in the spring and fall when it shouldn't have to, because the smoke is so bad. The neighbor with the problem unit has extended the stack helping the situation out quite a bit. Not that smoke is that great to start with, but if units were put in properly and not allowed close to the house there would be a lot less problems. The commenter supports the stack height requirement, although the 150 foot distance seems very short. There is no one to turn to for help to address the situation. The county health department, zoning board, and commissioners are not helpful. IDEM says that there are no rules in place. (DT)

Response: IDEM appreciates the support for the rulemaking. Complaints can be directed to IDEM's Complaint Coordinator at 1-800-451-6027, ext. 24464. Information for filing on-line or by mail is available on IDEM's Web Site at http://www.in.gov/idem/5274.htm.

Comment: The two commenters are representatives for Wood Boiler USA, an outdoor wood boiler manufacturer. A Phase 2 unit can be built, but people are not going to buy them because of the price. Eight to ten thousand dollars is just too high for most people and will put some manufacturers out of business. It's not right to penalize everyone for a few complaints. Wood Boiler USA has three Phase 2 designs and two Phase 2 prototypes. It has been difficult working with the testing companies. The testing companies have not been responsive. This is a growing business and this regulation could put the commenter out of business. Stack height requirements are reasonable. Manufacturers don't tell their customers to burn trash, they tell them to burn wood

or coal depending on the manufacturer type. (DH)

Response: IDEM understands that Phase 2 units do cost more and that it may price some of the lower end purchasers out of the market. The increased cost should only extend the payback period by a year or two. IDEM has put the commenter in contact with testing companies and is aware that the cost of testing for manufacturers is also a concern.

Comment: The commenter purchased a Central Boiler outdoor wood-burning furnace after hearing how satisfied a neighbor was with his unit. It took three years to pay for the unit. It has paid for itself in savings of about $2,000 of propane fuel over about a three year period. After the payback period it has saved $2,000 a year. This argument has been going on since 2005. The commenter worked with a state representative to get a bill passed that would prohibit IDEM from regulating outdoor wood-burning furnaces until U.S. EPA's announcement of a model rule. This is an unprecedented move that wood-burning furnace owners are being singled out when other forms of pollution continue; open incinerators behind restaurants and bars, burning of cleared fence lines that smolder for weeks. The commenter requests that the board take a good, long, hard look at this before making a decision. (DW)

Response: Once U.S. EPA made an announcement regarding the availability of a model rule IDEM started moving forward with this rulemaking again. IDEM continues to address other forms of pollution with existing rules. IDEM will continue to follow U.S. EPA's progress on the federal regulation and will revise the state rule, if needed.

Comment: The commenter is a Central Boiler dealer. Central Boiler has over 3,000 Phase 2 boilers working present day, so it is possible to have a Phase 2 boiler. Other states have passed these regulations. There should not be a maximum stack height. There are units with 40 and 50 foot stack heights to alleviate the problems with these units. Every four foot section that is added to the stack helps the pollution and smoke problem. The main concern is the summertime operating restriction. People that burn their stove year-round may be creating some emissions, but they are reducing electricity consumption. The commenter has a dairy farm that uses a thousand gallons of hot water per day. That could be detrimental to take away the ability to use during the summer. (ZM)

Response: The 22 foot cap on required stack height was developed based on available information and is a way to make this rule feasible. IDEM feels that the maximum stack height is necessary because IDEM does not want to prohibit the use of outdoor hydronic heaters as a home heating option when the unit has already been installed. The summer time operating restriction only applies if there is an occupied building, not located on the same property as the unit, within 300 feet of the unit. A dairy farm, most likely, would not have a neighboring occupied building within 300 feet of the unit and would not be affected by this restriction.

Comment: For the commenter the issue is not so much monetary as it is consideration for impact on the environment. It may be hard to understand how a little bit of smoke could impact someone, but if a person has a breathing disorder it does have an impact on health. IDEM's job is to protect the people. The commenter believes the board uses their power judiciously and is thankful that the board is considering this issue and not waiting for the United States government to care of the situation. (GK)

Response: IDEM agrees that wood smoke has an impact on people's health.

Comment: The commenter has a Central Boiler stove and enjoys it. The commenter appreciates everyone's input, but believes that Indiana is in bad enough financial trouble and this rule would only increase the financial trouble. It's monetary and it shouldn't be the main emphasis on everything in life, but in reality, it is true. Maybe the stack height requirement could help a little bit with neighbors. There are always going to be neighbor complaints about a variety of issues. The commenter is opposed to the rule. The board should come up with something different or possibly wait for the federal regulations. (BH)

Response: IDEM understands the commenter's concerns. IDEM will continue to follow U.S. EPA's progress on the federal regulation and will revise the state rule, if needed.

Comment: Some older boilers are natural draft boilers. On these types of units increased stack height actually increases the air flow into the unit. Most of boilers on the market today have induction motors to increase the air flow trying to hit a secondary burn in the burn chamber. This is how the amount of smoke is reduced. The amount of air is controlled by the induction fan, not the stack height on these units. Engineering has changed over the last five years and units have gotten more efficient. The unit does not have to be Phase 2 to be efficient. (BB)

Response: Requiring Phase 2 units will ensure that all units are emitting particulate matter (PM) below a certain level. The stack height requirement will help reduce negative impacts on neighbors.

Comment: The NESCAUM study does not include information supporting the data included in the report. All the information in the report is prefaced with "may", "might", and "could" with no good solid data that allows people to say "will" and "is". A decision should not be based on something that has no foundation to start with. It is great to own a wood burner and be able to turn up the heat without having to worry about spending money with a limited income. Don't take this investment away. Homeowners shouldn't have to buy Phase 2. (SM)

Response: Homeowners will not have to buy Phase 2 unless they are installing a unit after the effective date of the rule, except as allowed by the sell through provisions in the rule for dealers. The decision to regulate outdoor hydronic heaters is based on more than the NESCAUM study. Given the larger size of these units, ability to be used throughout the year, design, and location of these units, outdoor hydronic heaters have a greater impact on the environment than other home wood fuel heating systems. The NESCAUM study does show that

emissions from outdoor hydronic heaters can exceed air quality standards at nearby locations. Modeling done by the HPBA indicates that proper stack height is needed for non-Phase 2 units to meet air quality standards.

Comment: Indiana Farm Bureau (IFB) members are impacted by the draft rule, either because the member is using an outdoor hydronic heater, or in some cases, the person is impacted by their neighbor's use. In previous comments, IFB expressed reservation with IDEM proposing a rule to address an issue that was presented primarily as a nuisance issue created by the improper siting and operation of outdoor hydronic heaters. To the extent the draft rule is to address those issues, IFB still believes that they are better addressed by local units of government and dialogue between neighbors. However, to the extent that the draft rule is for the establishment of consistent statewide air quality regulations, the draft rule is supported. Indiana cannot proceed with a system in which local units adopt varied emission standards for these products. In general, the IFB supports the rule as put forth by IDEM. The stack height requirement is not inappropriate and will alleviate impacts caused by emissions of smoke at ground level. IFB is not opposed to the requirement for more efficient and cleaner burning units so long as they are available and their use is cost effective. IFB is opposed to the ban on operation of non-Phase 2 units from May 1 to September 30. IFB is also concerned that the list of restricted items that cannot be burned prohibits the beneficial use of some fuel sources. Manure and poultry litter have been identified as valuable sources for renewable energy production, and it appears that their use in outdoor hydronic heaters could be feasible. IFB is opposed to the opacity limit because it is questionable whether individuals will be able to understand the requirements of this provision or implement it correctly. IFB does not oppose the requirement that a copy of the rule be provided with the purchase of an outdoor hydronic heater, but does oppose the requirement that purchasers complete an acknowledgment of the purchase which must be mailed to IDEM. (IFB)

Response: IDEM cannot control varied emission standards adopted at the local level. For the most part, local governments are adopting emission standards that are consistent with the Phase 2 emission level. Other types of variations at the local level might be necessary and appropriate. In some situations a ban or restriction on siting is appropriate at the local level. The ban on operation of non-Phase 2 units during summer only applies if an occupied building, not located on the same property as the unit, is located within 300 feet of the unit. While a homeowner may want to use this type of unit for hot water needs during the summer a nearby neighbor may be impacted by the smoke from the unit. Phase 2 units would have to meet the Phase 2 particulate matter (PM) emission limit for the renewable solid fuel that they are manufactured to use. IDEM will take into consideration, before final adoption, on whether it is appropriate to have an exception for manure for use in Phase 2 units that are tested to meet the standard using this fuel. The registration process is helpful to the state to ensure that dealers are notifying buyers of the rule and that there are Phase 2 units being sold in the state.

Comment: If IDEM and Governor Mitch Daniels are truly concerned with having outdoor hydronic heaters while addressing the health problems related to operation of these units the following should be duly considered:

(1) IDEM has stated that there are 40 complaints, but did not consider environmental groups and local ordinances that ban outdoor hydronic heaters.

(2) Using set backs and stack heights as a means to mitigate the smoke problem is questionable especially when the numbers IDEM is using have not been substantiated by any scientific studies. The president of Clean Air Revival, Inc. states, "Setback and stack heights are politics not science." Does IDEM's number take into account all climatic and topographic conditions in Indiana?

(3) The commenter's neighbor has raised the stack height on the outdoor hydronic heater to over 33 feet tall and 275 feet away and still commenter is still engulfed by a plume of smoke. Where did the maximum stack height of 22 feet come from and when was it completed for this to be incorporated into the draft rule.

(4) The summertime operating ban from June 1 to August 31 is ridiculous. These are secondary heating systems and do not need to be used for heat in September, October, April, and May.

(5) Installation in major and minor subdivisions should not be allowed, even for Phase 2 units.

(6) Phase 2 units should be lumped into this new rule. These units may still be harmful. Industry has known since 1990 these products pollute in a harmful way. Last summer 21 outdoor hydronic heater manufacturers were sent letters from the Attorney General of Iowa regarding outdoor hydronic heaters marketed in the State of Iowa.

(7) Opacity as a regulatory tool will not work because these units are cyclic in nature, people heat and bath in the evening and morning hours, and opacity needs to be read on a clear sunny day. What is wrong with the fugitive dust rule (326 IAC 6-4)? U.S. EPA Method 22 is used to determine the amount of time that smoke is present.

The following should be included in the new rule:

(1) Nuisance provisions similar to the one included in the draft rule currently out on public notice in the State of New York (subdivision 247.3(c).

(2) Setback of at least 1,000 feet for outdoor hydronic heaters located near schools, daycare centers, and nursing homes.

(3) Requirements for the disposal of ashes from outdoor hydronic heaters.

(4) A yearly inspection and fee for all outdoor hydronic heaters. Why does IDEM have to take their budget and use it to enforce rules for a product that is nonessential and there are other choices for wood burning

appliances?

The manufacturing industry should retrofit the existing units to reduce emissions. How many units have been installed in Indiana in the last five years while this rulemaking has been delayed? Outdoor hydronic heaters can operate for 20 to 30 years. This is a long times to allow these units to operate and pollute. Smoldering fires stink and have a strong odor making people sick. Property values are impacted when a neighbor installs an outdoor hydronic heater. Many people were enjoying clean air before an outdoor hydronic heater is installed next door. Who has the "grandfathered" right to clean air? (JD)

Response: The State of Indiana and IDEM are concerned about hydronic heaters and that is why this rulemaking is proceeding. IDEM believes that the proposed rule will provide a minimum set of requirements that are protective of air quality and that pose the least threat to human health while still allowing the use of these units. IDEM has not included nuisance provisions because they are difficult and costly to enforce. While they sound like a great idea, in practice, they tend to be subjective and are too difficult to implement. The draft rule does not contain any setback provisions. This is a land use decision reserved for local governments. IDEM is not aware of any issues with homeowners improperly disposing of their wood ashes and did not consider ash disposal requirements for this rulemaking. IDEM does not have the resources to inspect outdoor hydronic heaters on a yearly basis and does not consider it appropriate to charge a fee. Collecting fees for a state wide inspection program would not be cost-effective. IDEM is not aware of ways to retrofit existing units to reduce emissions. The focus of the proposed rule for existing units is proper maintenance and operation of the unit to reduce emissions and a stack height requirement to promote adequate dispersion reducing the impact on neighbors.

Comment: The commenter is concerned about tight control and what rules might lead to in the future. The cost of a Phase 2 unit is a concern. (CH)

Response: IDEM believes that the proposed rule will provide a minimum set of requirements that are protective of air quality and that pose the least threat to human health while still allowing the use of these units. The higher cost of a Phase 2 unit should only extend the payback period by a year or two at the most.

326 IAC 4-3

SECTION 1. 326 IAC 4-3 IS ADDED TO READ AS FOLLOWS:

Rule 3. Outdoor Hydronic Heaters

326 IAC 4-3-1 Applicability

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4
Affected: IC 13-17-1-3; IC 13-17-3

Sec. 1. (a) Except as provided in subsection (b), this rule applies to any manufacturer, supplier, distributor, or person that:
(1) distributes or sells;
(2) markets;
(3) installs;
(4) operates; or
(5) owns;
an outdoor hydronic heater in Indiana.

(b) Sections 3 and 6 of this rule do not apply to the following:
(1) An outdoor hydronic heater that:
(A) is or has been owned by a person for his or her own personal use; and
(B) is distributed or sold within three (3) years of the effective date of this rule to another for his or her own personal use.
For purposes of this subdivision, "personal use" means the use of an outdoor hydronic heater by an individual solely for residential space or domestic water heating, and not to service a commercial or institutional establishment.
(2) An outdoor hydronic heater available for sale in an Indiana dealer's inventory before the effective date of this rule.
(3) Homemade units.
(4) An outdoor hydronic heater where the manufacturer has demonstrated that the unit is designed for a thermal output of three hundred fifty thousand (350,000) British thermal units per hour (Btu/hr) or more.

(Air Pollution Control Board; 326 IAC 4-3-1)

326 IAC 4-3-2 Definitions

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4
Affected: IC 13-17-1-3; IC 13-17-3

Sec. 2. The following definitions apply throughout this rule:
(1) "Clean wood" means untreated wood that has no paint, stains, coatings, glues, or any chemical treatment.
(2) "Distribute or sell" means to:
(A) distribute;
(B) sell;
(C) advertise for sale;
(D) offer for sale;
(E) lease;
(F) ship;
(G) deliver for shipment;
(H) release for shipment; or
(I) receive and deliver, or offer to deliver.
The term does not include the distribution or sale by a manufacturer of an outdoor hydronic heater that is installed outside of Indiana.
(3) "Homemade unit" means an outdoor hydronic heater built by a person for the builder's personal use. The term does not include installation kits.
(4) "Manufacturer" means any person who constructs or imports into the United States an outdoor hydronic heater.
(5) "Outdoor hydronic heater" means a fuel burning device:
(A) designed to burn wood or other approved renewable solid fuels;
(B) that is intended for outdoor installation or installation in structures not normally occupied by humans; and
(C) that heats building space or water, or both, by the distribution, typically through pipes, of a fluid heated in the device, typically water or a water and antifreeze mixture.
(6) "Start-up period" means the time period beginning with flame stability after first charge of wood fuel and lasts no longer than two (2) hours. The term includes only initial start-up where no previous wood coal bed exists and does not include refueling.

(Air Pollution Control Board; 326 IAC 4-3-2)

326 IAC 4-3-3 Emission limit for outdoor hydronic heaters installed after the effective date of this rule

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4
Affected: IC 13-17-1-3; IC 13-17-3

Sec. 3. After the effective date of this rule, except as provided in section 1(b) of this rule, no person shall distribute or sell or install an outdoor hydronic heater unless:
(1) it has been certified through U.S. EPA's voluntary outdoor hydronic heater program to meet the Phase 2 particulate matter emission limit of thirty-two hundredths (0.32) pounds per million British thermal units (lb/MMBtu) heat output, with no individual test run exceeding eighteen (18) grams per hour; and
(2) a U.S. EPA white tag is affixed to the unit in a readily visible or accessible location. The white tag signifies that the unit meets the Phase 2 emission limit for U.S. EPA's voluntary outdoor hydronic heater program.

(Air Pollution Control Board; 326 IAC 4-3-3)

326 IAC 4-3-4 General requirements for existing outdoor hydronic heaters

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4

Affected: IC 13-17-1-3; IC 13-17-3

Sec. 4. (a) After August 31, 2011, all outdoor hydronic heaters that have not been certified to meet the Phase 2 emission limit in section 3 of this rule must have a permanent stack extending five (5) feet higher than the peak of the roof of any occupied building:
(1) located within one hundred fifty (150) feet of the unit; and
(2) not located on the same property on which the heater is installed.

(b) The maximum stack height required under this rule is twenty-two (22) feet above the ground.

(Air Pollution Control Board; 326 IAC 4-3-4)

326 IAC 4-3-5 Operating standards

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4; IC 13-14-8-7
Affected: IC 13-17-1-3; IC 13-17-3

Sec. 5. (a) No person shall operate an outdoor hydronic heater from June 1 through August 31 if the unit is located less than three hundred (300) feet away from an occupied building not located on the same property on which the heater is installed, unless the outdoor hydronic heater has been certified to meet the Phase 2 emission limit in section 3 of this rule.

(b) A person shall burn only clean wood or other approved renewable solid fuel in an outdoor hydronic heater.

(c) No person shall burn any of the following items in an outdoor hydronic heater:
(1) Any wood that does not meet the definition of clean wood.
(2) Garbage.
(3) Tires.
(4) Lawn clippings or yard waste.
(5) Materials containing plastic.
(6) Materials containing rubber.
(7) Waste petroleum products.
(8) Paints and paint thinners.
(9) Chemicals.
(10) Coal.
(11) Glossy or colored papers.
(12) Construction and demolition debris.
(13) Plywood.
(14) Particleboard.
(15) Manure.
(16) Animal remains.
(17) Asphalt products.

(d) Home heating oil, natural gas, or other fuels recommended by the manufacturer may be used as a starter or supplemental fuel for dual-fired outdoor hydronic heaters.

(e) No person shall cause or allow the emission of a smoke plume from an outdoor hydronic heater to exceed an average of twenty percent (20%) opacity, a measure of the amount of light obscured by particulate pollution, for six (6) consecutive minutes in any one (1) hour period. Upon initial firing of the unit where no coal bed exists, visible emissions may not exceed forty percent (40%) opacity for twenty (20) consecutive minutes during the start-up period.

(f) Outdoor hydronic heaters must comply with all applicable:
(1) state and federal laws; and
(2) local ordinances.

(Air Pollution Control Board; 326 IAC 4-3-5)

326 IAC 4-3-6 Notice to buyers

Authority: IC 13-14-8-7; IC 13-17-1-1; IC 13-17-3-4; IC 13-14-8-7
Affected: IC 13-17-1-3; IC 13-17-3

Sec. 6. (a) After the effective date of this rule, no person shall distribute or sell or install any outdoor hydronic heater unless the seller or dealer provides the buyer or lessee with a copy of this rule.

(b) The buyer or lessee shall sign a notice at the time of purchase or lease that includes the following:
(1) A statement acknowledging receipt of the rule, as follows: "I, (buyer or lessee's name), have been provided a copy of 326 IAC 4-3 (Outdoor Hydronic Heater Indiana Air Pollution Control Board rule) from (seller or dealer's name) at the time of my purchase or lease.".
(2) The name, address, and telephone number of both the seller or dealer and the buyer or lessee.
(3) The address of the location where the outdoor hydronic heater will be installed.
(4) The make and model of the outdoor hydronic heater.

(c) Within seven (7) days of making delivery of the outdoor hydronic heater into the possession of the buyer or lessee, the seller or dealer shall mail or otherwise provide a copy of the signed notice to the department.

(Air Pollution Control Board; 326 IAC 4-3-6)

Notice of Public Hearing

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